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Institut National de la Statistique, Côte d'Ivoire

CÔTE D'IVOIRE LIVING STANDARDS SURVEY (CILSS) 1985-88

Basic information for users of the data

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I. Introduction

The World Bank's Living Standards Measurement Study (LSMS) was established in 1980 to develop improved methods for collecting and analyzing household and community data on living standards. One of the major objectives was to contribute to the design of development policies by providing a stronger empirical foundation for policy dialogue. As of 1993, LSMS household surveys had been conducted in 11 countries.

The Côte d'Ivoire Living Standards Survey (CILSS) was the first LSMS Survey to have field tested the methodology and questionnaire developed by LSMS. It consists of three complementary surveys: the household survey, the community survey and the price survey. The household survey collected detailed information on expenditures, income, employment, assets, basic needs and other socio-economic characteristics of the households. The Community Survey collected information on economic and demographic characteristics of the rural communities to which each cluster of households belonged. This was designed to enable the linkage of community level with household level data. The price survey component of the CILSS collected data on prices at the nearest market to each cluster of households, so that regional price indices could be constructed for the household survey. Each of the three surveys is described in detail in Chapter 2.

The Côte d'Ivoire Living Standards Survey (CILSS) was undertaken over a period of four years, 1985-88, by the Direction de la Statistique in Côte d'Ivoire, with financial and technical support from the World Bank during the first two years of the survey. It was the first year-round household survey to have been undertaken by the Ivorian Direction de la Statistique.

The sample size each year was 1600 households and the sample design was a rotating panel. That is, half of the households were revisited the following year, while the other half were replaced with new households. The survey thus produced four cross-sectional data sets as well as three overlapping panels of 800 households each (1985-86, 1986-87, 1987-88).

This document provides basic information necessary to process and analyze all four years of CILSS data. While it aims to be comprehensive, topics that have not been previously documented are emphasized.¹ This paper documents changes in the questionnaires over the survey years, how to use the data, related data sets that can be linked to the CILSS, and details on specific sections not printed in the household questionnaire (Sections 16 and 17). It also provides translation of materials that formerly were available in French only.

Chapter II documents the changes that took place over the survey years, including changes in the household, community and price questionnaires and Chapter III explains changes in the sampling frame and procedures. Chapters IV and V describe, respectively, the organization of field work and other related data that can be linked to households. Chapter VI, on using the data, includes information on corrective weights, regional price indices, isolating panel households and members, and missing data. Finally, the information in the Annexes provides miscellaneous information such as codes not found in the questionnaire, all of which together should provide users with a comprehensive information base.

1. See Grootaert (1986) for an annotation of the 1985 CILSS Questionnaire; Ainsworth and Munoz (1986) for an overview of sampling, survey organization, and data entry; and Oh and Venkataraman (1992) for income and expenditure aggregates and other constructed data sets.

This paper draws extensively from four sources of information: 1) the 1986 Ainsworth and Munoz paper on CILSS survey design and implementation (see References); 2) outputs of the research project on "Poverty and the Social Dimensions of Structural Adjustment in Côte d'Ivoire, 1985-1988 — A Policy - Oriented Analysis" (RPO 675-26); ² 3) documentation by Bakary Daho (see References), formerly of the National Statistical Institute (INS) and 4) notes and memos from Martha Ainsworth's files.

2. Principal Investigators: Christiaan Grootaert, Lionel Demery and Ravi Kanbur.

II. CILSS Questionnaires

The Household Questionnaire

The household questionnaire was administered to all households in two visits or "rounds", with an interval of two weeks between the two interviews.³ The two-round scheme had certain useful advantages. For sections in Round 2, that collect information on household expenditure and income, it was possible to use a bounded recall period with the bound being the first visit of the interviewer. Correction and verification of doubtful data from the first visit was also possible during the second visit to the same households. The two-round scheme had the added advantage of breaking up what might have otherwise been a prohibitively long interview into two smaller sessions.

The household questionnaire for the first year (1985) is described in detail by Grootaert (1986). The following description of the CILSS household questionnaire contents outlines the main topics covered in each section and points out the changes that took place in the questionnaires over the survey years. Section 16 (Anthropometrics) and Section 17 (Identification of Panel Households), which were subsequently added to the household survey and therefore not covered in the Annotated Questionnaire, are described here. The questionnaire was almost entirely pre-coded. However, the responses to a few questions were not pre-coded. These codes, not found in the questionnaire, are listed in Annex E. An overview of the different sections of the questionnaire, by topic and respondent, is in Table I.

Round 1

SECTION 0: ADMINISTRATIVE INFORMATION

Part A collects information on the ethnic group of the household head, language of the interview, whether the household was a replacement household, date of verification by the supervisor, date of data entry, and date of supervision of printouts. In Part B, the interviewer records the date that individual sections were completed.

Changes in Section 0 (1986)

A question was added at the end of Part A about the religion of the household head. The response codes are: Muslim (1); Catholic (2); Protestant (3); Other Christian (4); Animist (5); and Other (6).

SECTION 1: HOUSEHOLD ROSTER

Part A: Household Roster

This section lists all people who normally live and eat their meals together in the dwelling as well as those who spent the previous night in the household, but cannot otherwise be considered household members. To qualify as a household member, a person must have resided in the household for 3 months or more during the previous 12 months. Since the number of months the person was resident in the household is recorded, users of the data can choose a more restrictive definition if they wish. For example, one study used six months of residence, rather than three months, as the criterion for household membership. The household head, newborn babies and new spouses are considered household members

3. This is not to be confused with the fact that panel households were interviewed twice, a year apart.

Table I. Household Questionnaire: Summary of Sections and Respondents

Section	Title	Respondent	Subject
0	Administration	Interviewer	Sample administration, ethnicity of head
1	Household composition	Head of household/ principal respondent	Household roster, demographic data, information on parents of all household members
2	Housing	Head of household/ principal respondent	Type of dwelling, housing and utilities expenditures
3	Education	Head of household/ principal respondent	Completed schooling and schooling expenditures for all household members 5 or older; schooling of all non-member children under 30
4	Health	All household members (parents respond for young children)	Utilization of health services and medical expenditures for an illness in the last four weeks; utilization of and expenditures for preventive services in the last 12 months.
5	Economic activities	All household members 7 years and older (all adults must respond for themselves)	Employment, income, and time use data for the main and secondary jobs in the last 7 days and the last 12 months; employment history; unemployment spells in the last 12 months; time use in the home.
6	Migration	All household members 15 years and older	Location and reasons for first and last moves
7	Respondents for round 2	Head of household/ principal respondent	Best informed persons to respond to sections in round 2; selection of female respondent to respond to fertility section.
8	Characteristics of housing	—	Observation and measurement of housing by the interviewer
9	Agro-pastoral activities	Best-informed household member	Land, crops, income and expenditure from raising crops and animals, livestock, farm equipment.
10	Non-farm self-employment	Best-informed household member for each of three businesses	Income, expenditure, assets for three most important household businesses.
11	Expenditures and inventory of durable goods	Best-informed household member	Expenditures in the past 14 days and past 12 months; inventory of durable goods; remittances to others
12	Food expenditures	Best-informed household member	Food expenditures in the past 14 days and past 12 months; consumption of home production in past 12 months
13	Fertility	Randomly selected woman 15 years or older	Birth history; use of maternity services and duration of breastfeeding for last live birth.
14	Other income	Best-informed household member	Income from other sources, including remittances from others.
15	Savings and credit	Best-informed household member	Savings and net debt the day of the interview; characteristics of outstanding loans to household members.
16	Anthropometrics	—	Height and weight measurements of all household members performed by anthropometrist.
17	Household composition last year	Head of household/ principal respondent (only in households as they are revisited one year later)	Links ID codes of household members present in the two interviews. Summary information on household members who have disappeared since last year's interview.

even if they do not satisfy the months of residence criterion. CILSS always excludes servants and boarders from household membership because they are considered to be separate households.

The household head is listed first and is always assigned personal ID code # 1. Each of the other household members also receives a personal ID code. One of the novel and very useful aspects of the CILSS survey is that it uses these ID codes to link household members with their relatives (spouses can be linked in Section 1A, each child to his/her parents in Section 1B, and each child born to his/her mother in Section 13). Most surveys contain information on "relation to head" only, while relationships among other household members are unknown. Some of the other information gathered for each respondent in this section includes: relationship to household head, age, gender, marital status, nationality and months of residence in the household over the past twelve months.

Part B: Information on Parents

Information on schooling and occupation of the parents of all household members is collected in this section, even if the parents are deceased. If the parents live in the same household, then the parents' ID codes are noted so as to enable linkage of information about the parents with information about the child.

SECTION 2: HOUSING

This section includes a description of the dwelling, housing expenses (including rent and utilities), source of water, cooking fuel and light, garbage disposal and type of toilet.

SECTION 3: EDUCATION

Part A: Education of Household Members

Changes in Section 1, Part B (1988)

Q.2: If the response is 'no', skip to Q. 8 (previously, the skip was to Q.9).

Q.10: If the response is 'no', skip to Q.16 (previously, the interviewer had to proceed with the next household member).

Q.15: The question is "What type of work did your mother do for most of her life?" "Housewife..10" was replaced with "Other....10" in the list of response codes and former code 11 was dropped.

Changes in Section 2 (1986)

Two new questions, Q.33 and Q.34 were added at the end of Section 2 B. These questions were only to be asked if the dwelling belonged to a member of the household.

Q.33: "If you wanted to sell the house today, how much would you receive for it?"

Q.34: "If you wanted to rent your house out, how much would you receive in rent?" The respondent was to specify the amount in terms of the following time units: day (3); week (4); month (5); trimester (6); semester (7); year (8).

Changes in Section 3, Part A

1986 Questionnaire

The response codes for question 4 were changed: "Has (name) worked as an apprentice?" Earlier, the response codes were "yes..1" or "no..2 (skip to Q.6)". The "yes..1" response was split into two codes: "yes, he/she is an apprentice currently..3"; and "yes, but he/she is not currently an apprentice..4". Note that there is no longer a code "1" in the list of response codes, but "no..2 (skip to Q.6)" remains the same.

1987 Questionnaire

Question 5A was added about the type of apprenticeship. Response codes for this question are open-ended. The codes are the same as for occupational codes in Section 5 (see Annex E).

Question 6 in Section 3A1 was replaced by questions 6A-6D:

Q.6A: "Has (name) attended or does (name) currently attend any school or training institution?" Yes..1, No..2 (skip to next household member)

Q.6B: "Has (name) attended a general secondary school?" Yes..1, No..2

Q.6C: "Has (name) attended a professional school or technical secondary school?" Yes..1, No..2 (skip to 7)

Q.6D: "What type of technical/professional school?" Agriculture ..1, Technical ..2, Health ..3, Business/Economics ..4, Teacher training ..5, Other (specify) ..6

1988 Questionnaire

Question 12a was added: "What course is he/she taking?" General education course, daytime ...1, Technical education course, daytime ...2, Night course ...3, Professional training center...4, Other...5 (skip to 14)

The sequence of questioning after question 16 was changed, due to the addition of questions 24-26. If response to Q. 16 is "no..2" then skip to Q.24; previously, the interviewer was to proceed with the next household member if the answer was "2". The new questions are:

Q.24: "How many years has (name) attended primary school?" (Instruction to interviewer: Not counting the current year of schooling)

Q.25: "How many years has (name) attended secondary school?" (Instruction to interviewer: Not counting the current year of schooling)

Q.26: "What is the primary African language spoken by the respondent?"

This section includes self-reported literacy and numeracy, years of schooling, number of hours of attendance at school in the past seven days, whether the person is currently enrolled in school, distance to school, time taken to get to school, apprenticeships, technical training, highest diploma obtained, and expenditure on education in the past twelve months for those who have been enrolled. The CILS S questionnaire collected this information for each household member five years or older so that welfare differences across individual household members could be studied.

Changes in Section 4 (1987)

For the first two years of the survey, only the first person consulted for the illness was recorded, but, in 1987, questions pertaining to the second person consulted (Q. 11a — 11h) were added.

Q.11a: "Did you consult anyone else for this illness over the past 4 weeks?" Yes..1 No..2 (skip to Q.15) [However, there is an error in the skip instruction written in the questionnaire; the skip should be to Q. 12. This same error appears again in the 1988 questionnaire].

Questions 11b-11h follow the same format as Q. 6-11, except that they ask about the second consultation for the illness.

During 1985 and 1986, questions 17 and 18 asked whether any form of preventive medical care (including immunizations) was received over the last twelve months, and the amount of payment made. In 1987, they were replaced by questions 17 a-d and 18a-c to inquire specifically about vaccinations and pre/post natal care.

Q. 17a: "Have you had any vaccinations over the past 12 months?" Yes..1, No ..2 (skip to 17d)

Q. 17b: "How many vaccinations have you had over the past 12 months?"

Q. 17c: "How much did you pay for all the vaccinations received over the past 12 months?"

Q. 17d: "Is the respondent a woman, or a child less than 5 years?" Yes..1 No..2 (skip to next person)

Q. 18a: "Have you had any pre-natal, post-natal or MCH consultations over the past 12 months (other than vaccinations)?" Yes..1 No..2 (skip to next person)

Q. 18b: "How many consultations have you had?"

Q. 18c: "How much did you pay for the pre-natal, post-natal and MCH consultations over the past 12 months?"

Part B: Education of Children Living Elsewhere

The purpose of this section is to evaluate the total investment in education that was made by the household, including children who are not currently household members. Age, sex, and educational achievement of children below 30 who have left the household are recorded.

