

Basic Information

**Peru Living Standards Survey
(PLSS) 1985-86**

**Poverty and Human Resources Division
The World Bank**

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Table of Contents

	Pag.
1. Introduction	3
2. Survey Questionnaires.....	3
2.1 Coverage of the Household Questionnaire.....	3
2.2 Household Questionnaire Respondents.....	8
2.3 Characteristics of the Household Questionnaire.....	8
2.4 Community Questionnaire.....	9
3. Sample.....	10
3.1 Size and Coverage of the Sample.....	10
3.2 Sample Design and Selection.....	11
3.3 The Sample Implemented.....	14
3.4 Sample for the Community Questionnaire.....	16
4. Organization and Implementation of the Survey.....	17
4.1 Management.....	17
4.2 Time Frame.....	18
4.3 Training and Selection of Personnel.....	18
4.3.1 Course for the Selection of Personnel.....	18
4.3.2 Course for Team Leaders and Regional Leaders....	18
4.3.3 Course on Data Processors.....	18
4.4 Pilot Survey.....	18
4.5 Publicity.....	19
4.6 Field Work.....	19
4.6.1 Organization.....	19
4.6.2 Administration.....	21
4.6.3 Supervision.....	22
4.6.4 Implementation.....	22
4.6.5 Community Questionnaire.....	23
4.6.6 Additional Activities.....	24
4.7 Transport.....	24
4.8 Checking Data Consistency.....	24
5. Data Quality.....	25
6. Aggregate Consumption Data.....	26
7. Prices.....	27
8. Data Files.....	28
Appendices	
A. How to Obtain the 1985-86 PLSS.....	31
B. List of Counterpart Institutions and Contacts.....	32
C. List of Supporting Documents.....	33
D. List of Documents Using Data from the LSMS 1985-86.....	34
E. Sample by Rural Population Centers, Rural Census Areas, and Urban Population Centers.....	37

1. Introduction

The methodology of the Living Standards Measurement Survey (LSMS) was developed by the World Bank in order to provide policy relevant data on the welfare and living standards of households in developing countries. In Peru three surveys have been completed: in 1985-86 and 1991 at the national level and in 1990 in Metropolitan Lima. ¹ The 1985-86 Peru Living Standards Survey (PLSS) ("Encuestas de Hogares Sobre Medición de Niveles de Vida - ENNIV 1985-86") provides data from 4,913 households selected from the entire country, with the exception of the departments of Ayacucho, Apurímac, and Huancavelica, which were considered emergency zones because terrorist activity. The procedures for obtaining this data set are described in Appendix A.

The 1985-86 PLSS was the first survey in Peru to collect data from households using the LSMS methodology. All stages of the survey were implemented by the Statistical Institute of Peru ("Instituto Nacional de Estadística e Informática del Perú (INEI)"), ² with the technical and financial support of the World Bank and the Central Reserve Bank of Peru.

This document describes the design of the survey and its contents for users who might not be familiar with the 1985-86 PLSS. It also presents broad pictures of the principal characteristics of the survey (questionnaire, sample, and field work) and of the data to be used for analytical work.

1

A special characteristic of the PLSS surveys for Metropolitan Lima is that they provide panel data for household information obtained in the three surveys. For example, the 1990 PLSS collected data from the same 727 households that were surveyed in 1985-86. The same potential exists for matching the 1991 data with the PLSS surveys of 1985-86 and 1990, but no file yet exists which does this merging.

2

At the time of the implementation of the 1985-86 PLSS (ENNIV) 1985-86 the official name of the institution was the Instituto Nacional de Estadística (INE).

2. The Survey Questionnaires

2.1 The Coverage of the Household Questionnaire

The 1985-86 household questionnaire collects household socio-economic data at the individual and household level. The household is defined as the person or collection of persons, whether related or not, that habitually live in the same dwelling, occupying it in part or in whole, and that tend to their life needs in common. ³ The unit of observation and analysis for the thematic areas of education, health, labor, fecundity, and migration is the individual; but for the categories of housing, consumption, agro-pastoral activities, and home production, the unit of observation and analysis is the household.

The questionnaire design had been originally developed by experts of the World Bank. They, together with experts of the INEI and of the Central Reserve Bank of Peru, fitted it to the Peruvian context for this study. The original English text of the questionnaire was translated into Spanish and adjusted for uniquely Peruvian traits. Before implementation, the questionnaire was tested in three regions of the country (see details in section 4.4).

The questionnaire of the 1985-86 PLSS contains 14 sections and 46 subsections (see questionnaire) ⁴. The questionnaire does not include a section on anthropometric measurements.

Referring to the questionnaire when using the data is highly

3

Members of the household are all people that habitually have eaten and slept in the house for at least three of the twelve months preceding the survey, except boarders and household employees. The head of the household, even if he or she has not lived in the home habitually for at least three months out of the last twelve, is always considered a member of the household, as are children less than three months old.

4

For more detail, refer to the documents "Encuesta Nacional de Hogares sobre Medición de Niveles de Vida: Principales Variables y Diferencias" and "Encuesta Nacional de Hogares sobre Medición de Niveles de Vida, 1985-86: Manual del Encuestador." References are found in Appendix C.

recommended. The following points will be helpful to keep in mind when reading the questionnaire:

- Everything written in capital letters was not read to the respondent. The interviewer reads only what is written in lower case.
- The questionnaire is pre-coded, with the exception of a few questions (occupations and economic activity).
- Instructions to skip from one question to another are indicated in three ways: (i) if no instructions appear, one moves to the succeeding question; (ii) an arrow (->) after an answer indicates the number of the question to which one should jump if that answer is given; (iii) an arrow followed by instructions enclosed in a rectangle indicates that, whatever the answer given, one should move to the question or person indicated.
- The signs expressed as dots, bracket, and dots: ...[]... , signal that the interviewer had to supply the name of a person, animal, or thing, as should be obvious by the context.
- If the answers given by respondents are not found on the list of pre-coded answers, the code of "others" is applied (and the answer specified).

The sections and variables studied were the following:

TABLE 1: QUESTIONNAIRE: SECTIONS AND VARIABLES STUDIED

Variable/ Section	Part	Description	Respondent
0	-	Identification of the household	
CHARACTERISTICS OF THE MEMBERS OF THE HOUSEHOLD			Head of household
1	A	Household roster	
	B	Information on parents	
HOUSING			Head of household
2	A	Characteristics of dwelling	
	B	Housing expenses	
EDUCATION			Head of household
3	A	Educational attainment	
	B	Attendance at nurseries (less than 5 years old)	
	C	Education of children that do not live at home	
HEALTH			Head of household and those above
15			
4	-	Health status of all members of the household	

Variable/ Section	Part	Description	Respondent
ECONOMIC ACTIVITIES			Head of household and those above 15
5	A	Economic activity of household members age 6 and above	
	C	Secondary employment	
	D	Search for additional employment	
	E	Principal employment	
	F	Employment History	
	G	Secondary employment	
	H	Other activities	
MIGRATION			Those older than
15			
6	-	Migration	
FECUNDITY			Women from 15 to
49			years of age
7	-	Fecundity	
IDENTIFICATION OF INTERVIEWEES (Second Visit)			Head of household
8	-	Persons to be interviewed in the second visit (Sec.9 - 14)	
AGRO-PASTORAL ACTIVITY			Best informed
person			
9	A	Agricultural land	
	B	Crops	
	C	Age of tree crops	
	D	Farm inputs	
	E	Exchange of agro-pastoral labor	
	F	Inventory of crops	
	G	Technical assistance	
	H	Products made from crops	
	I	Livestock	
	J	Products of animal origin	
	K	Livestock expenditures	
	L	Hand tools	
	M	Farm and livestock equipment	

Variable/ Section	Part	Description	Respondent
NON-FARM SELF-EMPLOYMENT			Best informed person
10	A	Non-farm self-employment	
	B	Expenditures	
	C	Capital and inventory	
EXPENDITURES, CAPITAL, AND INVENTORY			Best informed person
11	A	Daily expenses	
	B	Expenses in semi-durable goods and services	
	C	Inventory of durable goods	
	D	Expenses for transfers	
	E	Expenses for family remittances	
FOOD EXPENSES AND HOME PRODUCTION			Best informed person
12	A	Food expenses	
	B	Expenses, home food production	
OTHER INCOME			Best informed person
13	A	Miscellaneous income	
	B	Income from remittances	
SAVING AND CREDIT			Best informed person
14	A	Saving and credit	
	B	Other credits	

2.2 Respondents to the Household Questionnaire

The survey was directed to the head of the household. The head of the household was the person whom the other members of the household recognized as such, whether a man or a woman. When there was doubt, the person designated as head was the individual with greatest economic responsibility in the household; or as a last resort, it simply was the oldest person. If the head of the household was not present or not available for the interviews, another person was found who was capable of responding and providing information concerning all the other members of the household. The respondents required for each section are indicated in Table 1.