SECTION 4: HEALTH

This section focuses on the economic costs of health problems of all household members. The key questions are whether the household member was ill or injured over the past 4 weeks (self-reported), how many days of activity were lost due to illness, who was consulted for the illness and the time and monetary cost of consultations.

SECTION 5: EMPLOYMENT ACTIVITIES

This section contains several complex skip patterns. A flow chart describing the skip patterns is available in the Annotated Questionnaire (p.38,39) by Grootaert (1986). This section is asked of all household members aged seven or older.

Part A: Time Use

Six questions are asked to determine whether the person did any work (salaried work, own account including farming, or working for a household enterprise) in the last seven days or over the past twelve months. An individual who did not work during the past seven days is asked a set of standard questions about job search. If an individual did not work over the past year either, then the interviewer is asked to skip to Part 5H.

Part B: Main Job in the Past Seven Days

For those who did work over the past seven days, questions are asked about the occupation and industry, time devoted to the job, income earned from it, and also whether their parents did the same work. Detailed information is gathered for wage earners: cash and in-kind income, distance to work, and time spent commuting, size of the firm where the individual works, whether the firm has a union and whether workers receive various types of social benefits.

Part C: Secondary Job in the Past Seven Days

Pertains to the secondary job held over the past seven days. Questions asked are similar to Part 5B although the detailed questions asked for wage earners in the previous Part 5B are replaced with a couple of simplified questions.

Part D: Search for Additional Work

This part is asked of everyone who worked in the last seven days. Questions covered in this section are: Did the respondent search for additional paid employment in the past seven days and did he/she look for another job to replace their present job?

Part E: Main Job in the Past Twelve Months

This section pertains to the main job held during the past twelve months. Questions are similar to those in Part 5B about the main job over the past seven days.

Part F: Job History

Changes in Section 5

1986 Questionnaire Part B

Question 12B was added: "How many hours a week do you usually do this work?" (referring to a secondary job done over the past seven days). Skip to Q.13.

The skip instruction for question 11 was changed: If the answer to Q. 11 is a "no" then skip to Q.12B instead of Q.13.

1987 Questionnaire Part H

Question 8: "During the past 12 months, have you lost paid employment due to the end of the agricultural season?", was removed.

For the latest job prior to the current one, the individual is asked to describe the occupation, the type of industry, whether the individual was self-employed or working for someone else in their own household, and how long the individual was employed in that job.

Part G: Secondary Job in the Past Twelve Months

This part pertains to the secondary job held during the past twelve months. Questions are similar to those in Part 5C about the main job over the past seven days.

Part H: Other Activities

This part is asked of all individuals to whom Section 5 was administered. It records the amount of time spent by each person in housework activities, such as cleaning, food preparation, laundry, shopping, and fetching water or wood. In addition, a set of questions is asked about periods of unemployment during the past twelve months, including a question about seasonal unemployment in the agricultural sector.

SECTION 6: MIGRATION

This section is asked of all household members 15 and older. Information is obtained on the place of birth, the most recent migration (to the current place of residence) and the total number of times a migratory move was made.

SECTION 7: IDENTIFYING RESPONDENTS FOR THE SECOND INTERVIEW

This section serves the purpose of identifying the household members who will be the respondents for certain sections in the Round 2 interview (two weeks later) and making appointments with them. Appointments are made with respondents who will answer questions from the Round 2 sections on farming, non-agricultural businesses operated by the household, and household expenditures. Also, one woman per household is selected to answer questions on fertility.

Changes in Section 6 (1987)

Starting in 1987, Section 6 was to be asked of all household members 5 years or older to account for migration due to child fostering.

SECTION 8: CHARACTERISTICS OF HOUSING

Information is recorded on the construction material of the walls, floor, roof, and windows of the household's dwelling. The floor area of the dwelling was measured and is recorded in square meters.

Round II

SECTION 9: AGRO-PASTORAL ACTIVITIES

Part A: Land

This part asks about the amount of land owned, rented and cultivated by the household, land sales, gifts and trades, and land sharecropped in and out.

Part B: Crops

For each of 32 crops grown, Section 9B collects information on: (i) the number of hectares devoted to each crop, including those already planted but not yet in production; (ii) the amount and value of the crops sold in the last twelve months; (iii) the value of the output retained as seedlings for next year' s crops; and (iv) the value of the amount given to workers or as gifts; and (v) whether there was any inter-cropping of that crop.

Part C: Age of Tree Crops

For coffee, cocoa, and other tree crops , questions are asked about the proportion of plants too young to produce, in full production and at the end of their productive lives.

Part D: Agricultural Inputs and Expenses

This part records the use of agricultural inputs by the household, their cost and for what crops. It asks whether the input was obtained with cash or credit and the source of the input (market or government agency?). It also asks about the extent to which exchange of labor took place with other farmers, the incidence and terms of sharecropping, the extent of food storage, and the availability of agricultural extension services.

Part E: Processing of Food Crops

For each processed crop, how much was received as revenue from the sale of the product , and how much was spent for the cost of processing inputs?

Part F: Livestock

For each type of livestock, the questionnaire records the number of and value of livestock currently owned, the number of and value of livestock sold over the past year, the

Changes in Section 9

Part A: 1986 Questionnaire

The instruction for question 1 which said "if answer is 'no' then go to Part F", was removed.

Part B: 1986 Questionnaire

The skip instruction was changed for question 3 : "How many hectares are not yet in production?" In 1985, the skip pattern for crops 11-24 caused this question never to be asked. In 1986, the skip for these crops was removed, so that this question was asked for crops 11-24.

The code for bananas (6) was split into two crop codes: Plantain..26 and Sweet Banana..27.

Part B: 1988 Questionnaire

The skip instruction for question 3 "How many hectares are not yet in production?" has changed. If the entire surface area devoted to the crop has not been harvested over the past twelve months, then the interviewer was to skip the following questions on how the harvested crop was handled, and go straight to question 10.

Parts 5C and D: 1987 Questionnaire

The code for banana (6) was split into two crop codes: Plantain..26 and Sweet Banana..27.

Part E: 1987 Questionnaire

Previously question 3 asked for how many months over the past twelve months the household processed a particular crop to make a product out of it. The question was reformulated to ask the respondent to recall during which months the activity took place and the interviewer then noted the number of months based on that response.

number of and value of livestock purchased over the last year, and the number of livestock lost over the year due to other reasons.

Part G: Animal Products

This part records the animal products produced and the amount that was received over the past year from their sale.

Part H: Mutual Aid for Livestock

This part requests the number of person-days devoted to a traditional system of mutual help among farmers and the number of contacts with government extension agents regarding livestock are recorded.

Part I: Livestock Expenses

Costs associated with raising livestock are recorded in this section. Where livestock inputs were obtained is also recorded.

Part J: Farm Tools

For a list of the main small tools used by Ivorian farmers, the number of tools owned by the household is recorded, by type of tool.

Part K: Farm Equipment

For each type of farm equipment (not tools) such as tractors, carts, vehicles and draft animals, questions are asked about the value of the current stock, the value of transactions that took place within the past twelve months, and whether the household made money by renting equipment out to other farmers.

SECTION 10: NON-FARM SELF EMPLOYMENT ACTIVITIES

Information on up to three businesses per household is gathered in this section. If a household operates more than three businesses, the household head is asked to identify the three most important ones.

Part A: Revenue Information

Information on revenues from household businesses is obtained. In addition, questions about the number of workers, presence of a union, and provision of benefits are asked.

Changes in Section 10

In 1986, instructions were given to interviewer to ask Section 10 in this sequence: 10A1, 10B, 10A2 and 10C. The physical layout of these sections in the questionnaire remains the same as in previous years: 10A1, 10A2, 10B and 10C.

Part A

1986 Questionnaire

Questions 26-30 have been added to Section 10A:
Q.26: "For how many days has this business been operating during this period?". The reference period is either 'since the last visit' or 'during the last 4 weeks of operation', as determined by the answer to Q.18 "Has the business been operating since my last visit?"

Q. 27: "Do you usually use some of the money generated by the business for yourself or for your household?" Yes ..1, No..2 (Skip to Q.29)

Q. 28: "How much of the money generated by the business is used by the you or your household?" Amount is recorded per time unit (day, week, month, trimester, semester, year)

Q. 29: "After you have paid off expenses for the business and used some for yourself or your household, is there any money remaining?" Yes ..1, No ..2 (Skip to Part C)

Q. 30: "How much money is left over after you have paid off expenses and used some of the money personally?" Amount is recorded, by time unit, with time units (Q.28).

1987 Questionnaire

A new Question 7A, "How many of them [all the workers in the business] are apprentices?" was added to obtain this information for each business operated by the household.

Part B: Expenditures

This part records costs incurred by each business, either in the form of cash expenses or inputs from within the household, from a list of all major expenditures that may occur in a household enterprise, e.g. hired labor, raw materials, transportation and electricity.

Part C: Capital and Inventory

This part records the value of productive assets and stocks, such as unsold goods, buildings, vehicles or equipment.

SECTION 11: HOUSEHOLD EXPENDITURES AND INVENTORY OF DURABLE GOODS

Expenditures on non-food items, broken down by frequency of purchase, are recorded.

Part A: Daily Expenditures

The amount spent since the enumerator's last visit is recorded for a list of non-food items that the household can be expected to purchase daily or very frequently.

Part B: Annual Expenditures

Expenditures on all remaining non-food items, including taxes, are recorded, with respect to two reference periods: since the last visit of the enumerator during Round 1; and over the last twelve months.

Part C: Inventory of Durable Goods

For a list of commonly owned durable goods, the following information is recorded: age of the item, payment made at the time of purchase, and an estimate of the value of the good at the time of the interview.

Part D: Expenditures on Remittances

Expenditures on remittances to non-household members are recorded. Other questions include: relationship of the recipients to the household head; the geographic destination of the remittances; and whether the money is to be considered a gift or a loan.

Changes in Section 12 (1987)

Part A

Previously question 4 asked for how many months over the past twelve months the household purchased a particular product. The question was reformulated to ask the respondent to recall during which months the product was purchased over the past year. The interviewer then noted the number of months based on that response.

Part B

Previously question 3 asked for how many months over the past twelve months the household consumed a particular product. The question was reformulated to ask the respondent to recall during which months the product was consumed over the past year. The interviewer then counted the number of months based on that response.

SECTION 12: FOOD EXPENDITURES AND CONSUMPTION OF HOME PRODUCTION

Part A: Food Expenditures

This part records expenditure on purchased food for the period bounded by the initial visit of the interviewer and over the last twelve months.

Part B: Consumption of Home Production

This part records the monetary value of the household's consumption of home produced food.

SECTION 13: FERTILITY

This section records the total number of pregnancies and live births for the randomly selected adult female in the household. Other questions in the section pertain to the use of maternity services and extent of breastfeeding for the latest birth; the number of stillbirths and miscarriages; and the respondent's marital status.

SECTION 14: OTHER INCOME

Part A: Non-Labor Income

Records non-labor income from various sources such as social security, pensions, dividends and interest, tontine, gifts, inheritance and scholarship. Revenues from sales of household assets over the past twelve months are also recorded.

Part B: Remittance Income

Remittances received by the household from outside sources are recorded. Details include: amount of the remittance, relationship of the sender to the household head, geographic location of the sender's place of residence, and whether part of the remittance is to be repaid to the sender.

Changes in Section 13 (1987)

Starting in 1987, the respondent for the fertility section was restricted to a woman 15-50 years of age. This was to ensure that more women of reproductive age were included as respondents. In previous years, any woman 15 years and older had been eligible.

An explicit probe for children who died after birth was added to question 10. Previously, it was phrased "Have you given birth to other children, even if they lived only a very short time?" This question was reformulated in two parts: "Have you given birth to any other children?" Yes..1 (record details for that child); No.. then ask further "Have you given birth to children who only lived a very short time?" Yes..1 (record details for that child, i.e go back to Q.3); No..2 (skip to Q.11). This change ensured more complete probing by the interviewer but does not affect the interpretation of the data for the question.

Question 14 was replaced with Q.s 14a-14c:

Q.14a: "Where did you give birth?" Hospital...1, Dispensary...2, Maternity...3, Clinic...4, Other health establishment...5, At home (skip to Q.15)...6, Other (skip to Q. 15)...7.

Q.14B: "Did you pay to stay in this facility (maternity, dispensary, hospital) during or after the delivery? (for example fees for lodging and food)" Yes..1 No..2 (skip to 15)

Q.14C: "How much did you pay in total for staying there? (including fees for lodging and food)"

An additional response was added to the list of response codes for question 15: "nurse ..6". Questions 15A and 15B were added:

Q.15A: "Did you pay, or give any gifts to, this person who assisted you with your delivery? For example, a gift in kind, a chicken or yams or any other gift?" Yes..1, No..2 (skip to Q.16)

Q.15B: "What is the value of the gifts that you gave this person who assisted you with the delivery?"

Modifications have been made to the response codes for Q.16: "Have you breast-fed your last child?" Yes, still breast-feeding...3; Yes, but not breast-feeding anymore...4; No, never breast-fed the child...5. In previous years, the response codes were "Yes..1" and "No..2".

Questions 17a and 17b were added:

Q.17a: "Have you given solid foods to the child? For example, soup, yams, sauce, rice or other solid foods?" Yes..1; No..2 (skip to Q.18)

Q.17b: "How old was the child when you started giving him solid foods?" (age in months)

SECTION 15: CREDIT AND SAVINGS

Part A: Loans Made and Received

This part records the total amount of loans provided by the household to others, total amount borrowed from institutions or from other people.

Part B: Credit

If the household borrowed money, information is gathered about the lender and on the terms of the loan.

Part C: Savings

Total value of all savings is recorded.

SECTION 16: ANTHROPOMETRICS

This section is not printed in any of the questionnaires. Annex F contains a copy of this section, which was introduced during the seventh month (in September 1985) of the first survey year (Sahn, 1990, p.5; Ainsworth and Munoz, 1986, p.16).

Section 16 was designed to obtain weight and height measurements for all household members interviewed, including both children and adults. The interviewer recorded the date of measurement, weight in grams and height in centimeters for each household member measured. If the person was not measured, the interviewer had to record the reason (person is away, ill, etc).

SECTION 17

This section was introduced during the second year of the survey to enable the identification of panel households and panel household members from one survey year to the next and to track the movements of those who are no longer members of the household. This section was generated by computer as a unique form for every panel household, based on that household's data from the previous year. Refer to Annex F for the French original of this section and for the English translation.

The first column contains the ID code of each household member interviewed during the previous year. The second column contains the name associated with that ID code. [Because only household members from the previous year are listed, and not visitors and other non-household members, there are sometimes gaps in the "old" ID codes on the list.] Also, contained in a small box next to the name, are the age and sex of that household member. This was designed to assist the interviewer in identifying the household member in question, but was not reentered in the data entry program. All of these were generated by computer and provided to the interviewer.

The answer to Question 1, "Is this person found in the household roster this year?", determines whether or not that person is still part of the same household. For those household members who are no longer in the household, this section asks questions about the reason for their absence (death or moving away). If the household member moved away, questions are asked about why he moved, and if he moved out of the cluster, where he moved to.

If the person is still part of the household (i.e. answer to Q.1 is yes), then the new ID code for that person is copied from the household roster as answer to Q.2. Having the old and new ID codes enables the linkage of panel household members from one year to the next.

Community Questionnaire

The Community Questionnaire measures the access of the community to economic infrastructure and basic social services. It was completed in each rural cluster. The objective of the Community Questionnaire was to measure characteristics common to all households in a cluster. The questions were asked of a group of respondents who had detailed knowledge of the village. Typically, the group of respondents included the village chief and other prominent members of the community. The five sections of the Community Questionnaire cover the subjects listed in Table II.

Changes in Section 16 (1987)

A new response was added to the list of response codes for question 1: 'person not measured'...5.

Table II. Contents of the Community Questionnaire

Section	Title	Contents
1	Demographic Information	Population of the village, religion, ethnic groups, migration patterns
2	Economy and Infrastructure	Main economic activities of the village, economic trends, transport and communication, utilities (electric current and running water), markets, seasonal labor markets
3	Education	Characteristics and location of the nearest primary and secondary schools, adult literacy programs.
4	Health	Access to health personnel and facilities
5	Agriculture	Major crops grown in the village, planting and harvesting seasons, marketing services for major crops, agricultural extension services, cooperatives, equipment and inputs, agricultural wages, sharecropping

Source: Ainsworth and Munoz, p. 17.

The English version of the Community Questionnaire for the first year (1985) is available in Appendix 1 of Grootaert (1986). Community Questionnaires for the other survey years are available in French only, but changes across years are noted below.

CHANGES IN THE COMMUNITY QUESTIONNAIRE 1986

Section 4, Q.3: The former question 3 was "How much time does it take to get there?" (pertaining to health services). This question became question 4. A new question 3 was added: "What is the name of the place closest to this village?" (i.e., the name of the nearest place where the health service is available, given that the service is not available in the community being interviewed).

Section 4: Due to an error, there are two questions 4 in this section of the 1986 questionnaire. The question, "Are there any other health services or personnel in this village that I did not cite?" should have been labelled as question 5.

CHANGES IN THE COMMUNITY QUESTIONNAIRE 1987

Many of the changes made to the Community Questionnaire in 1987 pertain to previously open-ended questions that were modified to include pre-coded responses.

Section 2, Q. 1 "What are the major economic activities of the people in this village?" In previous years, the question had no pre-coded responses; the interviewer would note the answers and the coding was done in the office. In 1987, a list of response codes was introduced. Up to three answers could be recorded, by order of importance. The response codes were: Agriculture/Fishing.. 01, Commerce.. 02, Transport .. 03, Technical/Professional.. 04, Administration/Secretarial.. 05, Construction.. 06, Artisanry.. 07, Industry.. 08, Services.. 09, Other.. 10, No Activity.. 11.

Section 2, Q.2: "Do you think that life for the people in this village is better or worse than it was in 1980?" A response code was added: No change 3

Section 2, Q.3: "Why?" (do you think conditions are better or worse than in 1980?)
Previously, up to four answers were to be recorded. In 1987, space is provided for up to three answers.

Section 2, Q.7: "How much time is the route usually impassable during the year?" Previously, there were no response codes. The new codes are: Less than 3 months... 1, 4-6 months... 2, 7-10 months...3, 11 months or more... 4, Indefinitely... 5.

Section 2, Q.19: "How often is this market?" Codes have been added to account for the duration periods: Once a week...1, Twice a week...2, Once in two weeks...3, Undetermined frequency...4, Other (Specify)...5.

Section 2, Q.23: "How often does public transport pass by this village?" Codes have been added to account for the duration periods: Once a week...1, Twice a week...2, Once a day...3, Twice a day...4, 3 to 5 times a day...5, 6 to 20 times a day...6, More than 20 times a day...7.

Section 2, Q.28: "How long do they work a way from the village before returning?" This question pertains to workers who leave the village seeking temporary work. Codes have been added to account for the duration periods: 0-2 months...1, 2-3 months...2, 4-5 months...3, 6-7 months...4, 8-9 months...5, 10-16 months...6, 17-24 months...7, More than 24 months ...8, Indefinitely...9.

Section 2, Q.32: "How long do they work in the village before leaving?" This question pertains to temporary workers who come from elsewhere seeking work in the village. Codes have been added to account for the duration periods and are the same as for Q.28.

Section 3, Q.8: "Why are some children in this village not attending primary school?" A list of response codes has been added. Up to two answers, by order of importance, can be recorded. The codes are: School is too expensive...1, Children are ill...2, School is too far...3, Large families...4, Children are working... 5, Inadequate information...6, Children do not want to go...8, No teachers...9, No space...10, Other (specify)...13

Section 3, Q.10: If there is no secondary school in the cluster, this question was asked about the distance to the nearest school outside the cluster. The addition was to obtain the name of the secondary school and the name of the place in which the school is located.

Section 3, Q.18: "What are the most serious schooling problems from the point of view of the people of this village?" Previously, space for up to four responses was provided. The change made was to provide space for only two responses.

Section 4, Q.4-15: Old questions 4, 5 and 6 became new questions 13, 14 and 15, respectively. Old Q.7 "Where do the majority of women in this village give birth?" became Q.5. A new set of questions 6-12 on the prices charged by traditional birth attendants and traditional healers, and questions on the prices charged for drugs in the village pharmacies were added:

Q.6: "How much is a traditional birth attendant paid for her services?"
Total amount of payments, gifts, etc is recorded.

Q.7: "Does the amount charged by the traditional birth attendant depend on how much the woman giving birth can afford to pay?" Yes ...1, No ...2.

- Q.8: "Does the traditional birth attendant waive charges for the poorest women in the village?"
Yes ..1, No ..2.
- Q.9: "How much does the traditional healer charge for healing the following ..?"
a) a broken leg Amount ..
b) stomach ache Amount ..
- Q.10: "Does the amount charged by the traditional healer depend on how much the ill person can afford to pay?" Yes .. 1, No .. 2.
- Q.11: "Is there a pharmacy in this village?" Yes ..1, No..2 (Skip to Q.13).
- Q.12: "How much does the pharmacy charge for the following medicines?"
a) Chloroquine ("Nivaquine" in French)
b) Aspirin
c) Ganidan

Section 5, Q.7: "What agency (or agencies) are they from?" (referring to agricultural extension agents). The following response codes were added: Private ..1, SODEPALM..2, SATMACI ..3, SOGB ..4, SAPH ..5, CIDT ..6, BNDA ..7, Cooperative ..8, Other Public Agency ..9, No other agency?...10

Section 5, Q.8: "What services do they provide?" (referring to agricultural extension agents). Previously space for up to six answers was provided; this has been reduced to three answers.

Section 5, Q.21: "How much money does an agricultural laborer earn for a day of work?" Previously, wage rates for a man, woman and child were recorded separately. In 1987, the response structure was modified to reflect further disaggregation of response for a man, woman and child, by the following types of agricultural work: clearing of fields, planting/sowing, harvesting and weeding.

SUMMARY DATA OF HEALTH AND EDUCATION VARIABLES FROM THE COMMUNITY SURVEYS OF 1987 AND 1988

These data sets contain, for 1987 and 1988, specific health and education related data that have been extracted from the Community Survey, including the location of and distance to the nearest health and education facilities. Annex G contains a printout of this information for each rural cluster surveyed in 1985-88. However, the summary data are available on diskette only for 1987-88 (see Annex B).

The Price Questionnaire

A price survey was conducted in parallel with the CILSS household survey as part of the same project. The main purpose of the price survey was to provide price data with which regional or cluster-level price indices could be constructed.

The items in the price questionnaire were chosen to include:

1. Frequently purchased items, according to the results of the 1979 Côte d'Ivoire Budget-Consumption Survey
2. Items for which data were already being collected by the Price Index division of the Direction de la Statistique

3. Food items included in the section of the household questionnaire on consumption of home-grown produce (this would allow for the conversion of the value of home production consumed by the household into quantities).

The price survey collected information on prices of both food and non-food commodities in the main market of each of the clusters in which the household survey was conducted. The price data were collected at the same time that the households in the cluster were surveyed. When there were at least three vendors selling an item, up to three prices were collected for each item, usually from different parts of the market. Weighing scales were used to determine the exact weight of food items. Weights were to always be recorded in grams. None of the items weighed were purchased by the survey. If a vendor refused to allow his products to be weighed, then a client had to be awaited so that information based on the sale could be recorded.

For the first two years, 1985 and 1986, information was collected for 22 commodities, including 18 food and 4 non-food items. Each item in the price survey was numbered; these numbers were used in naming variables in the price data sets. The numbers that precede each item in the following list correspond to the numbering of items in the price survey.

Food items for which price data were collected are:

- | | |
|-------------------------------------------|--------------------------|
| 1. Beef (with bone) | 10. Palm oil |
| 2. Fresh fish | 11. Local maize (grain) |
| 3. Imported rice (other than Uncle Ben's) | 12. Local millet (grain) |
| 4. Local rice, husked | 13. Cassava (raw) |
| 5. Dry onion | 14. Yams (early) |
| 6. Lettuce | 15. Plantains |
| 7. Salt (large grain) | 16. Oil palm nuts (seed) |
| 8. Canned tomato paste (70 gms) | 17. Shelled peanuts |
| 9. Peanut butter | 18. Eggs (each) |

Non-food items in the survey included:

- | | |
|--------------------------------------------------------|--------------------------------------|
| 19. Domestic cloth (non-wax, 6-meter piece) | 21. Enamel bowl (36 cm diameter) |
| 20. Plastic sandals (one pair, adult, used tire/SOVEA) | 22. Mentholatum (white jar, 4 grams) |

In 1987, the number of commodities was increased. The additional items were:

- | | |
|---------------------------------------|---------------------------------------------|
| 23. Bread | 29. Kerosene (1 liter) |
| 24. Attieké | 30. Matches (small box) |
| 25. Refined vegetable oil (one liter) | 31. 1.5 volt battery |
| 26. Sugar cubes | 40. Three different brands of fertilizer |
| 27. Large bottle of domestic beer | 41. Three different brands of insecticides. |
| 28. Fanta | |

Attieké is a prepared food made from cassava, which resembles a sticky cous-cous. Prices for fertilizers and insecticides were recorded with respect to their weight in kilograms.⁴

Four pharmaceutical products were also added to this list in 1987:

- | | |
|---------------------------------------------------------------------|----------------------------------------|
| 50. Aspirin | 53. Ganidan (for intestinal parasites) |
| 52. Chloroquine ("Nivaquine" in French; anti-malarial) ⁵ | 54. Charcoal. |

Three prices each were obtained for a maximum of three different brands of each of the pharmaceuticals listed above. Prices were recorded in terms of number of tablets (e.g. \$4 for 20 tablets etc).⁶

In view of all these extra variables for which data was collected in the 1987 Price Survey, the user should not be surprised that the 1987 price data set contains almost twice as many variables (245 variables) as the data sets for the previous years (125 variables).