The survey was implemented in two visits, sections 1 to 8 being completed in the first. In this first stage, the answers were given principally by the head of the household. The answers in the case of children less than 15 years old (Sections 4 and 5) were given by another member of the household who was well informed. Section 6 was answered directly by all individuals over 15 years old or by another well informed person. In each household, one randomly selected woman between 15 and 49 years of age, of any marital status, responded to the section on fecundity. In all cases in which it was necessary to select someone to respond for another individual, the decision was made only after exhausting all possible means to interview that individual directly. Sections 9 to 14, completed in the second visit, were answered by the individuals identified in the first visit and listed in Section 8 of the questionnaire. These respondents were those best informed regarding the income and expenses of the household and the activities of its members.

2.3 Characteristics of the Questionnaire

The principal advantages of the questionnaire were the following:

- The structure of the questionnaire was well defined, its sections and parts complementing each other.
- The work of the interviewer was facilitated because the data collection largely involved taking down numerical codes and quantities.
- The skips between questions of a section or between sections simplified the collection of data by suppressing questions that were found to be unnecessary.

The following can be cited as limits or disadvantages of the questionnaire:

- The print of the questionnaire was very small, making reading difficult, especially at night under the light of candles or kerosene lamps.
- The signs to skip were also very small, causing the omission of questions and mistakes in moving between questions during the first days of the survey.
- The questionnaire was very long because of the large number of questions it contained, demanding stamina from both interviewer and respondent. The lengthy time required to complete the questionnaire at times annoyed the respondents.
- The long questions, especially when translated into Quechua or Aymara, caused problems of understanding on the part of the respondents.
- The various time periods referred to in the questionnaire caused confusion and difficulties when respondents tried to remember them specifically.

2.4 The Community Questionnaire

This questionnaire was applied in rural areas to selected population centers. The sections and variables studied were:

SECTION 1: Demographic Information

Based on the number of households and the age of the population center.

SECTION 2: Economy and Infrastructure

Economic activity of the inhabitants, means of communication, mail service, restaurants, means of transportation, migration and market prices of the principal items of domestic consumption (rice, milk, edible oils, onions, potatoes, sugar, noodles, detergent, aspirin, kerosene).

SECTION 3: Education

Existence of primary schools, secondary schools, age, distance from the school, time required to reach the school, attendance rates of school-age children, type of school, reasons for non-attendance, and literacy programs.

SECTION 4: Health

Existence of health centers, pharmacies, doctors and other health professionals, time required to reach primary health centers.

SECTION 5: Agriculture

Principal crops, technical assistance, cooperatives, daily wages, work exchanges.

The community questionnaire was filled out by the interviewer. The information was solicited from the principal authorities of the locality, such as the lieutenant governor, directors of the community or a notable person in the population center.

3. Sample

3.1 Size and Coverage of the Sample

The unit of count was the private dwelling, a place formed by a room or a group of structurally separated and independent rooms, housing one or more households.

The geographic field of study was the nation ⁵, with the exception of the departments of Ayacucho, Apurímac, and Huancavelica, excluded for their designation as emergency zones of terrorist activity ⁶. The population to be studied was divided into 17 domains, which are areas with similar socio-economic and geographic characteristics.

The size of the selected sample at the national level was 5,024 households. The sample size in the urban area was 2,688 households ⁷, and the sample size in the rural area was 2,336 households (see the size of the sample at the level of rural population centers, rural census areas, and urban population

5

The land area of Peru is 1,285,217 square kilometers. It has three natural regions: the coast, the mountains (over 1200 meters above sea level, approximately), and the rain forest. The political division in 1991 was: political regions (12), departments (25), provinces (185), and districts (1,784). Its population in 1986 was 19.8 million inhabitants and in 1992 was 22.5 million inhabitants.

6

The percentage of the national population excluded, corresponding to the departments of Ayacucho, Apurímac, and Huancavelica, is 6%.

7

Including Metropolitan Lima.

centers, according to domains of study, in Appendix E) ⁸.

The sample by domain of study was the following:

TABLE 2: DISTRIBUTION OF THE SAMPLE OF CONGLOMERATES AND HOUSEHOLDS, BY DOMAIN OF STUDY

Domain	Conglomerates	Households
COAST		
01 Urban North	27	432
02 Rural North	11	176
03 Urban Center	14	224
04 Rural Center	7	112
05 Urban South	4	64
06 Rural South	2	32
MOUNTAIN		
07 Urban North	3	48
08 Rural North	24	384
09 Urban Center	15	240
10 Rural Center	46	736
11 Urban South	16	256
12 Rural South	35	560
FOREST		
13 Highland Urban	3	48
14 Highland Rural	14	224
15 Lowland Urban	6	96
16 Lowland Rural	7	112
LIMA		
17 Metropolitan Lima *	128	1,280
TOTAL	362	5,024

* Metropolitan Lima is formed by the Province of Lima and the Constitutional Province of Callao.

The 362 conglomerates are distributed as 216 urban conglomerates, 29 conglomerates in population centers of less than 2,000 inhabitants, and 117 rural census districts.

8

Rural Population Area: Defined as having less than 2,000 inhabitants. **Rural Census Area ("Area de Empadronamiento Rural - AER"):** Land area which contains an average of 100 households. **Urban Population Center:** Defined as containing a minimum of 2,000 inhabitants, including the district capitals even when they have less than 2,000 inhabitants.

3.2 Sample Design and Selection

The sample is probabilistic, multi-stage, and independent in each domain of study. In the urban area (including Lima), it is stratified and three-staged. In the rural area, the sample is stratified, three-staged in the population centers containing 500 to 2,000 inhabitants and two-staged in the rest of the rural area (i.e. less than 500 inhabitants).

In all the stages the selection was systematic with probability proportional to size of the unit of selection, that is, to the number of individual households.

The sample is self-weighted for the levels of inference. These levels of inference for aggregated results are: National Total, National Urban, National Rural, Metropolitan Lima, and Natural Regions (coast, mountain, and forest).

The sampling units were:

- Primary Sampling Units (PSUs): these were of two types: (i) urban population centers of 2,000 or more inhabitants; and (ii) rural population centers with less than 2,000 inhabitants. Two types of rural PSUs were defined: the Rural Census Areas (RCA), from the National Census of Population and Dwellings of 1981, formed by one or more population centers in which there are around 100 dwellings (approximately 500 inhabitants); and the population centers with populations greater than 500 and less than 2,000 inhabitants.

- Secondary Sampling Units (SSUs): (i) in the urban area, the conglomerates of approximately 100 individual dwellings; and (ii) in the rural area two kinds were considered: the conglomerates of 100 dwellings, on average, in the population centers of more than 500 and less than 2,000 inhabitants; and individual dwellings in the Rural Census Areas (RCAs).

- Tertiary Sampling Units (TSUs): (i) individual households listed in the urban SSUs; (ii) the individual households in the rural SSUs (population centers with more than 500 and less than 2,000 inhabitants).

The sample of selected dwellings was extracted from the sample of households of the National Survey of Nutrition and Health (ENNSA)⁹. The sample in its first stage is a sub-sample of

9

The National Survey of Nutrition and Health ("Encuesta Nacional de Nutrición y Salud - ENNSA"), implemented in 1984, was directed by the INEI and was applied to a sample of 19,277 ind.dwellings selected from the entire country.

the selected conglomerates of the ENNSA, and its second stage is a new sub-sample of dwellings from these selected conglomerates. This allows maximum use of the sample frame of the ENNSA and a substantial savings in field work in the listing and mapping in districts and rural census areas ¹⁰.

The sample for Metropolitan Lima is three-staged, with selection proportional to the number of dwellings in the first and second stage and simple systematic random selection in the third stage. Metropolitan Lima constitutes only one PSU. The unit of selection in the second stage is the conglomerate (SSU). The districts that form the domain were ordered by geographic continuity, beginning in the north and finishing in the south. Then the SSUs were selected systematically by equal probability sampling and probability proportional to the number of individual dwellings. The unit of selection in the third stage is the individual dwelling; in every selected SSU the households were selected by systematic, random, equal probability sampling.