4. The value of the weight in kgs. variable for these agricultural inputs is stored in a variable called V(item number)X; where item number is 40 or 41 and X goes from 1 to 3 depending on whether the first, second, or third brand of product is referenced.

5. In earlier versions of the price data, Nivaquine was erroneously labelled as "Novacaine"; this error has since been corrected in the data files.

6. The value of the number of tablets variable for these pharmaceuticals is stored in a variable called V(item number)X; where item number goes from 50 to 53 and X goes from 1 to 3 depending on whether the first, second, or third brand of product is referenced.

Health Facility Survey, 1987

During the third year of the CILSS Survey, a new Health Facility Survey was implemented to collect more detailed information on the quality and type of health services available to CILSS households. The contents of this questionnaire are summarized in Table III. The full questionnaire is available upon request.

The Health Facility questionnaire was administered to the dispensary and maternity clinic closest to or located within each cluster of households, in both urban and rural areas. Based on the community questionnaires of the second year, a list was made of all the nearest dispensary and maternity clinics to each cluster. Except for urban clusters, these facilities were generally not in the same place as the households being interviewed. This survey was conducted in 1987 only.

The purpose of collecting the health facility data was to analyze household demand for medical care as a function of the characteristics of the services. Accordingly, the facilities surveyed are not a random sample of all health facilities in Côte d'Ivoire. Therefore, the data should not be used to generate national or regional statistics on health services.

Table III. The 1987 Health Facility Survey

Section & Title	List of Major Questions
I. Characteristics of the Facility	Ownership; source of electricity and water supply; employee housing; physical infrastructure; fees for laboratory tests.
II. Services	Whether services such as pre- and postnatal consultations, immunizations, childbirth, care for malnourished children, etc., are offered; the days per week and hours per day that they are provided; fees charged for these services, if any.
III. Personnel	The number of doctors, nurses, surgeons, dentists, midwives, administrators and other skilled and unskilled workers employed in the facility; the number actually working at the time of the interview; the number who worked in the last 24 hours.
IV. Beds	Total number of beds and usable beds; daily charge per bed; how many beds were occupied at the time of interview; availability of private rooms; fees for private rooms; availability of meals and the fees charged.
V. Equipment	The number of cars, ambulances, refrigerated vans, incubators, etc. available to the facility and their condition.
VI. Immunizations	Availability of vaccinations for yellow fever, meningitis, tuberculosis, etc. normally on the day of the interview; fee for each type of vaccination.
VII. Pharmacy	Availability of medicines such as chloroquine, aspirin, mercurochrome and antibiotics, on the day of interview; regularity of deliveries; the number of weeks in the last year that each type of medicine been out of stock; time of the day, day of the week and month of the year that the maximum number of clients visit the facility.

III. Sample Design and Selection

The principal objective of the sample selection process for the CILSS Household Survey was to obtain a nationally representative cross-section of African households, some of which could be interviewed in successive years as panel households.

A two-stage sampling procedure was used. In the first stage, 100 Primary Sampling Units (PSUs) were selected across the country from a list of all PSUs available in the sampling frame. At the second stage, a cluster of 16 households was selected within each PSU. This led to a sample size of 1600 households a year, in 100 clusters of 16 households each. Half of the households were replaced each year while the other half (the panel households in 1986, 1987 and 1988) were interviewed a second time.

It is important to note that there was a change in the sampling procedures (the sampling frame, PSU selection process and listing procedures), used to select half of the clusters/households interviewed in 1987 (the other half were panel households retained from 1986), and all of the clusters/households interviewed in 1988. Households selected on the basis of the first set of sampling procedures will henceforth be referred to as Block 1 data while households based on the second set of sampling procedures will be referred to as Block 2 data.

Sampling Procedures for Block 1 Data

The Sampling Frame. The sampling frame for the 1985, 1986, and half of the 1987 samples (except for Abidjan and Bouaké) was a list of localities constructed on the basis of the 1975 Census, updated to 1983 by the demographers of the Direction de la Statistique and based on a total population estimated at 9.4 million in 1983.

The Block 1 frame for Abidjan and Bouaké was based on data from a 1979-80 electoral census of these two cities. The electoral census had produced detailed maps of the two cities that divided each sector of the city into smaller sub-sectors (îlots). Sub-sectors with similar types of housing were grouped together by statisticians in the Direction de la Statistique to form PSUs. From a list of all PSUs in each city, along with each PSU's population size, the required number of PSUs were selected using a systematic sampling procedure. The step size was equal to the city's population divided by the number of PSUs required in each city. One problem identified in the selection process for Abidjan arose from the fact that one sector of the city (Yopougon) which had been relatively small in 1980 at the time of the electoral census, had since become the largest agglomeration in Côte d'Ivoire. This problem was presumably unavoidable since accurate population data for Yopougon was not available at the time of the PSU selection process.

Selection of PSUs. Geographic stratification was not explicitly needed because the systematic sampling procedure that was used to select the PSUs ensured that the sample was balanced with respect to region and by site type, within each region. The main geographical regions defined were: East Forest, West Forest, and Savannah. Site types varied as follows: large cities, towns, large and small villages, surrounding towns, village centers, and villages attached to them. The 100 PSUs were selected, with probabilities proportional to the size of their population, from a list of PSUs sorted by region and within each region, by site type.

Selection of households within each PSU. A pre-survey was conducted in June-July of 1984, to establish the second-stage sampling frame, i.e. a list of households for each PSU from which 16 households could be selected. The same listing exercise was to be used for both the 1985 and 1986 surveys, in order to avoid having to conduct another costly presurvey in the second year. Thus, the 1984 pre-survey had to provide enough households so as to be able to select two clusters of households in each PSU and to allow for

replacement households in the event that some in the sample could not be contacted or refused to participate. A listing of 64 households in each PSU met this requirement. In PSUs with 64 households or fewer, every household was listed.

In selecting the households, the "step" used was equal to the estimated number of households in the PSU divided by 64. For example, if the PSU had an estimated 640 households, then every tenth household was included in the listing, counted from a random starting point in the PSU. For operational reasons, the maximum step allowable was a step of 30. In practice, it appears that enumerators used doors, instead of housing structures, in counting the step. Although enumerators were supposed to start the listing process from a random point in the PSU, in rural areas and small towns, reportedly, the lister started from the center of the PSU.

Sampling Procedures for Block 2 Data

The Sampling Frame. The sampling frame for Block 2 data was established from a list of places from the results of the Census of inhabited sites (RSH) performed in preparation for the 1988 Population Census.

Selection of PSUs. The PSUs were selected with probability proportional to size. However, in order to save what might have been exorbitant costs of listing every household in each selected PSU in a pre-survey, the Direction de la Statistique made a decision to enumerate a smaller unit within each PSU. The area within each PSU was divided into smaller blocks called 'îlots'. Households were then selected from a randomly chosen îlot within each PSU. The sample îlot was selected with equal probability within each PSU, not on the basis of probability proportional to size. (These îlots are reportedly relatively small compared with the size of PSUs selected for the Block 1 frame, but no further information is available about their geographical position within the PSUs.)

Selection of households within each PSU. All households in each îlot selected for the Block 2 sample were listed. Sixteen households were then randomly chosen from the list of households for each îlot.

Bias in the Selection of Households within PSUs, Block 1 Data

Analysis of the four years of the CILSS data revealed that household size (unweighted), dropped by 24 percent between 1985 and 1988. Three possible explanations were considered: (1) a real demographic change; (2) non-sampling measurement errors were involved; or (3) some sort of sampling bias. Investigation ruled out the first two possibilities (see Coulombe and Demery 1993 and Demery and Grootaert 1993 for more on this). The third possibility clearly was an issue because the sampling frame and listing procedures had indeed changed in midstream and this was likely to have had an effect. In fact, the Coulombe and Demery (1993) investigation found that the substantial part of the drop in household size over the years occurred between the first and second panel data sets in 1987, i.e. the tail end of Block 1 data and the start of Block 2 data. From this, it is reasonable to assume that differences in the sampling frame and sampling procedures between the two blocks were indeed responsible.

The listing procedures for Block 1 data indicated that the selection of households within PSUs was likely to have been biased toward the selection of larger dwellings. Based on a discussion with Christopher Scott, statistical consultant, Demery and Grootaert (1993, p.269) explain as follows: "In the selected primary sampling units, where the listing of households was to occur, enumerators were instructed to start the listing process at a random location in the primary sampling unit and from this point to select every nth household, that is, with a given fixed "step" until sixty-four households were listed. There are two sources of potential bias in this listing procedure. First, the selection of the starting point might not have been

random, but subject to motivated bias on the part of the enumerator (such as the selection of a point where there are numerous dwellings or that is easily accessible). Second, in practice, enumerators counted doors to achieve the "step", rather than counting actual households. This method leads to sample selection bias if the number of doors varies across households. Households with two doors will have twice the probability of selection as those with one door. Given that larger dwellings are more likely to have more doors than small dwellings, counting households on the basis of doors may have caused a bias in the sample leading to overenumeration of large dwellings, and, thereby, large households. In fact, mean dwelling size recorded in the CILSS was significantly higher in 1985 and 1986 than in 1987 and 1988, supporting this interpretation."

As explained by Christopher Scott (1994), the sample selection bias towards larger households is reinforced because "where more than one household shares a door, the survey structure implicitly required that only one be selected. In the absence of specific instructions there would be a natural tendency to choose the main one, thus reinforcing the bias towards large households".

In Chapter VI on "Using the Data", one set of weights is provided to reconcile this bias (Household Size Weights).

Problems Due to Inaccurate Estimates of PSU Population

Scott and Amenuvegbe (1991) address the problem arising from the fact that the estimates of population used to select PSUs with probability proportional to size, are often outdated and inaccurate. The degree of inaccuracy increases with the number of years that have elapsed since the previous census. The extent of inaccuracy becomes clear when the listing process is completed for the PSU and the 'correct' population size becomes available. This deviation between the PSU's estimated population size and the 'correct' size needs to be addressed either by varying the sample 'take' in each PSU or by assigning corrective weights for each PSU, m'_i/n_i or m'_i/m_i , where m'_i is the number of households found in the i th PSU at the listing stage and n_i or m_i is the measure of size (n =population, m =households) used in the first stage PSU selection.⁷

As has been mentioned earlier, the CILSS implemented a fixed 'take' of 16 households per cluster, and one cluster per PSU. Given these rules, any attempt to address this issue would have to rely on corrective m'_i/n_i weights. However, it is not possible to calculate these weights either for Block 1 data (m'_i is not available since only 64 households per cluster were listed); or for Block 2 data (m'_i is not available since the enumeration area was the *îlot* and not the PSU).

Classification of Clusters by Geographic Location

A list of all CILSS clusters, their region, sub-prefecture (for rural clusters), and year of interview, are presented in Table IV. Regional classification was constructed so that clusters in Abidjan would be classified as Abidjan; clusters in other major cities in East Forest, West Forest and Savanna would be classified as "Other Cities"; and only rural clusters would be included in the East Forest, West Forest and Savanna. Thus, the urban-rural classification is as follows: Urban — Abidjan and Other Cities; Rural — East Forest, West Forest and Savanna. The precise location of the clusters is noted on the map on the inside cover.

7. Omission of this weight has two effects: (1) a bias in favor of PSUs whose population has grown relatively slowly (or diminished) since the census, and against those that have grown exceptionally fast; and (2) a bias in favor of PSUs whose current mean household size is relatively large (Chris Scott, personal communication).