In the rest of the the urban area the sample is three-staged, systematic random sampling, with selection proportional to the number of households in the first and second stages. The selected PSUs were determined as a function of the number of conglomerates required for the 1985-86 PLSS in each urban domain of study, beginning from the selected population centers of the ENNSA. The selection of the SSUs for the 1985-86 PLSS was based on the list of conglomerates (SSUs) of the selected population centers (PSUs) of the ENNSA. The selection method was equal probability sampling, with size proportional to the number of individual households. In the last stage of the sample, the selection of the individual households in the selected SSUs was simple, systematic, and random.

In rural areas the selected PSUs were determined as a function of the number of conglomerates and RCAs required for the 1985-86 PLSS in each rural domain of study. The list of the population centers and the selected RCAs for the 1985-86 PLSS followed, then, from the identification of a sub-sample of conglomerates and RCAs of the ENNSA. The SSUs in population centers between 500 and 2,000 inhabitants of the 1985-86 PLSS are a sub-sample of conglomerates of the ENNSA. The method of selection of the individual households was simple, random, and systematic.

The size of the sample in the last stage was 10 households per conglomerate for Metropolitan Lima and 16 households in the

10

Refer to the development of the methodology for the selection of the sample in the document "Sample Design"; reference in Appendix C, item F.

rest of the conglomerates and rural census areas.

In order to capture seasonal variations, the sampling of households was taken in a manner so as to cover the 12 months of the year in each domain of study. The numbers in the sample in each domain were proportional to the number of existing individual households. The total sample was subdivided randomly into 12 sub-samples (see Table 3).

TABLE 3: DISTRIBUTION OF THE SAMPLE OF CONGLOMERATES, BY MONTH OF IMPLEMENTATION OF THE SURVEY AND TYPE

Month	Total	Type A	Type B	Type C
Total	362	216	29	117
1	30	21	2	7
2	30	19	1	10
3	30	16	1	13
4	30	18	1	11
5	30	19	3	8
6	30	16	4	10
7	31	18	4	9
8	31	18	3	10
9	32	16	3	13
10	30	18	2	10
11	28	18	2	8
12	30	19	3	8

Type A: Conglomerates in population centers of 2,000 or more inhabitants

Type B: Conglomerates in population centers with less than 2,000 inhabitants

Type C: Rural census areas

3.3 The Sample Implemented

The survey was carried out at the national level in 362 conglomerates, of which 216 were classified as urban areas and 146 as rural areas.

The total number of **dwelling**s selected was 5,024, but information was collected from 4,906 households, meaning that interviews were not conducted in 118 of these, for reasons ranging from unoccupied dwellings, transitory dwellings, for not being located, for refusal, to other causes. The total number of **households** interviewed was 5110, 4913 of which received the two visits, leaving 197 in which a second interview was not conducted ¹¹.

A total of 876 dwellings were replaced, which represents 17.4% of the total selected. Of the total number of dwellings replaced, it was not possible to conduct interviews in 118 dwellings (2.4% of the total sample). The following reasons were given for the replacements:

- Unoccupied dwellings	37.5%
- Dwelling not found or disappeared	14.5%
- Transitory dwellings	13.1%
- Interview rejected	7.7%
- Other reasons (dwelling with occupants absent, dwellings used as hotels, workshops, etc.)	27.2%
Total	100.0%

The replacement was made only when all methods to avoid doing so were exhausted. At the regional level the percentages of replacement were the following ¹²:

¹¹

The distinction between physical dwellings and households is made in surveys in developing countries because at times more than one household resides in a dwelling. This explains the greater number of households than dwellings.

¹²

The field work of the 1985-86 PLSS was organized in 12 regions of work. See details in section 4, part 4.6.1.

TABLE 4: PERCENTAGE OF HOUSEHOLDS REPLACED, BY REGION OF WORK 1/

Region	Total dwellings replaced (%)	Total dwellings replaced but not interviewed (%) 2/
Total	17.4	2.4
1. Piura	13.2	0.4
2. Chiclayo	19.2	3.9
3. Trujillo	18.3	3.0
4. Huaraz	18.5	1.3
5. Lima Provincias	19.4	3.3
6. Arequipa	23.0	4.3
7. Huancayo	29.7	5.7
8. Huánuco	25.3	3.4
9. Cusco	6.9	0.7
10. Puno	18.5	2.5
11. Iquitos	17.1	3.8
12. Lima Metrop.	11.8	0.7

1/ Percentage of the total number of selected households.

2/ Indicates the percentage of total sample that could not be interviewed (118 in total).

The regions that had the highest percentage of replacement were: Huancayo (29.7%), Huánuco (25.3%), and Arequipa (23.0%). The region with the lowest percentage of replacements was Cusco (6.9%).

Of the dwellings found to be unoccupied in the survey (328 dwellings), the majority were located in: Huancayo (61), Piura (46), Puno (41), and Metropolitan Lima (38). Of the replacements for other causes (238 dwellings), the majority were concentrated in Metropolitan Lima (49), Trujillo (31), Huánuco (28), and Arequipa (25).

The regions most affected with dwellings not found (127 in total) were: Huánuco (21), Piura (18), Huancayo (18), and Lima Provinces (16). Similarly, the regions most affected with transitory dwellings (115 in total) were: Metropolitan Lima (31), Huaraz (20), and Lima Provinces (16). Finally, of the total number of dwellings rejecting the interview (61 dwellings), 30 dwellings were found in Metropolitan Lima, 18 in Huancayo, and 14 in Arequipa.

3.4 Sample for the Community Questionnaire

The community questionnaire was administered in all rural census areas (117 AERs). The sample was a function of the rural segments and the existing population centers in them. In total, 270 questionnaires were obtained in the entire survey, one for each community ¹³.

TABLE 5: NUMBER OF COMMUNITY QUESTIONNAIRES, BY REGION OF WORK

Regions	AER	Total questionnaires
Total	117	270
1. Piura	6	15
2. Chiclayo	15	35
3. Trujillo	11	19
4. Huaraz	15	47
5. Lima Provincias	6	33
6. Arequipa	4	10
7. Huancayo	9	15
8. Huánuco	13	19
9. Cusco	15	29
10. Puno	19	36
11. Iquitos	4	12

The entire sample was successfully completed; nevertheless, four questionnaires were nullified in the stage of examination-codification and consistency checks.

4. Organization and Implementation of the Survey

4.1 Survey Management

The co-ordination of the 1985-86 PLSS was the responsibility of the Statistical Institute of Peru (INEI), through its branch organizations: the Department of Census and Surveys ("Dirección General de Censos y Encuestas - DGCE"), the Department of Economic and Social Indicators ("Dirección General de Indicadores Económicos y Sociales - DGIIES"), and the Department of

¹³

More than one distinct community can exist in a rural census area.

Information Science ("Dirección General de Informática - DGI"). The structure of the survey management was the following:

1. Technical Department of INEI - Responsible for the survey at all levels.
2. Department of Census and Surveys - Responsible for the sample design and for field operations at the national level.
3. Department of Economic and Social Indicators - Participated in the design of the questionnaire, the planning of the survey, and the analysis of the results.
4. Department of Information Science - Responsible for directing data processing and for developing the computer programs for data input, verification, and principal results.
5. Regional Office of Statistics - Responsible for conducting the field operations in each region.

4.2 Time Frame

The survey was implemented simultaneously in all selected regions during 12 consecutive months, from the middle of July, 1985, to the middle of July, 1986.

4.3 Training and Selection of Personnel

4.3.1 Course for the Selection of Personnel

The course was given from May 7, 1985, to June 8, 1985. A total of 93 people took the course: 56 pre-screened applicants, 28 individuals affiliated with the Regional Offices of the INEI, and 9 people from the Division of Census and Surveys. The instructors were professionals and experts with experience in censuses and surveys, including individuals who were responsible for the development of the basic documents for the 1985-86 PLSS. After relevant evaluations, 36 individuals were selected out of the 56 applicants.

4.3.2 Course for Team Leaders and Regional Leaders

This was a course taught from June 13 - 21, 1985, with the purpose of completing the training begun in the earlier course, emphasizing elements of administration, coordination, monitoring, and supervision of field work.

4.3.3 Course for Data Processors

This was a course given from June 13 - 28, 1985, in the Division of Information Science of the INEI. The program trained personnel from the Regional Offices (15 individuals) designated as data processors.

4.4 Pilot Survey

The purpose of this trial was to test the applicability of the questionnaire and the planned methods and procedures, and to estimate the time that would be required to complete the questionnaire. The pilot survey was carried out in three provinces of the country located in three different geographic regions: the coast (Lima), the mountains (Jauja), and the forest (Maynas).