Table IV. List of Sample Clusters

Cluster No.	Name	Region	Sub-prefecture	Year Interviewed			
				1985	1986	1987	1988
001	Adjamé Fraternité	Abidjan		✓	✓		
002	Autre Adjamé	Abidjan		✓	✓		
003	Treichville Ecole Régionale	Abidjan		✓	✓		
004	Autre Treichville	Abidjan		✓	✓		
005	Attécoubé Centre	Abidjan		✓	✓		
006	Marcory Champroux	Abidjan		✓	✓	✓	
007	Marcory Résidentiel	Abidjan		✓	✓	✓	
008	Biétry	Abidjan		✓	✓		
009	Marcory Anoumabo	Abidjan		✓	✓	✓	
010	Autre Marcory	Abidjan		✓	✓	✓	
011	Koumassi Centre	Abidjan		✓	✓	✓	
012	Koumassi Bidonville	Abidjan		✓	✓		
013	Cocody Centre	Abidjan		✓	✓	✓	
014	Corniche Lycée Technique	Abidjan		✓	✓	✓	
015	Port-Bouet Hôpital	Abidjan		✓	✓		
016	Yopougon SICOI	Abidjan		✓	✓	✓	
017	Yopougon Selmer	Abidjan		✓	✓		
018	Yopougon Gare et Centre	Abidjan		✓	✓	✓	
019	Yopougon Andokoua	Abidjan		✓	✓	✓	
020	Abobo Derrière Rails	Abidjan		✓	✓		
021	Autre Abobo	Abidjan		✓	✓	✓	
022	Bingerville	Other Cities		✓	✓	✓	
023	N'Douci	Other Cities		✓	✓		
024	Abengourou	Other Cities		✓	✓	✓	
025	Agnibilékrou	Other Cities		✓	✓		
026	Tanda	Other Cities		✓	✓	✓	
027	Adzopé	Other Cities		✓	✓	✓	
028	Akoupé	Other Cities		✓	✓	✓	
029	Divo	Other Cities		✓	✓		
030	Man	Other Cities		✓	✓	✓	
031	Arrah	Other Cities		✓	✓	✓	
032	Bouaflé	Other Cities		✓	✓		
033	Bocanda	Other Cities		✓	✓		
034	Bouaké Air-France 3	Other Cities		✓	✓	✓	
035	Bouaké N'Guéttakro Nimbo	Other Cities		✓	✓		
036	Bouaké-Air-France ½	Other Cities		✓	✓	✓	
037	Bouaké Sokoura	Other Cities		✓	✓	✓	
038	M'Bahiakro	Other Cities		✓	✓		
039	Katiola	Other Cities		✓	✓	✓	
040	Daloa	Other Cities		✓	✓	✓	

Table IV continued

Cluster No.	Name	Region	Sub-prefecture	Year Interviewed			
				1985	1986	1987	1988
041	Gagnoa	Other Cities		✓	✓		
042	Korhogo	Other Cities		✓	✓		
043	Boundiali	Other Cities		✓	✓		
044	Nouvelle Osrou	East Forest	Dabou	✓	✓		
045	Boussoué	East Forest	Tiassalé	✓	✓		
046	Ouégninkro	East Forest	Bonoua	✓	✓		
047	Eboué	East Forest	Maféré	✓	✓		
048	Assouba	East Forest	Aboisso	✓	✓	✓	
049	Beniankré	East Forest	Aboisso	✓	✓	✓	
050	Bebou	East Forest	Abengourou	✓	✓		
051	Dame	East Forest	Abengourou	✓	✓	✓	
052	N'Dakro	East Forest	Koun-Fao	✓	✓		
053	Ouroutara	East Forest	Kouassi-Daté Kro	✓	✓		
054	Abokouma	East Forest	Tanda	✓	✓		
055	Agbaou	East Forest	Akoupé	✓	✓	✓	
056	Aboude Kouassikro	East Forest	Agboville	✓	✓	✓	
057	Nebo	East Forest	Divo	✓	✓	✓	
058	N'Bazo	East Forest	Divo	✓	✓	✓	
059	Kakueoua Kipreoua	West Forest	Soubré	✓	✓	✓	
060	Belleville Kozoan	West Forest	Buyo	✓	✓		
061	Dago Boua	East Forest	Lakota	✓	✓	✓	
062	Bogouiné I	West Forest	Lagoualé	✓	✓	✓	
063	Dakouepleu	West Forest	Lagoualé	✓	✓	✓	
064	Guinglo-Zagna	West Forest	Bangolo	✓	✓		
065	Sokourala	Savanna	Biankouma	✓	✓	✓	
066	Ferentella	Savanna	Ouaninou	✓	✓	✓	
067	Matongouine	West Forest	Danané	✓	✓		
068	Zealé	West Forest	Zouan-Hounien	✓	✓		
069	Bahe-Bhaon	West Forest	Duekoué	✓	✓		
070	Blody	West Forest	Duekoué	✓	✓		
071	Kouassikro	East Forest	Arrah	✓	✓	✓	
072	Ahouanou	East Forest	M'Batto	✓	✓		
073	Pakouabo	East Forest	Bouaflé	✓	✓		
074	Gohouo	East Forest	Sinfra	✓	✓	✓	
075	Prosi Blanfla	East Forest	Sinfra	✓	✓	✓	
076	Aoussoukro	East Forest	Bocanda	✓	✓		
077	Agnanikro	East Forest	Kouassi-Kouassikro	✓	✓		
078	M'Brakro N'Dranouan	Savanna	Bouaké	✓	✓		

Table IV continued

Cluster No.	Name	Region	Sub-prefecture	Year Interviewed			
				1985	1986	1987	1988
079	Akanzadro	Savanna	Bouaké	✓	✓	✓	
080	Pangbabo	Savanna	Bouaké	✓	✓		
081	Moronou	Savanna	Toumodi	✓	✓		
082	Babrasso	Savanna	Prikro	✓	✓	✓	
083	Molonou	Savanna	Tiébissou	✓	✓	✓	
084	Sebolo	Savanna	Dabakala	✓	✓		
085	Sori Bouafla	Savanna	Gohitafla	✓	✓	✓	
086	Gadouan	West Forest	Daloa	✓	✓		
087	Tapeguhé	West Forest	Daloa	✓	✓		
088	Nime Belleville	West Forest	Zoukougbeu	✓	✓	✓	
089	Siegouekou	West Forest	Ouragahio	✓	✓		
090	Saïoua Guebia	West Forest	Saïoua	✓	✓		
091	Kouaméfla	West Forest	Oumé	✓	✓	✓	
092	Diemedian	Savanna	Mankono	✓	✓	✓	
093	Lokolo	Savanna	Dianra	✓	✓	✓	
094	Somana	Savanna	Séguéla	✓	✓	✓	
095	Tchonkaha	Savanna	Komborodougou	✓	✓	✓	
096	Sakpele	Savanna	Sirasso	✓	✓		
097	Nangoukaha	Savanna	Karakoro	✓	✓		
098	Douasso	Savanna	Gbon	✓	✓	✓	
099	Kanakoro	Savanna	Tingréla	✓	✓		
100	Neguepié	Savanna	Tingréla	✓	✓		
101	Abobo Maternité/Froebel	Abidjan				✓	✓
102	Abobo Baoulé	Abidjan				✓	✓
103	Attécoubé Santé — EPP I	Abidjan				✓	✓
104	Blokosso/2 Plateaux	Abidjan				✓	✓
105	Koumassi Cimétière/SOPIM	Abidjan				✓	✓
106	Port-Bouët/Marcory	Abidjan				✓	✓
107	Treichville Biafra/Avenue 16	Abidjan				✓	✓
108	Prison/Andokoua	Abidjan				✓	✓
109	Niangon/SOGEFIHA	Abidjan	Yopougon			✓	✓
110	Adjamé Rails/Nord-Est	Abidjan				✓	✓
111	Km 18/Toit Rouge	Abidjan				✓	✓
112	Bouaké Air France I — Lycée Fille	Other Cities				✓	✓
113	Bouaké N'Gatako/Koko	Other Cities				✓	✓
114	Bouaké Zone/Dar-es-Salaam 2	Other Cities				✓	✓
115	Anyama	Other Cities				✓	✓
116	Dabou	Other Cities				✓	✓

Table IV continued

Cluster No.	Name	Region	Sub-prefecture	Year Interviewed			
				1985	1986	1987	1988
117	Grand-Lahou	Other Cities				✓	✓
118	Tiassalé	Other Cities				✓	✓
119	Yamoussoukro	Other Cities				✓	✓
120	Daloa	Other Cities	Centre III			✓	✓
121	Daoukro	Other Cities				✓	✓
122	Ferkéssédougou	Other Cities				✓	✓
123	Gagnoa	Other Cities				✓	✓
124	Duékoué	Other Cities				✓	✓
125	Bangolo	Other Cities				✓	✓
126	San-Pedro	Other Cities				✓	✓
127	Tiéningboué	Savanna	Tiéningboué			✓	✓
128	Seydougou	Savanna	Seydougou			✓	✓
129	Satikran	East Forest	Abengourou			✓	✓
130	Yaffo Attié	East Forest	Akoupé			✓	✓
131	Attéhou	East Forest	Agboville			✓	✓
132	Douéné	Savanna	Gbonné			✓	✓
133	Koffibadoukro	East Forest	Koun-Fao			✓	✓
134	Abongoua	East Forest	Bongouanou			✓	✓
135	Ehuikro	East Forest	M'Batto			✓	✓
136	Allunamouenou	Savanna	Prikro			✓	✓
137	Akakro — N'Zikpri	Savanna	Toumodi			✓	✓
138	Bounafla	East Forest	Sinfra			✓	✓
139	Gbambiasso	Savanna	Gbon			✓	✓
140	Niamayo	West Forest	Daloa			✓	✓
141	Goulaleu	West Forest	Bin-Houyé			✓	✓
142	Sodepalm — Doubo	East Forest	Divo			✓	✓
143	Dobia	West Forest	Issia			✓	✓
144	Sepikaha	Savanna	Niankara-mandougou			✓	✓
145	Natiokobabdara	Savanna	Korhogo			✓	✓
146	Labeguekaha	Savanna	Sinematiali			✓	✓
147	Gomezapleu	West Forest	Man			✓	✓
148	Hermankono	Savanna	Morondo			✓	✓
149	Kagnamanko	West Forest	Soubré			✓	✓
150	Sifié	Savanna	Ouaninou			✓	✓
151	Adjamé Dallas/Treichville ONFP	Abidjan					✓
152	Marcory /Vridi Canal	Abidjan					✓
153	Koumassi Sicogi/Kangakoura	Abidjan					✓
154	Anono/2 Plateaux ENA	Abidjan					✓

Table IV continued

Cluster No.	Name	Region	Sub-préfecture	Year Interviewed			
				1985	1986	1987	1988
155	Yopougon Nouveau Quartier/ Gendarmerie	Abidjan					✓
156	Yopougon LEM/Attécoubé	Abidjan					✓
157	Abobo Avocatier/PK1B à Gauche	Abidjan					✓
158	Adjamé Extension/Kennedy	Abidjan					✓
159	M'Batto	Other Cities					✓
160	Grand Bassam	Other Cities					✓
161	Agboville	Other Cities					✓
162	Bouaké Sokoura	Other Cities					✓
163	Bouaké Gare/Dar es Salaam	Other Cities					✓
164	Tanda	Other Cities					✓
165	Séguela	Other Cities					✓
166	Guibéroua	Other Cities					✓
167	Lakota	Other Cities					✓
168	Guiglo	Other Cities					✓
169	Dabakala	Other Cities					✓
170	Katadji	East Forest	Sikensi				✓
171	Songon-té	East Forest	Songon				✓
172	Rubino	East Forest					✓
173	Toukouzou	East Forest	Grand Lahou				✓
174	Tolatanokro	Savanna	Djébonoua				✓
175	Yoboue N'Dolikro	East Forest	Kouassi- Kouassikro				✓
176	Pokoukro	Savanna	Toumodi				✓
177	Kogbera	Savanna	Satama-Sokoro				✓
178	Zougoussou	East Forest	Bouaflé				✓
179	Gouanfla	Savanna	Gohitafla				✓
180	N'Gbribi	East Forest	M'Batto				✓
181	Yerebodi	Savanna	Sandégué				✓
182	Transua	East Forest	Tanda				✓
183	Tanguélan	East Forest	Agnibilékrou				✓
184	Yambélégué	Savanna	Korhogo				✓
185	Zaguinasso	Savanna	Kouto				✓
186	Tanhasso	Savanna	Tiemé				✓
187	Trafesso	Savanna	Séguéle				✓
188	Lopou	East Forest	Dabou				✓
189	Gbokora	West Forest	Daloa				✓
190	Mama	West Forest	Ouragahio				✓
191	Tiégba	West Forest	Diégonéfla				✓

Table IV continued

Cluster No.	Name	Region	Sub-prefecture	Year Interviewed			
				1985	1986	1987	1988
192	Liliyo	West Forest	Soubré				✓
193	Zoukouboué	West Forest	Vavoua				✓
194	Zego	East Forest	Ljré				✓
195	Dihouiz	East Forest	Zikisso				✓
196	Godjiboué	West Forest	Sassandra				✓
197	Sebazon	West Forest	Bangolo				✓
198	Saleu	West Forest	Danané				✓
199	Zagne	West Forest	Taï				✓
200	Zelé	West Forest	Man				✓

Non-Response and Replacement of Households

In order to maintain the size of the sample, the 1985 CILSS instituted a procedure by which households in the original sample that refused or were unavailable were replaced by one of the 48 remaining households in the same cluster, enumerated during the pre-survey. The pre-survey questionnaire collected summary information about household size and a few socioeconomic characteristics of the household. Thus, for the first year of the CILSS, households were replaced (when necessary) by one of the remaining 48 households that most resembled it in terms of size and characteristics. During the first year of the survey, a total of 124 of the 1600 original sample households (7.8 percent) were not interviewed and were thus replaced by other households. The reasons for replacement are summarized in Table V. The most common reason for non-response in the first year was the inability to locate the address or housing unit. Only 14 households (0.9 percent of the sample) were found but refused to participate, and these were all in Abidjan.

Not included in this table are instances in which the correct dwelling was found, but the people living in the dwelling were different than those inhabiting it at the time of the pre-survey. In those instances, the household currently occupying the dwelling was interviewed.

Table V. Non-Response and Replacement of Households, by Reason, 1985 CILSS

Reason for replacement	Number of households replaced			Total	As a percent of sample
	Abidjan	Other cities	Villages		
Address not found	39	18	15	72	4.5
Housing vacant	6	17	11	34	2.1
Housing destroyed	2	0	2	4	0.3
Refusal	14	0	0	14	0.9
TOTAL	61	35	28	124	7.8

Note: Three households with incomplete questionnaires are not included in this table. Two households refused during round 2 and one moved between the two rounds. They were not replaced.

In the second and subsequent years, the effort to replace non-responding households with other like households was abandoned. Households were replaced by the first household on the list of those remaining from the pre-survey or listing operation. (In 1986, there was a maximum of 32 households left in each cluster that were unused from the pre-survey.)

Selection of the Respondent for the Section on Fertility

The survey collected fertility information for one woman per household. The woman, aged 15 or older, was selected at random from among household members, so that each eligible woman in a household had the same probability of being selected. The method used was to generate random permutations of household members' personal identification numbers on adhesive labels. Each questionnaire was affixed with a label. In order to select a woman at random, the interviewer scanned the list of personal id codes on each label until arriving at the id number of the first eligible female household member. Besides providing a random means of selection, this methodology ensured that the interviewer's selection of the respondent was verifiable and replicable by the supervisor. For additional information on this procedure, including a discussion of why this procedure was preferred (under the circumstances) to the widely-used Kish table procedure, refer to Ainsworth and Munoz, 1986, p.15.

IV. Survey Organization and Fieldwork

Field-Testing of the Questionnaires Prior to Survey Implementation

Over 80 households were contacted during the two and a half week field test preceding the first year of the survey. Individuals and households engaged in a wide range of activities were contacted in rich and poor neighborhoods of the two largest cities, in a small town, in fishing and plantation villages along the coast, in villages in the southeastern coffee and cocoa-growing region, and in subsistence villages in the northern savanna.

Field Procedures

Data for the CILSS was collected by 5 data collection teams, two of which were stationed in Abidjan and three of which operated out of regional offices of the Direction de la Statistique in Abengourou, Bouake and Man. Each data collection team included a supervisor, two interviewers, an anthropometrist, a data entry operator and a driver.

The details of survey organization are fully described in Ainsworth and Munoz (1986). During a typical four-week period, the data collection team completed interviews for two clusters of households. Round 1 was asked in Cluster A during the first week; during the second week, Round 1 was asked in Cluster B. The team returned to Cluster A to ask Round 2 during the third week and during the fourth week, the team returned to Cluster B for Round 2.

The field procedures for each cluster were as follows (Ainsworth and Munoz, 1986, p.22). Having completed Round 1 in a cluster (Sections 1-8 and where appropriate, Sections 16 and 17), the team returned with the partially completed questionnaires to the regional office. The Data Entry Operator (DEO) entered the data using a special data entry program designed to detect and flag inconsistencies. The data entry program produced, for each household, a printout of all the data entered and a list of inconsistencies within and between sections. In the regional office, the supervisor reviewed the questionnaires and printouts to detect interviewer and data entry errors. Interviewer errors were marked directly on the questionnaire, and data entry errors were marked on the printouts. During Round 2 interviews, the interviewers re-asked the inconsistent or erroneous parts of Round 1 flagged by the supervisor, before proceeding with Round 2 (Sections 9-15) of the questionnaire. At the regional office, the data entry operator made the necessary corrections to Round 1 data and entered Round 2 data. He/she then produced a printout of data from both rounds of the survey. The supervisor reviewed the printout to verify that all sections had been correctly entered by the DEO. Any errors detected were marked on the printouts and subsequently corrected by the operators.

During Round 1, the anthropometrist recorded the height and weight of all household members. During Round 2, individuals whose height and weight measurements were flagged as outliers by the data entry program were re-measured. In addition, the data entry program randomly selected 20% of all individuals to be re-measured during the second round.

Amongst other duties, the supervisor had an important role in the quality control aspects of the data collection process. His responsibilities included: coding answers that were not precoded in the questionnaire; conducting random reinterviews of 25 percent of the households in the cluster; checking that all parts of the questionnaire were properly completed before returning to the regional office; and reviewing printouts from both rounds of the questionnaire to detect interviewer and data entry errors, and supervising correction of all errors in the field and in the office.

Changes in field procedures over time were minimal and went in the direction of improved supervision (Daho,1992). Some reassignment of interviewers took place but there is no evidence that this affected data quality. The definition of household members remained the same over the four years. However, there were lapses in the data entry of the Community and Price Survey data for 1988: the price data for 1988 were never entered and subsequently lost (see Chapter VI, "Using the Data").

Timing of Survey Implementation

The CILSS survey was fielded on the following dates:

First year ("1985"):	16th February 1985 to 25 January 1986
Second year ("1986"):	22nd February 1986 to 24 January 1987
Third year ("1987"):	14th March 1987 to 13th February 1988
Fourth year ("1988"):	28th May 1988 to 29th April 1989

V. Other Related Data Sets

Besides the three main CILSS data sets (Household, Community and Price) and the 1987 CILSS Health Facility Survey, other data on Côte d'Ivoire have been collected and linked to CILSS households by researchers. The dataset names and formats are documented in Annex B. They are:

- Administrative data on health facilities located within the 200 CILSS clusters;
- Administrative data on the primary schools, secondary schools and primary school inspectorates available to survey clusters ;
- 1988 Census data linked to the CILSS clusters for all four years; and
- Rainfall data associated with CILSS clusters.

Health Facility Data from Administrative Sources

These data contain summary statistics on all of the 329 health facilities located within the 200 clusters interviewed during the 4 years of the CILSS Household Survey. The data set contains information about every health facility in the same urban "commune" as a CILSS cluster as well as about each one located within a CILSS rural cluster. Facilities near a rural cluster but not located within them, are not included. In cases where no health facility data are available for a rural cluster, information about the nearest health facility to rural clusters can be obtained from the CILSS community data or, for 1987 only, from the health facility questionnaires completed for that year.

The data for each facility were extracted from a publication of the Direction de la Planification et des Statistiques Sanitaires in the Ministry of Public Health and Population, entitled "Annales de la Santé, 1989", as part of the research project on "The Economic and Policy Determinants of Fertility in Sub-Saharan Africa."⁸

The Health Facility dataset includes the following information: ownership, number of beds, number of staff of different types (doctors, paramedics, etc) and types of services offered (maternity, pharmacy, radiology, pediatrics etc). Table VI contains a description of all the variables available in this dataset. The amount of information for each facility is limited to the amount of information available from the publication. The full range of information is available for hospitals, urban hospital centers, rural hospital centers and some private facilities in Abidjan. For dispensaries and maternities, little more is offered than the name and type of facility.

The variables for the types of services available are based on staffing lists, some of which disaggregate personnel by type of service. It is possible that some smaller facilities offered a service but did not have staffing lists that were disaggregated to reflect this. Thus, a "yes" answer to a service implies that the service was definitely provided; a "no" means that the service may or may not have been provided.

School Data from Administrative Sources

There are three data sets in this category: primary school data, secondary school data and inspectorate data. Primary school data contains information about the characteristics of primary schools nearest to or within each urban cluster; secondary school data contain similar information for secondary schools; and the inspectorate data contain information about the primary school inspectorate that covers

8. Research project no. 67691, Martha Ainsworth, principal investigator.

Table VI. List of Variables in the Health Facility Dataset (collected from Administrative Sources)

NO	Facility Number (from 1 to 329)
NAME	Name of the facility
TYP	Type of facility (11 possible types)
P/P	Whether the facility is public or private
CL1-CL9	The CILSS clusters that fall in the same urban commune as the facility, or the cluster number of the rural cluster in which the facility is located. Up to 9 clusters can be linked to a single facility.
BED	The number of beds in the facility. This was generally available only if the facility was a hospital or CHU/CHR (facility codes 3 or 4), or if a private facility.
DRS	The number of doctors in the facility
PAR	The number of paramedics and nurses at the facility
ORD	The number of orderlies (cleaning staff, cooks and watchmen are excluded)
SU	=1 if surgery was offered; =2, otherwise
MA	=1 if maternity was offered; =2, otherwise
PH	=1 if pharmacy was offered; =2, otherwise
RA	=1 if radiology was offered; =2, otherwise
LA	=1 if a laboratory was offered; =2, otherwise
PE	=1 if pediatrics was offered; =2, otherwise
PM	=1 if maternal and child health (PMI) was offered; =2, otherwise
DI	=1 if dispensary was offered; =2, otherwise
OP	=1 if ophthalmology services were offered; =2, otherwise
YR	= the year to which the data pertains

each of the 200 clusters. These data were extracted from documents at the Côte d'Ivoire Ministry of Education and linked to each CILSS cluster as part of the data collected for the research project on "Economic and Policy Determinants of Fertility in Sub-Saharan Africa". The dataset names are listed in Annex B.

PRIMARY AND SECONDARY SCHOOL DATA

Data collected for the primary and secondary schools includes the following information : ownership; whether the school has a library; whether there is housing available for the teachers; number of grades; number of classrooms; total number of students enrolled; and number of girls enrolled. Table VII describes the contents of these data sets.

Table VII. Primary School Data from Administrative Sources

Variable Name	Description
NUMCLUST	Number of the CILSS Cluster
NUMSCHOO	Number of the School
NAMSCHOO	Name of the School
PRESENCE	Whether the school is present (1) in the cluster, or not (2)
NEARCLUS	If the school is not present in the cluster, this variable contains the cluster number of the cluster in which the school is located
STATUS	Whether the school is public (1) or private (2)
DATECREA	Date of creation of the school
LIBRARY	Whether the school has a library (1) or not (2)
HOUSINGT	Whether there is housing for teachers (1) or not (2)
NUMLEVEL	Number of grades (class levels)
NCLASSROO	Number of classrooms
NBSTUDEN	Total number of students enrolled
NBGIRLS	Number of girls enrolled
YEAR	Year to which the data pertain

Table IX. Primary School Inspectorate Data Linked to CILSS Clusters

NUMCLUST	Number of the cluster
YEAR	Year to which the data pertains
NAMCLUST	Name of the CILSS cluster
NAMINSPE	Name of the Inspectorate
NUMINSPE	Number of the Inspectorate
NAMDEPAR	Name of the Department to which the Inspectorate belongs
NUMDEPAR	Number of the Department. Numbering conforms with that of the 1988 Côte d'Ivoire Census.
NAMSPREF	Name of the sub-prefecture to which the inspectorate belongs
NUMSPREF	Number of the sub-prefecture. Numbering conforms with that of the 1988 Côte d'Ivoire Census.
NAMCOMMU	Name of the commune to which the inspectorate belongs
NUMCOMMU	Number of the commune
NBSCHOOL	Number of schools in the inspectorate
NBCLASSR	Number of classrooms in the inspectorate
NBTEACHE	Number of teachers in the inspectorate
NBSTUDEN	Number of students in the inspectorate
NBGIRLS	Number of girls among students of the inspectorate
NBSTUDCM	Number of students in cm2 of the inspectorate
NBGIRLCM	Number of girl students in cm2

Table VIII. Secondary School Data from Administrative Sources

Variable Name	Description
NUMCLUST	Number of the CILSS Cluster
NUMSCHOO	Number of the School
NAMSCHOO	Name of the School
PRESENCE	Whether the school is present (1) in the cluster, or not (2)
NEARCLUS	If the school is not present in the cluster, this variable contains the cluster number of the cluster in which the school is located
STATUS	Whether the school is public (1) or private (2)
DATECREA	Date of creation of the school
LIBRARY	Whether the school has a library (1) or not (2)
HOUSINGT	Whether there is housing for teachers (1) or not (2)
NUMCYCLE	Number of cycles in the school
NBLEVCY1	Number of grades (class levels) in the first cycle
NBLEVCY2	Number of grades (class levels) in the second cycle
NCLASRO1	Number of classrooms in the first cycle
NCLASRO2	Number of classrooms in the second cycle
NSTUDCY1	Number of students in the first cycle
NGIRLCY1	Number of girls in the first cycle
NSTUDCY2	Number of students in the second cycle
NGIRLCY2	Number of girls in the second cycle
NTOTSTUD	Total number of students, both cycles
YEAR	Year to which the data pertain

Only urban clusters are covered by the Primary and Secondary School Data Sets. Recall that for rural clusters, information about schools can be obtained from the CILSS Community Surveys. The Primary School Dataset contains 9055 observations and the Secondary School Dataset contains 1129 observations. The reasons for the larger than expected number of observations are primarily two-fold. First, data is gathered for up to three years (1986-88) for primary school and up to four years (1985-88) for secondary schools, per school. Secondly, all schools associated with a cluster — those located both within the cluster and nearby — are listed in the database.

PRIMARY SCHOOL INSPECTORATE DATA

Data collected for each primary school inspectorate linked to a CILSS cluster include the number of schools, classrooms, teachers, students and female students in the inspectorate. The data are organized by cluster and year (1985-1988). A particular cluster may have more than one primary school inspectorate associated with it, depending on the year to which the data pertain. For example, the cluster of Arrah (031) belonged to the inspectorate of Bongouanou in 1985 and 1986; but in 1987, Arrah became a new inspectorate. Therefore, cluster 031 now belongs to this new inspectorate (Arrah). Note also that if a particular cluster does not belong to a commune, then the variable NAMCOMMU (name of the commune) will be missing and NUMCOMMU (number of the commune) will be set equal to 98. The Primary School Inspectorate data set contains 515 observations.