Experts from the INEI, using manuals and other documents developed for the survey, were involved in the field test. Two experts from the World Bank were present when this course, which lasted 15 days (January 28 - February 15, 1985), was taught.

The duration of the field work in each region was two weeks (February 19 - March 4, 1985). An appointment to conduct the interview was made with the head of the household one day before the scheduled survey date. The first interview in the selected dwelling was conducted during the first week; each interviewer did two interviews each day, taking data from one household in each dwelling. In the first three days of the week the survey was implemented in rural areas, and the remaining days were used for the urban area. In the second week, a second visit was made to the dwellings interviewed during the first week.

This pilot survey resulted in the composition of a report in April, 1985, with recommendations and suggestions concerning the format, the wording of the questions, the presentation of the instructions in the questionnaire and the manuals, procedures for locating dwellings and for enhancing the reception of the interview. In this trial, the average length of the first interview was 1 hour and 55 minutes, and of the second visit 2 hours.

4.5 Publicity

Press conferences at the national and regional level informed the public about the 1985-86 PLSS, its objectives, time of execution, and its principal characteristics, all with the

purpose of motivating selected households to collaborate with the survey. The press campaign was launched in Lima in July of 1985 with a press conference offered by the leadership of the INEI. Officials of the INEI and regional leaders subsequently gave similar press conferences at the regional level.

4.6 Field Work

4.6.1 Organization

The performance of field work required a geographic and functional organization composed of 12 Regional Offices of the INEI, a structure which permitted a centralization of the tasks at a common base and a quick dispersal of field teams to their work areas in each region.

TABLE 6: GEOGRAPHIC ORGANIZATION OF THE FIELD WORK, BY REGION

Region	Base	Departments, Provinces or Districts	Number of Conglomerates *
1	Piura		18
		Tumbes	1
		Piura	15
		a) Tabaconas (San Ignacio-Cajamarca)	2
2	Chiclayo		26
		Lambayeque	10
		b) Chepén (Pacasmayo-La Libertad)	1
		c) San Miguel (Cajamarca)	3
		d) Yauyucán (Santa Cruz-Cajamarca)	1
		e) Jaén (Cajamarca)	3
		f) Chota (Cajamarca)	2
		Amazonas	6
3	Trujillo		27
		La Libertad (except b)	18
		Cajamarca (except a, c, d, e y f)	9
4	Huaraz and Chimbote		26
		Ancash	26

Region	Base	Departments, Provinces or Districts	Number of Conglomerates*
5	Lima		19
		Lima (Lurín, Puente Piedra, Cañete, Cajatambo and Canta)	11
		Ica	8
6	Arequipa		19
		Arequipa	15
		Moquegua	3
		Tacna	1
7	Huancayo		24
		Junín	24
8	Huánuco		22
		Huánuco	14
		Pasco	5
		Ucayali	3
9	Cusco		19
		Cusco	18
		Madre de Dios	1
10	Puno		23
		Puno	23
11	Iquitos		11
		Loreto	8
		San Martín	3
12	Lima Metro- politana		128
		Province of Lima and the Constitutional Province of Callao	
	TOTAL		362

* In each conglomerate 16 dwellings were selected, with the exception of Metropolitan Lima, where 10 were chosen.

At the other end, the collection of data required training of 15 work teams, each of which was composed of two surveyers, one team leader, one regional supervisor, and one data processor. A personal computer was installed in each region, which allowed each of the teams to work independently.

The field personnel that worked on 1985-86 PLSS at the national level were the following: 12 regional leaders, 15 national supervisors, 17 team leaders, 36 surveyers, and 15 data processors.

4.6.2 Administration

The general administration of financial resources was the responsibility of the Office of Administration of the INEI, which, at the instruction of the Division of Census and Surveys, transferred required funds to the Regional Offices, where they were managed by the various administrative offices.

Logistics was the responsibility of the Division of Census and Surveys, which distributed all required material as needed and administrated the flow of documents between the central base and the work regions.

Working relationships with local civil and military leaders were established in order to guarantee the smooth functioning of the survey. In urban areas, the help and collaboration of community leaders, police, mayors, prefectorates, and sub-prefectorates were solicited; and in rural areas it was lieutenant governors, municipal officials, and other community leaders whose support was requested. At the national level the INEI established working relations with the Ministry of Interior.

4.6.3 Supervision

The supervisory task consisted in verifying that the field work of the 1985-86 PLSS was executed in accordance with the established norms and guidelines. The levels of supervision were the following:

1. The team leader supervised the work of the interviewers under him.
2. The regional leader supervised, monitored, and evaluated the team leaders, the interviewers, and the data processors.
3. The national supervisors, who from the central headquarters in Lima were carrying out an intense schedule of visits during the 12 months of work, supervised the field operations in the regions.

4. The officials of the Division of Census and Surveys and experts of the World Bank supervised at every level.

4.6.4 Implementation

The collection of the data required two visits, at an interval of 15 days, to each household.

The work area of an interviewer in Metropolitan Lima, in each period of work, was 10 dwellings. In the rest of the country the area consisted of 16 dwellings.

The work period was 4 weeks. In the first week the interviewer conducted the first visit to half of the total number of dwellings assigned to her, and in the second she completed all of the dwellings. In the third week the second interview was conducted in the dwellings to which the survey had been applied in the first week, and in the fourth week the second interview was carried out in the remaining dwellings.

The first visit collected data about housing, principal characteristics of the household members (sex, age, etc), education, health, occupation, migration, and fecundity. Persons who would be respondents in the second visit were also identified at this stage.

After review in the field, completed questionnaires from the first visit were sent to the regional base for entry and consistency review. A list of errors and omissions was printed and sent back to the work site for correction during the second visit to the dwelling.

In the second visit to the dwelling, after correcting errors and omissions, persons identified during the first visit were interviewed in order to collect data concerning agro-pastoral activities, self-employment, expenditures on and inventory of durable goods, home production and consumption of foods, other income, and savings and credit.

At the conclusion of the second visit, the questionnaires were sent again to the regional base for data entry and the composition of a new list of errors and/or omissions which, if necessary, were corrected in the field. The corrected questionnaires and diskettes were sent to the central headquarters in Lima. Each diskette (5 1/4) stored the data from 6 questionnaires.

The team leaders monitored the sample selected, conducting extremely detailed checks on the interviews carried out. When it was impossible to do an interview in a selected dwelling, and only after an exhaustive effort and search to avoid replacement, a dwelling was replaced by another (see details in section 3.3).

The average length of each interview was 2 hours in the first visit, 2 hours and 30 minutes in the second visit. The response from the respondents was, in general, cordial and co-operative. The rural respondents were more co-operative, those from the urban areas exhibited greater comprehension of the questions. In zones troubled by terrorist activity respondents viewed the interviewers with suspicion.

The interviews were carried out in Spanish alone in five of the twelve regions (Piura, Trujillo, Lima Provincias, Metropolitan Lima and Iquitos); in Spanish and/or Quechua in 7 regiones (Arequipa, Chiclayo, Huaraz, Huancayo, Huánuco, Cusco and Puno); and in Spanish, Quechua, and/or Aymara in the regions of Arequipa and Puno. The interviewers that did not speak Quechua or Aymara used interpreters, who were generally other members of the household.

4.6.5 Community Questionnaire

The administration of this questionnaire was the task of the interviewers, and it was implemented in the first or second visit, in accordance with the schedule of the field work. The supervision was performed by the team leader or the regional leader of the survey.

There were no major problems in the implementation of this questionnaire since its format and its questions were functional and because the collaboration of authorities or other notable figures in the community was always obtained. Nevertheless, there was no manual with instructions for filling in the questionnaire, which would have permitted the standardization of criteria for the collection of the data from the various regions.

4.6.6 Additional Activities

Recovery of data.- Occurred when the interviewer had to return to a dwelling to solicit data from a member of the household absent during the visit or to correct errors and omissions. Generally, data recovery concerned sections 5 and 7 in the first visit and sections 9 and 10 in the second visit.

Observation of the interviews.- Performed by team leaders, regional leaders, and eventually by the national supervisor, with the purpose of verifying compliance with the given instructions and procedures.

Review of completed questionnaires.- Performed by team leaders, supervisors, and regional leaders in order to assure the proper completion of questionnaires. These reviews were carried out in the field as well as in the office and were accompanied by detailed notebooks.

Re-interviewing.- Performed by the team leader with the purpose of checking the quality of the data (see "Manual for the Team Leader," cited in Appendix C). Dwellings selected at random were re-interviewed about several of the questions, and these answers were compared with the answers that the original interviewers had obtained. About 14% of the dwellings from the first visit and some 10% of the dwellings from the second visit were re-interviewed.