Table X. Census Data Linked to CILSS Clusters

Table 1: Distribution of the population by ethnic group^a

Table 2: Distribution of the population by religion^b

Table 3: Distribution of women by educational achievement

Table 4: Distribution of men by educational achievement^c

Table 5: Distribution of women 15 and older by activity/occupation^d

Table 6: Distribution of men 15 and older by activity/occupation^e

Table 7: Distribution of women by occupation and branch of activity^f

Table 8: Distribution of men by occupation and branch of activity^g

Table 9: Distribution of households, by type of walls^h

Table 10: Distribution of households, by type of floor materialⁱ

Table 11: Distribution of households, by type of toilets^j

Table 12: Distribution of households by type of water supply^k

Table 13: Households owning durable goods^l

Table 14: Total number of women 15-49, total number of births over past 12 months, age specific fertility rates for the age groups 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49.

Table 15: Total population, total number of females 15+, total children ever born (ceb), total ceb (girls), total number of children still alive, total number of girls still alive.

a. Data in the columns for each cluster do not sum to the total population because naturalized Ivorians, Ivorians of unspecified ethnic groups and other unspecified groups are not included.

b. Data in the columns do not sum to the total population because animists, Harrists and other religions are not listed.

c. The only omitted column from the list is "undetermined".

d. The only omitted columns are "apprentice" and "undetermined". Total number of women 15+ that are active is reported in the table. Percent active can be obtained by dividing total active by total women 15+, from Table 15.

e. The only omitted columns are "apprentice" and "undetermined". Total number of men 15+ that are active is reported in the table. The best approximation for the total number of men 15+ is the sum total of all columns in Table 4.

f. Only the major branches of activity for women are listed here. The total active is the same as Table 5. Unreported categories include financial services, agroindustry, intermediate industry, construction, transport and communication and undetermined.

g. Only the major branches of activity for men are listed here. The total active is the same as Table 6. Unreported categories include financial services, agroindustry, intermediate industry, construction, transport and communication and undetermined.

h. The only unreported categories in this table are "other vegetable wall materials" and "other wall materials".

i. The only unreported category is "other". Totals are the same as in Table 9.

j. All categories are reported. Columns should sum to the total number of households in Table 9.

k. No households report having "well" as the source of supply.

l. The only unreported category is "radio and fridge". It can be obtained by subtracting the sum of the other columns from the total number of households, in Table 9.

Census Data Linked to the CILSS Clusters

Census data on each of the topics in Table X were computed by commune/sub-prefecture (administrative unit) by the Côte d'Ivoire Direction de la Statistique, and is linked to a CILSS cluster number. See Annex B for the dataset names and format.

Rainfall Data

Rainfall data are available for the years 1974-1988 by weather 'station'. Each weather station can be linked to the CILSS Clusters (see Box 1). Most CILSS clusters are not located in exactly the same place as the stations with which they are associated. In such cases, the CILSS cluster is linked with the nearest station. Rainfall measurements are millimeters.

The rainfall data set contains the following variables :

STATION	: Station number and name
YEAR	: Year to which the data pertain
JAN	: Rainfall during January
FEB	: Rainfall during February
.	
.	
.	
.	
DEC	: Rainfall during December
TOTAL	: Total rainfall during the year (i.e. sum of monthly observations)

Box 1. Linking the Rainfall Stations with CILSS Clusters

Rainfall Stations	Associated CILSS Clusters
1 Abidjan	1-22, 44, 101-111, 115-117, 151-158, 160, 171, 173, 188
2 Adiaké	46,47
3 Adzopé	27, 28, 55
4 Agboville	56, 131, 161, 172
5 Agnibilekrou	25, 51, 52, 133, 183
6 Ayamé	
7 Bondoukou	
8 Bongouanou	31, 130, 134, 135, 159, 180
9 Bouaké	34-37, 77-79, 112-114, 162-163, 174-175
10 Dabakala	84, 169, 177, 181
11 Daloa	40, 86-88, 120, 140, 143, 189, 193
12 Danané	67, 68, 141, 198
13 Daoukro	33, 38, 71, 121, 136
14 Dimbokro	76, 137, 176
15 Divo	29, 57, 58, 61, 142, 167, 191
16 Doropo	
17 Ferkessedougou	122, 146
18 Gagnoa	41, 59, 89, 90, 123, 166, 190, 195
19 Katiola	39, 80, 127, 144
20 Korhogo	42, 95, 96, 97, 145, 184
21 Lamto	72, 81, 194
22 Man	30, 62, 63, 132, 147, 197, 200
23 Odienné	128, 186
24 San Pedro	126
25 Sassandro	196
26 Séguéla	92-94, 148, 165, 187
28 Tabou	
29 Tai	60, 149, 192, 199
30 Tanda	26, 53, 54, 82, 164, 182
31 Tengrela	98-100, 185
32 Tiassalé	23, 45, 118, 170
33 Toubá	66, 150
34 Yamoussokro	74, 83, 91, 119, 138
35 Guiglo	64, 69, 70, 124, 125, 168, 199
36 Boundial	43, 139
37 Bouna	
38 Bouaflé	32, 73, 75, 85, 178, 179
39 Biankouma	65
40 Abengourou	24, 50, 129
41 Aboisso	48, 49

VI. Using the Data

Each survey year's data should be used with the questionnaire corresponding to that year. As described in Chapter II, some changes have been made to the survey questionnaires across the years and the user should be aware of them.

Quality of the Household Data

The general consensus is that the quality of the CILSS household data is very good. An informal review of data quality conducted by Ainsworth and Mehra (1988) assessed the 1985 and 1986 CILSS data in terms of their accuracy, internal consistency and completeness. The CILSS household data were found to score high marks on each of these three counts.

Accuracy. One measure of data quality is the extent to which individuals in question respond for themselves during the interview, rather than having proxy responses provided for them by other household members. The investigation of CILSS household survey data for 1985 and 1986 showed that 93 percent of women responded for themselves to the fertility section and that 79 to 80 percent of all adult household members responded for themselves to the employment module. The percent of children responding for themselves to the employment module was far less, 43 to 45 percent. Nevertheless, these rates were found to be higher than for the Peru Living Standards Survey (29 percent).

"Completeness". Investigation of several variables and modules in the CILSS (sex, age, parental characteristics, schooling, health, employment, migration, fertility, farming and family business), found that missing data in the household survey are rare. Rates of missing data were found to be close to 0 (0.01 to 0.05 percent) in many cases, but in any case, no higher than 0.76 percent.

Internal Consistency of Data. The consistency checks in Table XI show a very low error rate.

Table XI. Consistency Checks

Consistency Check	Percent Failing Check (1985)	Percent Failing Check (1986)
Non-household members correctly classified as non-members	0.7	0.2
Among those with birth certificates, date of birth and age are consistent	0.6	0.2
Among those with father in household, code given as father's ID is a valid ID of an adult male	0.3	0.3
ID code of respondent to fertility section is valid ID code of an adult female and corresponds to the ID of randomly selected female	1.6	1.1

The Household Questionnaire was almost entirely pre-coded, thus reducing errors involved in the coding process. Also, the decentralized data entry system allowed for immediate follow-up on inconsistencies that were detected by the data entry program. Household and personal identification codes were recorded in each section, facilitating merging data across sections.

A comparison of the distribution of household size in the 1988 Côte d'Ivoire Census with the 1988 CILSS showed a strong similarity. Grootaert (1992) provides a brief assessment of the CILSS data quality. "...Quality control during CILSS data collection and data entry were extraordinary in comparison with usual survey practice (see Ainsworth and Munoz, 1986; Grootaert, 1986; Daho, 1992). The many analyses undertaken with the data have shown a high degree of internal consistency in the data. ... Selected demographic variables from the survey have been compared with the Côte d'Ivoire Fertility Survey and were found to be consistent (Ainsworth, 1989). Farming information in the CILSS was evaluated against other sources and found to be quite good (Deaton and Benjamin, 1988). The pattern of household expenditure observed for Côte d'Ivoire as a whole is entirely consistent with the pattern of macroevolution recorded in the national accounts and in other macro data. Both the upturn in 1986 and the decline in 1987-88 are picked up by the CILSS data. In summary, we feel confident that the CILSS data are a valid data source to explore the evolution of welfare and poverty..." (p.36)

Another assessment of CILSS data quality, "The CILSS: A Preliminary Assessment of Data Quality" by James Daniel and Lionel Demery, examines some demographic variables from the household roster and finds that errors as a percentage of total observations are very small and that data consistency improved over time. The paper also examined consistency among the panel households from one year to the next and found that, while the gender variable had a very low error rate (1%), the error rate for age was a higher 10.7%. (If the difference in reported ages was more than one year, allowing for the fact that panel households were interviewed one year apart, that was defined as an error). However, since many people in rural areas of Africa do not know their age with accuracy, and age reporting involves some degree of guesswork, this finding is probably not reflective of any underlying data problems.

Detailed assessments of the quality of CILSS Community and Price Surveys are not available.

Number of Observations Available in Various CILSS Datasets

Household Survey. 1600 households were to be surveyed each year. Except for 1985, the electronic data files contain 1600 households each. The 1985 files contain 1588 households.

Community Survey. The Community Questionnaire was supposed to be administered in all rural clusters each year. Community Survey data are not available for urban clusters, although health and education data for urban areas are available through separate data sets (the 1987 CILSS Health Facility Survey, the Health Facility Data Set, and the School Facility Data Set) that are described in Chapter V on "Other Related Datasets".

Table XII. Clusters for Which Community Data are Available.

Year	Number of Rural Clusters	Number of Clusters for which Community Data are available	Clusters for which Community data are available
1985	57	53	All rural clusters except for 80, 92, 93, 96
1986	57	57	All rural clusters
1987	51	47	48, 49, 51, 55, 56, 58, 59, 61-63, 65, 66, 71, 74, 75, 79, 82, 83, 85, 88, 91-95, 98, 129-147, 149, 150
1988	54	29	132, 138, 139, 140, 141, 143-150, 171, 174, 177, 179, 184-190, 192-194, 197, 199, 200

Community data are available for all, or almost all, rural clusters for each of the first three survey years (see Table XII). Availability of community survey data for 1988, however, is more limited; data are available for only 29 out of 54 rural clusters. The issue of missing Community Survey data for 1988 is mitigated, however, to the extent that Community Survey data from 1987 panel clusters can be used as a proxy (the exceptions are clusters 127 and 128). Community Survey data are available for 17 out of the 30 new rural clusters interviewed in 1988, so that we are left with only 13 clusters for which no Community Survey information is available.

Price Survey. The price questionnaire was to be completed in the market of most CILSS clusters, urban and rural, at the same time that households were being interviewed. During the first year, it was decided that the price questionnaire would not be administered in areas where the Direction de la Statistique was already collecting price data from the same items — notably in Abidjan and other major cities. Information from the Price Index unit was subsequently obtained and merged with the price questionnaire data for all other clusters, to construct the 1985 price data file. Price data are available for 86 of the 100 clusters during the first year (see Table XIII).

In the second year (1986), price questionnaires were again completed in all clusters except for those covered by the Price Index unit. However, the process of merging data from the Price Index unit never took place. Thus, in the second year the price data are missing for clusters in Abidjan and the major towns, a total of 29 clusters. During the third year (1987), recognizing the logistical problems in merging the data, the interviewers were instructed to complete a price questionnaire in all clusters, including those covered by the Price Index operation. The third year of price data is thus the most complete, with 90 percent of clusters reporting. Unfortunately, in the fourth year the price data were lost for all of the clusters.

Table XIII. Clusters for Which Price Survey Data are Missing.

Year	Number of Clusters for which price data are available	Clusters for which price data are missing
1985	86	22, 25, 29, 39, 61, 65, 80, 83, 84, 92, 93, 95, 96, 98
1986	71	1-21, 24, 30, 34, 35, 36, 37, 42, 90
1987	90	6, 10, 13, 24, 36, 49, 56, 75, 113, 150
1988	0	All

Health Facility Survey. At least one health facility questionnaire is available for all but seven clusters (92, 101, 105, 106, 129, 130, 133). Of the missing clusters, three are in Abidjan (101, 105, 106), in neighborhoods where facilities were visited for other clusters. There are also two clusters (129, 130) in departments where the facilities of the main administrative town were visited. For twenty-one clusters, information on more than one facility was obtained.

Missing Data due to Non-Applicability

Aside from the problem of missing households or community or price questionnaires, there are two major reasons for observing missing values within the household or community data sets: household membership and the pattern of skip instructions.

Household membership. There are more individuals in Section 1, the household roster, than there are in subsequent sections of the questionnaire. This is because the roster lists all household members as well as persons who were staying with the household at the time of the survey. Information was collected for an individual in subsequent sections of the household questionnaire only if he/she is a household member (section 1, question 14 = 1) and satisfies the age criterion for answering the specific section.

The skip pattern. The data files are exactly as entered in the field; questions that were skipped because of a skip instruction on a previous question will appear as missing values. Thus, for example, a person who never attended school will have a missing value recorded for the highest grade of schooling completed because the skip instruction to a previous question has him/her jump over the question on highest grade. However, if an analyst wanted to compute a variable on the number of years of schooling completed, this respondent who never attended school should clearly be assigned a value of zero, not missing. Thus, the analyst will often have to take into account the answers to a string of questions in computing a single variable.

It is also the case that if a household claimed not to have consumed a specific consumption item, then that item will not appear in the data file. That is, the food and non-food item expenditure codes were entered only if the household consumed the item. The presumption for households that do not have a file for a particular food item is that the item was not consumed.