4.7 Transport

The transport of field personnel utilized vehicles of the INEI as well as public services. Priority for the use of the institute's vehicles was given to interviewers and/or supervisors working in the most isolated and/or dangerous regions. In rural areas interviewers traveled by foot or used whatever transportation was available in the locale.

Moving about in urban areas posed no substantial problems for the work teams. Personnel in rural areas, however, encountered a series of difficulties owing to the absence of means of communication between selected rural population centers, the irregularity of transportation services, and weather problems (rains, rising rivers, etc.).

4.8 Checking Data Consistency

A number of measures were taken to assure the consistency and coherence of the data collected. The first consistency check was performed in each regional base of operations, as described in section 4.6.4. After the entry of the data, a consistency program provided a list of errors, which were corrected in the field by the interviewer. Next, the data was sent to the central headquarters in Lima. The computer there checked the data in a five-step process: a) coverage; b) range; c) structure; d) flow; and e) arithmetic-logical relations.

The coverage program involved three elements: i) a comparison of the questionnaires with the file of the sample frame in order to verify that the dwellings surveyed actually corresponded to the dwellings selected; ii) a check that the dwellings did not contain more than five households and that the replacement of dwellings was performed correctly; and iii) a determination of valid questionnaires. Of the 5,991 households listed¹⁴, the program found 5,107 to be valid. Of the 884 invalid households, 876 were households in which it had not been possible to perform an interview (thus a replacement was sought), for whatever reason; and 8 were households eliminated for lack of the minimal required data.

The range program detected errors committed in the assignment of key words or codes when these were not found to be within fixed limits. The structure program verified that data existed in the basic sections of the questionnaire. The flow and arithmetic-logical relations programs checked the logical sequence that the data should have taken in each section (flows) and the consistency of the listed data to itself (arithmetic-logical relations). The most frequently detected errors involved the existence of boxes not filled in with zeros.

5. Quality of the Data

The quality of the data collected in 1985-86 PLSS is good. The data are highly consistent. The procedures adopted for the collection of the data, the simultaneous input and consistency checks, and the pre-coded questionnaire minimized the likelihood of errors. The principal factors which might affect in part the quality of the data are: i) suspicion of the interviewers on the part of households in high income sectors, some of whom probably underestimated portions of their income and expense data because of an unfounded fear of a tax review by the government; ii) an average monthly inflation rate of approximately 4.5% in Peru during the survey's period of implementation, which could have diminished in part the quality of the data on income and expenses (since people quickly forget past prices and the value of small purchases). The likely impact of these factors would be an

14

This number includes all households that were interviewed (including those that replaced others) as well as households that were replaced. That is why this number is larger than the intended sample size discussed in Section 3 above.

underestimation of the degree of inequality in expenditures and income for this period.

6. Aggregate Consumption Data

Researchers of the World Bank have developed aggregate consumption data for their own use. This data is available to the public under the stipulation that neither the World Bank nor its staff are under any obligation to provide additional services to data users. Some users might prefer to construct their own aggregate consumption statistics on the basis of the original data.

Aggregate consumption data included: i) the sum of explicit monetary values, appropriately expressed in monthly terms (with prices adjusted in the manner explained in section 7), of the items listed in the questionnaire; ii) the imputed rental value of the dwelling; iii) the use value of durable goods ¹⁵.

The data on explicit monetary values were: 1) expenses on regular purchases of non-food items (such as heating fuels, cigarettes, and personal bath items) and food items consumed outside of the household during the two previous weeks (specifically, in the period between the first and second visits to the household); 2) expenses on clothes, goods and services for household upkeep, medicines, and other irregular expenses made during the last three months; 3) expenses on food items during the last two weeks; 4) the value of foods produced and consumed by the household during the last three months; and 5) the value of payments in kind (food and non-food) received by members of the household.

The value of the five categories of expenses mentioned above are explicitly captured by the survey (sections 5, 11, and 12). Obtaining an appropriate measure of consumption, however, required calculations of the use value of durable goods and of the imputed rental value of dwellings inhabited by owners (on the basis of data from sections 11C and 2B, respectively).

For dwellings, an equation was estimated for hedonic rent (that is, a prediction of the rental value of the household on the basis of the household's characteristics) for households that were renters. This was done separately for Lima and the other

15

See Glewwe, Paul. "The Distribution of Welfare in Peru in 1985-86" **LSMS Working Papers** No. 42 (December 1987), page 70, The World Bank.

urban areas. After using appropriate methods to correct for the selection bias of the sample, the rental value was estimated as a function of the characteristics of the household, such as floor space, type of dwelling, water source, and light source. Then, imputed rents for dwellings occupied by their owners were calculated on the basis of the coefficients calculated for renters, again correcting for selection bias. In rural Peru a rental market is almost non-existent, which makes impossible the estimation of imputed rents. This required the use of estimated rental values given by survey respondents who were not renters. When rural households did not give an adequate answer, the reported estimated rents above were regressed on features of the dwelling in order to obtain an econometric estimate of imputed rental value.

For durable goods, the rental value was estimated on the basis of the real depreciation of these goods over time (which was calculated from the data on the present estimated value and the cost when purchased). The estimates of imputed rent and use value of durable goods were added to the categories of expenses mentioned above.

7. Prices

During the period of application of the 1985-86 PLSS (July, 1985, to July, 1986) the Consumer Price Index rose by more than 70%. In order to measure expenses (see section 6), the monetary values were deflated to values of June of 1985, using indices of monthly prices and adjusting for differences in prices among regions¹⁶.

The problem of differences in prices over time was solved using monthly indices of consumer prices, available for thirteen cities and produced by the INEI¹⁷. The price indices were indexed at 100 for June, 1985.

The differences in prices among these 13 regions were not captured in the monthly price indices; therefore, an inter-

¹⁶

See Glewwe, Paul. "The Distribution of Welfare in Peru in 1985-86" **LSMS Working Papers** No. 42 (December 1987), page 70, The World Bank.

¹⁷

The address of the Instituto Nacional de Estadística e Informática is: Av. 28 de Julio No 1056, Lima 1, Perú. Fax: 51-14-323104.

regional price index had to be constructed (National = 100). Prices for 7 food items and 5 non-food items were obtained from the INEI. The nominal total expense for the country, estimated using the 1985-86 PLSS, was employed to obtain weights for the construction of the inter-regional price index. These weights were used with data on prices, adjusted by regional population, to create the inter-regional price index for food items and non-food items.

The real expenditures for each household were calculated by first deflating nominal expenditures of the household on food items and non-food items by the respective regional deflator, and then by using the regional monthly deflators to obtain the real values of purchases.

**TABLE 7: INDEX OF INTER-REGIONAL PRICES FOR PERU, 1985-1986
(National = 100)**

Region	Food items	Non-food items	Total
Arequipa	88.9	100.3	95.8
Cajamarca	91.3	92.4	91.9
Cusco	87.2	80.6	83.2
Chiclayo	94.7	96.5	95.8
Chimbote	100.4	104.1	102.6
Huancayo	95.6	98.0	97.0
Ica	95.2	90.7	92.5
Iquitos	188.2	85.1	126.3
Lima	99.3	110.3	105.9
Piura	94.7	106.1	101.5
Puno	86.9	74.7	79.6
Tacna	96.6	105.7	102.0
Trujillo	94.2	110.9	104.4

8. Data Files

All of the original data from the 1985-86 Peru Living Standards Survey are available for public use. In general, data for each section of the questionnaire is contained in a separate data file. Exceptions to this rule are noted below. The filenames for the 1985 data begin with "F" and end with the section numbers from the questionnaires. For example, the filename "F5E2" is the data from section 5E2 of the questionnaire. The filetype or file extension will be either "dta", "dat", or "ssp" depending on whether the data are in Stata, ASCII, or SAS portable format, respectively.

The 1985 data largely follow the naming convention mentioned above except for the following data files: "PLOTS", "CROPS", "F99", "NTRPS", and "FOOD". "F99" contains all household-level data from the various parts of section 9. "PLOTS" contain the plot-level data from section 9A, and "CROPS" contains the crop-level data from sections 9B, 9C, 9D, 9E, and 9F. "NTRPS" contains the enterprise-level data from sections 10A and 10C, while "FOOD" contains food-level data from sections 12A and 12B.

Table 8: File Names for 1985 PLSS

F0A	F3A3	F5D	F8	F9M	F13A
F0B1	F3B	F5E1	PLOTS	F99	F13B
F0B2	F3C	F5E2	CROPS	NTRPS	F14A1
F0C	F4	F5E3	F9D6	F10B	F14A2
F1A	F5A	F5E4	F9E1	F11A	F14B
F1B	F5B1	F5F	F9G	F11B	PERUCOMM
F2A	F5B2	F5G1	F9H	F11C	SIZE
F2B1	F5B3	F5G2	F9I	F11D	EXPEND
F2B2	F5B4	F5H	F9J	F11E	DEFLSCL5
F3A1	F5C1	F6	F9K	FOODS	
F3A2	F5C2	F7	F9L	F12C	

"PERUCOMM" contains the data from the community questionnaire. "SIZE" simply contains the size of the household, counting only household members. "DEFLSCL5" contains regional price deflators to adjust nominal values for three different time periods. The regions used for the deflators are the same thirteen cities mentioned in section 7 on deflation. The three time periods are for whether the purchase was made in the last week, in the last month, or in the last three months.

The World Bank also makes available a constructed data file, named "EXPEND", for the 1985 data. This was generated by researchers at the World Bank for their own use, and is made available to the public on the condition that the World Bank and its staff are under no obligation to provide further services to users. This data file reflects methodological choices of the individual researchers. Some users may prefer to calculate their own versions of these constructed files, based on the original data.

The constructed data set, "EXPEND", contains the following variables:

HHID	household identification code
CLUSTER	cluster identification code
DATE1	date of first interview, last four digits are month and year
DATE2	date of second interview, last four digits are month and year
DURSERV	total real use-value of durable goods
HHSIZE	household size
KIDS06	number of kids in household, ages 0 to 6
KIDS712	number of kids in household, ages 7 to 12
KIDS1317	number of kids in household, ages 13 to 17
ELDR6574	number of elderly in household, ages 65 to 74
ELDR7599	number of elderly in household, ages 75 to 99
LANGUA	language of interview
NATREG	natural regions; 1 = Costa, 2 = Sierra, 3 = Selva, 4 = Lima Metro
REGTYPE	1 = Lima Metro, 2 =Costa Urban, 3 = Sierra Urban, 4 = Selva Urban 5 = Costa Rural, 6 = Sierra Rural, 7= Selva Rural
PGRENT	imputed monthly rent for both homeowners and renters
FUELX	real monthly expenditures on fuel
TFEXP	total real monthly food expenditures
HECTRS	total hectares of land owned by household
HECTRSW	total hectares of irrigated land owned by household
HECTRSD	total hectares of dry land owned by household
TNFEXP	total real non-food consumption
THHEXP	total real monthly household consumption

The procedures used to deflate values, impute the use-value of durable goods and housing, and to aggregate expenditures are discussed in previous sections.

Also included with the 1985 data are four SAS format files, CPI.SAS, FORMATS.SAS, FORMOCC.SAS, and RESID.SAS. The codes in these files provide some information, such as industry and occupation codes, which are not found in the questionnaires.

Appendix A

How to Obtain the 1985-86 PLSS Data

The 1985-86 Peru Living Standards Survey data are the joint property of Peruvian government and the World Bank. They can be obtained by writing to:

Econ. Felix Murillo Alfaro
Director
Statistical Institute of Peru (INEI)
Av 28 de Julio No 1056
Lima 1, Perú.
Fax. (51-14) 323104

or to:

Living Standards Measurement Study
Poverty and Human Resources Division
Policy Research Department
Attn. Paul Glewwe
The World Bank
1818 H Street, N.W.
Washington, DC 20433
U.S.A.

The letter should include a 1-2 page description of the proposed research to be undertaken using the data. The World Bank will then make a quick check of whether similar research has been done before. If the research description is not redundant, the World Bank will release the data, and will notify the researcher to that effect. If the proposed research is similar to work the World Bank is aware has been done, the researcher will be notified so that he/she may consider whether to revise his/her plans.

There is a nominal fee associated with the data, which are available on diskette, in SAS (version 5.0) portable, STATA (version 2.1), or ASCII files.

The Poverty and Human Resources Division of the World Bank and the Statistical Institute of Peru request copies of all reports and documents resulting from research on the data.

The researcher should further note that once received, the data cannot be passed on to a third party for any reason. Other researchers must contact the Statistical Institute of Peru or the World Bank directly for access to the data. Any infringement on this policy will result in the denial of future access to World Bank data.

Appendix B

List of Counterpart Institutions and Contacts

The 1985-86 PLSS was conducted by Statistical Institute of Peru under the auspices of the World Bank and the Central Bank of Peru.

The following is a list of contacts at these counterpart institutions.

1. Statistical Institute of Peru (INEI)

Av 28 de Julio No 1056
Lima 1, Perú.
Tel. (51-14)279552/323104
Fax. (51-14) 323104

Contacts:

- a. Félix Murillo Alfaro (Director)
- b. Ramón de la Cruz Yupanqui (Sub Director of Sampling and Statistical Analysis)

2. Central Bank of Peru (BCR)

Av. Miro Quesada No 445
Lima 1, Perú
Tel. (51-14) 276250

Contacts:

- a. Javier de la Rocha (General Manager)
- b. Teresa Lamas (Sub Director of Economics Studies Department)

3. The World Bank

1818 H Street, N.W.
Washington, DC 20433
U.S.A.
Tel. (202) 473-1234

Contacts:

- a. Paul Glewwe (Economist)

Appendix C

List of Supporting Documents

The following documents can be obtained from the World Bank Poverty and Human Resources Division, at a cost of .05 cents per page for photocopying

- A. 1985-86 Questionnaire: "Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida, 1985-86", 65 Pag. (Free of Charge)
- B. 1985-86 Community Questionnaire: "Encuesta Nacional Sobre Medición de Niveles de Vida: Cuestionario Comunitario a los Centros Poblados Rurales", 14 Pag. (Free of Charge)
- C. 1985-86 Interviewer Manual: "Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida, 1985-86: Manual del Encuestador". 120 pages.
- D. 1985-86 Chief of Brigade Manual: "Encuesta Nacional de Hogares Sobre Medición de Niveles, 1985-86: Manual del Jefe de Brigada". 44 pages.
- E. 1985-86 Principal Variables and Concepts: "Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida: Principales Variables y Definiciones". 20 pages.
- F. 1985-86 Sampling Methodology: "Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida, 1985-86: Diseño muestral. 26 pages.
- G. Occupations Codes: "ENNIV 1985-86:Código de Ocupaciones". 76 Pages.
- H. Means Tables of all variables in PLSS 1985-86 Data.
- I. 1985-86: "Manual para el Manejo del Microcomputador". 17 Pag.
- J. 1985-86: "Manual del Jefe Regional". 20 Pages.

Appendix D

Partial Summary of Published and Ongoing Research Using PLSS 1985-86 Data

Analysts of 1985-86 PLSS data are required to send copies of their research proposal to the World Bank in order for them to obtain data sets through the Bank. Analysts are also requested to send copies of the papers and publications resulting from the analysis of PLSS data to the World Bank (address listed in Appendix A). The following list is comprised of information from these sources. Though necessarily only partial, it can be useful to researchers seeking to build on , but not reproduce, similar work.

I. Publications

- Cox, Donald and Emmanuel Jimenez. 1992. "Social Security and Private Transfers in Developing Countries: The case of Perú". The World Bank Economic Review, Volume 6, January, Number 1. Pag. 155. Washington D.C.
- Gertler, Paul and Paul Glewwe. 1988. "Willingness to pay for Education in Developing Countries: Evidence from Rural Peru". LSMS: Working Papers No.54. The World Bank. Washington, DC.
- Gertler, Paul and Paul Glewwe. 1992. "The Willingness to pay for Education for daughters in contrast to Sons: Evidence from Rural Peru". The World Bank Economic Review, Volume 6, February, Number 1, Pag.171, Washington, DC.
- Gill, Indermit, and Feliciano Iglesias. 1991. "Labor Markets in Peru, 1985-1990: A Report on the Nature of Unemployment and Returns to Human Capital in Formal and Informal Sector Employment". Technical Report, The World Bank (LAlCO)
- Glewwe, Paul. 1988. " The Distribution of Welfare in Peru in 1985-86". Living Standards Measurement Study Working Papers, Paper No 42. The World Bank. Washington, DC.
- Glewwe, Paul, and De Tray, Dennis 1989. "The Poor in Latin America During Adjustment: a case study of Peru". LSMS Working Paper No.56, The World Bank. Washington, DC
- Glewwe, Paul, and Gillette Hall. 1992. "Poverty and Inequality During Unorthodox Adjustement". Living Standard Measurement Study Working Papers No. 86. The World Bank. Washington, DC.

- Grooteart, Christiaan, and Ana-Maria Arriagada. 1986. " The Peruvian Living Standards Survey: An Annotated Questionnaire". Education and Training Department. The World Bank. Washington, DC.
- Instituto Cuanto. 1991. "Ajuste y Economía Familiar, 1985-1990", Lima Perú. (203-B Plaza del Ovalo, Lima 27, Perú)
- Instituto Nacional de Estadística. April 1988. " Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida (ENNIV 1985-86): Análisis de Resultados" Dirección General de Censos y Encuestas. Lima
- Newman, John L. 1987. "Labor Market Activity in Côte d'Ivoire and Peru". LSMS Working Papers No. 36, The World Bank.
- Suárez-Berenguela, Rubén. 1987. "Peru Informal Sector, Labor Markets, and Returns to Educations". Development Research Department, LSMS: Working Papers No.32. The World Bank, Washington, DC.
- _____ . 1987. "Financing the Health Sector in Peru". LSMS. Working Papers No. 31. The World Bank. Washington, DC.
- Stelcner, Morton, Ana-Maria Arriagada and Peter Mook. 1987. "Wage Determinants and School Attainment Among Men in Peru". LSMS Working Papers No.38, The World Bank.
- Stelcner, M; J. Van der Gaag, and W.P.M. Vijverberg. 1987. "Public-Private Sector Wage Differentials in Perú: 1985-86". LSMS. Working Papers No.41. The World Bank, Washington, DC.
- Van der Gaag, Jacques; Morton Stelcner; Win Vijverberg. 1989. "Public- Private Sector Wage Comparisons and Moonlighting in Development Countries: Evidence from Cote d'Ivory and Perú". LSMS. Working Papers No 52. The World Bank, Washington, DC.

II. Research in Progress

- David Abler
The Pennsylvania State University

Topic of Research: Migration, a panel study (1985-1991), of activity, earnings and mobility in Lima, Peru.

- Gillette Hall.
Pembroke College
Cambridge CB2 1RF
England

Topic of Research: Poverty in Lima, 1985-86 to 1990, and the role of education and inter-household transfers in protecting household welfare.

- Gustavo Yamada
Columbia University

Topic of Research: Self-employment and informality, a panel study of earnings and mobility in Lima, Peru.

Appendix E

Sample by Rural Population Centers, Rural Census Areas, and Urban Population Centers

1.- List of Rural Population Centers and Rural Census Areas, by Domains of Study

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
COAST RURAL NORTH				11	176
Piura					
006	Piura	Las Lomas	10	1	16
007		El Tallán	10	1	16
008		Tambo Grande	10	1	16
014	Sullana	Ignacio Escudero (San Miguel)	10	1	16
Lambayeque					
025	Lambayeque	Olmos	4	1	16
026		Morrope	4	1	16
La Libertad					
053	Ascope	Santiago de Cao	13	1	16
054	Trujillo	Huanchaco (El Milagro)	13	1	16
029	Pacasmayo	Chepén	13	1	16
Cajamarca					
030	San Miguel	Nanchoc	2	1	16
031		San Gregorio	2	1	16
COAST RURAL CENTER				7	112
Ancash					
086	Santa	Santa	5	1	16
087	Casma	Yautan	5	1	16
Lima					
098	Lima	Puente Piedra	9	1	16
099		Lurín	9	1	16
100	Cañete	San Vicente	9	1	16
101		Nuevo Imperial	9	1	16
105	Huaura	Huaura (Vilcahuaura)	9	1	16

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
COAST RURAL SOUTH				2	32
Arequipa					
130	Castilla	Aplao	1	1	16
131	Camaná	Nicolás de Piérola (San Gregorio)	1	1	16
MOUNTAIN RURAL NORTH				24	384
Piura					
017	Morropón	Chalaco	10	1	16
016	Ayabaca	Pacalpampa	10	1	16
Lambayeque					
028	Ferreñafe	Incahuasi	4	1	16
La Libertad					
055	Otuzco	Otuzco	13	1	16
056		Agallpampa	13	1	16
057		Marmot	13	1	16
058		Usquil	13	1	16
059		Usquil (Usquil)	13	1	16
060	Bolívar	Uchumarca	13	1	16
062	Santiago de Chuco	Mollebamba (Mollebamba)	13	1	16
Cajamarca					
065	San Pablo	San Pablo	2	1	16
066	Cajamarca	Asunción	2	1	16
067		Los Baños del Inca	2	1	16
033	Santa Cruz	Yauyucán	2	1	16
036	Jaén	Pomahuaca	2	1	16
063	Celendín	Miguel Iglesias	2	1	16
038	Chota	Chota	2	1	16
032	San Miguel	Llapa	2	1	16
071	Hualgayoc	Bambamarca	2	1	16
018	San Ignacio	Tabaconas	2	1	16
068	Cajabamba	Sitacocha (LLuchubamba)	2	1	16
069	Contumazá	Chilete (Chilete)	2	1	16
Amazonas					
042	Chachapoyas	Soloco	2	1	16
043		Leimebamba (Leimebamba)	2	1	16

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
MOUNTAIN RURAL CENTER				24	736
Ancash					
090	Huaraz	Huaraz	5	1	16
091		Huanchay (Huanchay)	5	1	16
092		Olleros (Huaripampa)	5	1	16
093	Yungay	Yungay	5	1	16
094		Shupluy (Shupluy)	5	1	16
095	Huari	Huari	5	1	16
096		Huachía	5	1	16
097		San Luis	5	1	16
072		Cajay	5	1	16
073		Huacachi (Huacachi)	5	1	16
074	Carhuaz	Marcará	5	1	16
075	Mariscal Luzuriaga	Fidel Olivas E.	5	1	16
076	Pomabamba	Parobamba	5	1	16
077	Huaylas	Pamparonas	5	1	16
078	Aija	Aija	5	1	16
079	Sihuas	Ragash	5	1	16
081	Pallasca	Conchucos	5	1	16
Lima					
106	Huaral	Ihuari	9	1	16
107	Canta	Canta (Pariamarca)	9	1	16
108	Cajatambo	Cajatambo (Cajatambo)	9	1	16
Ica					
114	Palpa	Tibillo	7	1	16
Junín					
142	Huancayo	Chupaca	6	1	16
143		Santo Domingo de Acobamba	6	1	16
139		Chilca	6	1	16
144		Pariahuanca	6	1	16
145		Yanacancha (Palve)	6	1	16
146		Huacrapuquio (Huacrapuquio)	6	1	16
148	Jauja	Apata	6	1	16
149		Huertas	6	1	16

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
150		Sincos (Sincos)	6	1	16
151		Lllochlapampa (Lllochlapampa)	6	1	16
153	Tarma	Huasahuasi	6	1	16
155		San Pedro de Cajas	6	1	16
157	Concepción	Chambará (Chambará)	6	1	16
Huánuco					
161	Huánuco	Huánuco	6	1	16
162		Sta. María del Valle	6	1	16
163		San Pedro de Chaulán (S.P. de Chaulán)	6 6	1	16
164	Pachitea	Chaglla	6	1	16
165	Ambo	Cayna	6	1	16
166		Tomay Kichwa	6	1	16
167	Dos de Mayo	Chuquis	6	1	16
168		Pachas	6	1	16
169		Chupán (Chupán)	6	1	16
170	Huamalies	Llata	6	1	16
171		Punos	6	1	16
Pasco					
176	Daniel A. Carrión	Yanahuanca	6	1	16
MOUNTAIN RURAL SOUTH				35	560
Arequipa					
126	Caylloma	Caylloma	1	1	16
127	Condesuyos	Cayarani	1	1	16
Moquegua					
133	Mcal. Nieto	Torata (Villa Cuajone)	1	1	16
134	Gral. Sánchez Cerro	Puquina	1	1	16
Cusco					
185	Cusco	Santiago	3	1	16
186	Canas	Yanaoca	3	1	16
187		Quehue	3	1	16
189	Quispicanchi	Quiquijana	3	1	16

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
188		Urcos	3	1	16
190	Anta	Zurite	3	1	16
191	Paucartambo	Calcay	3	1	16
192	Paruro	Omacha	3	1	16
193	Chumbivilcas	Sto. Tomás	3	1	16
194		Livitaca	3	1	16
195	Calca	San Salvador	3	1	16
196	Espinar	Espinar	3	1	16
Puno					
202	Puno	Capachica	11	1	16
203		Chucuito	11	1	16
204		Acora	11	1	16
205	Chucuito	Juli	11	1	16
206		Juli	11	1	16
207		Pomata	11	1	16
208		Pomata	11	1	16
209		Zepita	11	1	16
211		Ilave	11	1	16
212		Ilave	11	1	16
213		Pilcuyo	11	1	16
214	Huancané	Huancané	11	1	16
215		Vilquechico	11	1	16
216		Conima	11	1	16
217	Sandia	Sandia	11	1	16
218	Azangaro	Potoni	11	1	16
219		Saman	11	1	16
220		Asillo	11	1	16
221	Melgar	Orurillo	11	1	16
FOREST RURAL HIGHLAND				14	224
Cajamarca					
034	Jaén	Jaén	2	1	16
035		Santa Rosa (Santa Rosa)	2	1	16
Amazonas					
039	Utcubamba	Bagua Grande	2	1	16
040		Lonya Grande	2	1	16
041		Cajaruro	2	1	16
044	Luya	Ocalli (Ocalli)	2	1	16
San Martín					
233	Moyobamba	Calzada	2	1	16
Cusco					
197	La Convención	Vilcabamba	3	1	16

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
198	Paucartambo	Koñispata	3	1	16
199	Calca	Lares (Choquecancha)	3	1	16
Huánuco					
173	Leoncio Prado	J.Crespo y Castilla	6	1	16
Pasco					
177	Oxapampa	Oxapampa	6	1	16
178		Huancabamba	6	1	16
Junín					
159	Chanchamayo	Pichanaqui	6	1	16
FOREST RURAL LOWLAND				7	112
Loreto					
227	Ramón Castilla	Pebas	8	1	16
228	Requena	Maquia	8	1	16
230	Alto Amazonas	Barranca	8	1	16
231	Loreto	Parinari	8	1	16
San Martín					
232	Picota	Tres Unidos (Tres Unidos)	2	1	16
Ucayali					
181	Coronel Portillo	Callaria (San Alejandro)	6	1	16
Madre de Dios					
200	Tambopata	Las Piedras	3	1	16

2.- List of Selected Urban Population Centers,
By Domain of Study

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
COAST URBAN NORTH				27	432
Tumbes					
001	Tumbes	Tumbes (Tumbes)	10	1	16
Piura					
002-005	Piura	Piura (1) (Piura)	10	4	64
011-012	Sullana	Sullana (Sullana)	10	2	32
013		Bellavista (Bellavista)	10	1	16
015	Morropón	Chulucanas (Chulucanas)	10	1	16
009	Talara	Pariñas (Talara)	10	1	16
010		La Brea (Negritos)	10	1	16
Lambayeque					
019-024	Chiclayo	Chiclayo(2) (Chiclayo)	4	6	96
027	Ferreñafe	Ferreñafe (Ferreñafe)	4	1	16
La Libertad					
045-049	Trujillo	Trujillo(3) (Trujillo)	13	8	128
070	Otuzco	Cascas (Cascas)	13	1	16

- (1) Includes the districts of Piura (002 to 004) and Castilla (005)
- (2) Includes the distritos of Chiclayo (019 to 022) and y José Leonardo Ortiz (023-024).
- (3) Includes the districts of Trujillo (045 to 049), Víctor Larco Herrera (050), El Porvenir (051) and La Esperanza (052).

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
COAST URBAN CENTER				14	224
Ancash					
082-085	Santa	Chimbote (Chimbote)	5	4	64
Lima					
102	Huaura	Huacho (Huacho)	9	1	16
105		Huaura (Huaura)	9	1	16
103	Barranca	Barranca (Barranca)	9	1	16
Ica					
109-110	Ica	Ica (Ica)	7	2	32
111		Parcona (Acomayo)	7	1	16
112	Nazca	Nazca (Nazca)	7	1	16
113		Marcona (San Juan)	7	1	16
116	Chincha	Chincha Alta (Chincha Alta)	7	1	16
115	Pisco	Pisco (Pisco)	7	1	16
COAST URBAN SOUTH				4	64
Arequipa					
128	Islay	Mollendo (Mollendo)	1	1	16
129		Cocachacra (Cocachacra)	1	1	16
Moquegua					
132	Ilo	Ilo (Ilo)	12	1	16
Tacna					
135	Tacna	Tacna (Tacna)	12	1	16

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
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MOUNTAIN URBAN NORTH **3** **4**

Cajamarca

064 Cajamarca Cajamarca 2 1 16

037 Chota (Cajamarca)
Chota 2 1 16
(Chota)

La Libertad

061 Santiago de Santiago de 13 1 16
Chuco Chuco
(S. de Chuco)

MOUNTAIN URBAN CENTER **15** **240**

Ancash

088-089 Huaraz Huaraz 5 2 32
(Huaraz)

080 Pallasca Conchucos 5 1 16
(Conchucos)

Huánuco

160 Huánuco Huánuco 6 1 16
(Huánuco)

Junín

136-140 Huancayo Huancayo(1) 6 5 80
(Huancayo)

147 Jauja Jauja 6 1 16
(Jauja)

152 Tarma Tarma 6 1 16
(Tarma)

154 San Pedro 6 1 16
de Cajas
(S.P. de Cajas)

156 Yauli La Oroya 6 1 16
(La Oroya)

Pasco

174-175 Pasco Chaupimarca(2) 6 2 32
(Cerro de Pasco)

(1) Includes the districts of Huancayo (136-138), El Tambo (141) and Chilca (140)

(2) Includes the districts of Chaupimarca (174) and Simón Bolívar (175).

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
MOUNTAIN URBAN SOUTH				16	25
Arequipa					
117-125	Arequipa	Arequipa(1) (Arequipa)	1	9	144
Cusco					
182-184	Cusco	Cusco (2) (Cusco)	3	3	48
Puno					
201	Puno	Puno (Puno)	11	1	16
210	Chucuito	Ilave (Ilave)	11	1	16
222-223	San Román	Juliaca (Juliaca)	11	2	32
<p>(1) Includes the districts of Arequipa (117-118), Cayma (119), Paucarpata (120-121), Socabaya (122), Yanahuara (123), Cerro Colorado (124) and Miraflores (125).</p> <p>(2) Includes the districts of Cusco (182-183) and Santiago (184).</p>					
FOREST URBAN HIGHLAND				3	48
San Martín					
234	Huallaga	Saposa (Saposa)	2	1	16
Huánuco					
172	Leoncio Prado	Rupa Rupa (Tingo María)	6	1	16
Junín					
158	Chanchamayo	Chanchamayo (La Merced)	6	1	16
FOREST URBAN LOWLAND				6	96
Loreto					
224-226	Maynas	Iquitos (Iquitos)	8	3	48
229	Alto Amazonas	Yurimaguas (Yurimaguas)	8	1	16
Ucayali					
179-180	Coronel Portillo	Callaria (Pucallpa)	6	2	32

Domain, Departament Conglomerate	Province	District (Population Center)	Cod. City Def. 1/	No. Cong.	No. Dwel.
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METROPOLITAN LIMA

128 1,280

Callao

235-242	Callao	9	8	10
243	La Perla	9	1	10
244-245	Bellavista	9	2	10
246	Carmen de la Legua	9	1	10
247	Ventanilla	9	1	10

Lima

248	Puente Piedra	9	1	10
249	Carabayllo	9	1	10
250-256	Comas	9	7	10
257-259	Independencia	9	3	10
260-268	San Martín de Porres	9	9	10
269-270	San Miguel	9	2	10
271-272	Magdalena del Mar	9	2	10
273-275	Pueblo Libre	9	3	10
276-279	Breña	9	4	10
280-281	Jesús María	9	2	10
282-284	Lince	9	3	10
285-286	San Isidro	9	2	10
287-296	La Victoria	9	10	10
297-308	Lima	9	12	10
309-312	Rimac	9	4	10
313-319	San Juan de Lurigancho	9	7	10
320-323	El Agustino	9	4	10
324-325	San Luis	9	2	10
326-328	Ate	9	3	10
329-331	Lurigancho	9	3	10
332-335	Santiago de Surco	9	4	10
336-337	San Borja	9	2	10
338-340	Surquillo	9	3	10
341-343	Miraflores	9	3	10
344-345	Barranco	9	2	10
346-350	Chorrillos	9	5	10
351-354	San Juan de Miraflores	9	4	10
355-358	Villa M. del Triunfo	9	4	10
359-361	Villa El Salvador	9	3	10
362	Lurín	9	1	10

1/ Code of a city whose price index was used in the deflation:

1 Arequipa	4 Chiclayo	7 Ica	10 Piura	13 Trujillo
2 Cajamarca	5 Chimbote	8 Iquitos	11 Puno	
3 Cusco	6 Huancayo	9 Lima	12 Tacna	