Linking Between Different Sections of the Household Survey

Linking Households Across Sections. Each household in the Household Survey data sets has two associated variables, cluster number (CLUST) and household number (NH), that together uniquely identify each

household in the survey. The variable HID, or Household ID, found in all the data sets, is simply a combination of these two variables, defined as $CLUST*100 + NH$. A household can be linked across the various sections of the Household Survey, using the variable HID, or CLUST and NH used together.

Linking Individuals Across Sections. Individuals have been assigned a Personal Identification Code (PID) on the Household Roster. Each individual listed in the survey can be uniquely identified through a combination of their PID code and the HID code to which they belong. Merging individuals in a household across sections has to be done using HID and PID as the linking variables.

Linking the Household Survey with Other CILSS Surveys

Linking to the CILSS Community and Price Surveys. The cluster number is to be used as the linking variable in a merge across the household, community, and price surveys. Remember that community data are not available for urban clusters and that certain clusters are missing community and price data.

Linking to the 1987 Health Facility Survey Dataset. The linking variable is the cluster number. Up to five cluster numbers can be associated with each health facility recorded in this dataset. The health facility need not be located in any of the clusters, it may merely be the closest health facility available to the households living in each of the clusters noted.

Linking the CILSS Household Survey with Non-LSMS Datasets

9

Linking to the Health Facility Dataset from Administrative Sources. Households can be linked with a set of variables called CL1...CL9, in the Health Facility dataset from administrative sources. "Clx" represents the CILSS clusters that fall in the same urban commune as the facility, or, for rural areas, the cluster number of the rural cluster in which the facility is located. Up to 9 clusters can be linked to a single health facility.

Linking to the School Facility Datasets from Administrative Sources. Each of the datasets has a variable called NUMCLUST which represents the CILSS cluster number to which the data correspond.

Using Anthropometric Data from Section 16

Recall from the Chapter on Survey Organization and Fieldwork that the procedure for collecting anthropometric data was as follows. During Round 1, the anthropometrist recorded the height and weight of all household members. During Round 2, individuals whose height and weight measurements were flagged as outliers by the data entry program were re-measured. In addition, the data entry program randomly selected 20% of all individuals to be re-measured during the second round. The collection of weight and height data twice, in some cases, is accounted for in the data set for Section 16 in the following way: WTA and HTA are weight and height measurements collected in the first round and WTB and HTB are weight and height measurements collected in the second round.

Errors in Section 10A Data

Data in Sections 10A1 and 10A2 (i.e. the first two pages of the section on non-farm self employment) from the 1987 and 1988 CILSS Household Surveys, were entered in Washington, DC due to a problem in the data entry program in Côte d'Ivoire. Photocopies of Section 10A from the completed household questionnaires were sent from Côte d'Ivoire to the (then) Social Dimensions of Adjustment (SDA) Unit, Africa Region, of the World Bank. Unfortunately, in a few cases, the year of the survey was incorrectly copied on the photocopies of Section 10A (i.e. 1988 data were erroneously marked as 1987).

This mistake was first identified when clusters that were interviewed only in 1988 and not in 1987 (i.e. clusters higher than 150) were found in the 1987 data. This problem refers only to Sections 10A1 and 10A2. Table XIV reports the number of households and observations affected. Recall that a household is asked for information on up to 3 businesses and therefore, to the extent that households operate more than one business, the number of observations will be higher than the number of households.

Table XIV. Errors in Section 10A

Cluster Number	Number of Households erroneously classified	Number of Observations erroneously classified
162	12	27
163	6	10
176	1	1
200	5	7
	Total: 24	Total: 45

These errors have now been corrected in the datasets: all forty-five observations pertaining to the twenty-four households listed above were moved to the correct file. However, earlier versions of the same data would not contain these corrections.

Some doubt remains about whether some of the panel households (clusters 100-150) might have also been misclassified. Possible errors for these panel households are not easy to identify. Checking to see if a particular household found in Section 10A can be matched in Section 10B will not work since they are likely to have Sections 10A and 10B for both survey years. Checking the ID of the person who is best informed about the business (information is available in Section 10A) with relevant ID codes in Section 7 would have worked, theoretically, except that roughly 75% of the IDs for both years were found to be either "1" or "2".

Construction of Regional Price Indices

There are basically two sources of price data that will allow for the construction of a price index corresponding to the survey years. They are: (1) Price data from the CILSS Price Surveys; and (2) International Comparisons Project (ICP) price data from 1985. A third source of price data, i.e. the Consumer Price Index (CPI) data collected by the Côte d'Ivoire Direction de la Statistique, is useful in combination with the CILSS Price data, although limited by the fact that it contains prices from urban areas only.

The CILSS price data have been described in detail in Chapter II. The ICP price data and the CPI price data are described below.

ICP Price Data. The sampling frame for the 1985 ICP price survey was the same as that for the CILSS. However, the Primary Sampling Units (PSUs) selected for the ICP price collection are not necessarily the same as those selected for the CILSS Household Survey. Price data, collected at the level of each PSU, cover both urban and rural areas in all major regions of the country (East Forest, West Forest and Savannah). For reference and further detail, see Grootaert and Kanbur (1992).

The ICP price data set contains 20,902 prices for 971 products. It was possible to use 52 major categories (27 food and 25 non food categories) in the calculation of a regional price index using ICP price data. The 52 major categories are as follows:

Food Categories. Food and Beverages Consumed away from home; Rice; Maize (Cob, Grain or Flour), Millet, Fonio, Sorghum (Grain or Flour); Bread; Cassava; Macaroni; Cookies & Cake; Yam, Plantain (Raw or Flour); Taro, Sweet Potato, Potato; Oil Palm Nuts and Peanuts; Other Seeds; Fish and Shellfish; Chicken and other poultry; Beef and other domesticated meat, Chicken eggs; Palm Oil, Shea Butter and Refined Oil; Butter, Margarine; Fruit; Sugar and other sweeteners; Salt; Alcoholic Beverages; Non-alcoholic Beverages; Tomato Paste; Leafy and Other Vegetables; Milk and Powdered Milk.

Non-Food Categories. Cigarettes, Tobacco; Soap; Other Personal Care and Health Products; Home Maintenance Products; Charcoal; Wood; Other Fuel for Cooking, Lighting; Shoes; Clothing Fabric; Adult Clothing; Children's Clothing; Cars, Bikes & Bicycles; Vehicle Parts; Public Transport, taxis; Home Repair; Education expenses; pharmaceuticals; kitchen equipment; Furniture; Linen; Envelopes etc.; Telephone and Telegram; Jewelry and Watches; Entertainment (Newspapers, Novels etc); Other.

Each of these product categories was linked with a relevant expenditure category from the CILSS expenditure data in order to construct a Paasche regional price index (See Oh and Venkataraman 1992, pages 44-48 for further detail on how the indices were calculated). The ICP price data are not available for public use. However, regional price indices calculated from the ICP price data, are presented in the next section "Calculated Price Indices".

CPI Price Data. The Côte d'Ivoire Direction de la Statistique has collected price data to be used in the estimation of the Consumer Price Index in Abidjan and four main regional cities (smaller towns and rural areas were not included). Annual average prices for each of 31 (24 food and 7 non-food) commodities were gathered, including all of the commodities covered by the CILSS Price Survey. This information is available for all four years, although PRDPH is not in possession of CPI data for 1986, 1987 and 1988. Interested parties could obtain the data directly from the Côte d'Ivoire Institut National de la Statistique.

Issues involved in the construction of price indices. There are several issues involved in the use of price data from the sources mentioned above in the construction of regional price indices.

One benefit of using the CILSS price data is that they contain data matching three years of the household survey and vary across clusters (1985-87). The ICP price data were available for 1985 only and the price index was computed for only five regions. Grootaert and Kanbur (1992) found it possible to obtain reliable estimates of regional price variation for at least one year using the ICP data and then to apply inflation rates to this set of price indices to obtain a price index over time and space. Needless to say, the underlying assumption in this procedure is that the variation in prices over time is roughly equal in all regions over the three year period (1986-88) for which no ICP price data is available.

The CILSS price data has several missing values either because the cluster was missed or, more often, because a particular item could not be found in the market of a cluster. Missing values in the ICP price data are relatively few; where data for important items for all PSUs in a particular region are missing, values were imputed based on reasonable assumptions (for example, the Urban Savannah price was used for missing rural Savannah price in cases of non food items that would possibly not have been available in rural Savannah, in any case).

The ICP price data collected by the Direction de la Statistique clearly contain far more items than the CILSS Price Survey. While the number of food items for which CILSS price data are available is

sufficient, the small number (four) of non-food items for which price data are available during the first two survey years may be a limitation. The number of items for which price data was collected was increased in 1987, with an emphasis on non-food items.

Another issue involved in the use of CILSS Price data is that, for 1986, it requires the supplementation of data from the CPI Price collection effort for urban areas. Moreover, the CILSS price data are missing for 1988.

Calculated Price Indices

In using the 1985 CILSS price data, Glewwe (1990) found wide variation in the prices of non-food items, with the amount of variation at times being as high as 5 times the amount, from one area to another. This led to the suspicion that differences in quality of the product may be the underlying cause of the price variation. Instead of using prices of non-food items from the CILSS Price Survey, Glewwe (1990, p.43) decided to use a proxy item from the list of food items covered in the CILSS Price Survey. The item chosen was canned tomato paste on the grounds that it was found throughout the country and would reflect the variation in price of non-food items that was due to transportation costs.

Using the Tornqvist price index formula, Glewwe's calculations yielded the following price index (Table XV).

Table XV. Regional Tornqvist Price Index for Côte d'Ivoire, 1985

	All Expenditures	Food Expenditures
Abidjan	110.5	124.7
Other Urban	97.4	97.3
East Forest	94.0	89.8
West Forest	90.0	80.8
Savannah	94.0	81.5

Grootaert and Kanbur (1992) obtained the following price indices, using the ICP price data and inflation rates (Table XVI):

Table XVI. Regional Price Index, 1985-88

	1985	1986	1987	1988
Abidjan	100.0	100.00	100.00	100.00
Other Cities	92.84	93.62	91.49	92.57
East Forest	87.01	87.01	88.12	86.58
West Forest	78.25	74.66	75.64	72.42
Savanna	75.97	80.12	81.86	81.88

The temporal price index values are equivalent to the inflation rate or CPI. These are presented in Table XVII.

Table XVII. CPI, 1985-88

	1985	1986	1987	1988
CPI	100.00	107.30	107.75	115.31

Source: IMF, International Financial Statistics

The combined price index is derived by multiplying the regional price indices with the appropriate CPI value. Application of these indices, would, in principle, allow for the comparison of income and expenditure values, taking into account price differences over time and space (Table XVIII).

Table XVIII. Combined Price Index

	1985	1986	1987	1988
Abidjan	100.00	107.30	107.75	115.31
Other Cities	92.84	100.45	98.58	106.74
East Forest	87.01	93.36	94.95	99.84
West Forest	78.25	80.11	81.50	83.51
Savannah	75.97	85.97	88.20	94.42

Corrective Weights

Three different sets of weights have been calculated to correct for the following biases in the CILSS Household Survey:

- The over-representation of richer and under-representation of poorer PSUs and households in Abidjan for Block 1 data (corrected by the Abidjan weights).⁹
- Over-representation of urban households for Block 2 data (corrected by the regional weights)¹⁰
- Correction for the fact that larger-sized dwellings were over-sampled in Block 1 data, as discussed in the earlier chapter on Sampling (corrected by the household size weights).

Recall that "Block 1" refers to data from households surveyed in 1985, 1986 and panel households in 1987 brought over from 1986. "Block 2" refers to the remaining household data surveyed in 1987 and 1988. A fourth weight that adjusts the probability that a household was selected within a PSU for the actual number of households or population found during the listing operation, could not be calculated (see Chapter III).

9. The Abidjan weights were calculated by Christopher Scott, consultant.

10. The regional and household size weights are an output of the research project "Poverty and the Social Dimensions of Structural Adjustment in Côte d'Ivoire, 1985-88 — A Policy Oriented Analysis" (RPO 675-26).

Each of the corrective weights is applied to one or the other of the two blocks but never uniformly across all the data encompassing all four years. These weights are important for computing nationally representative statistics, but may not be necessary for multivariate analysis.

THE ABIDJAN WEIGHTS

Using data available from other (non-CILSS) sources, the Côte d'Ivoire Direction de la Statistique and the Atelier d'Urbanisme d'Abidjan examined the distribution of Abidjan households by housing type, i.e. delux houses, apartments, compounds and slums. Comparing this with the types of housing found in clusters selected for the CILSS Block 1 data from Abidjan, it became clear that the CILSS Abidjan sample was distorted at the extremes, in favor of wealthy and against poor households (Scott, 1986). The 3% richest were represented by 10% in the CILSS sample (over-representation); while the 16% poorest were represented by 4.7% in the CILSS Abidjan sample (under-representation). The so-called Abidjan weights were designed to adjust for this distortion in Block 1 data.

Table XIX. Corrective Weights for Abidjan, 1985

Type of Housing	Cluster No.	Household Number	1985 Weights
Residentiel	7,8	All Households	0.329
Economique	1	31,61	0.895
	6, 13-17	All Households	
Spontané	12	All Households	4.182
Evolutif	1	All households except 31 and 61	0.899
	2-5,	All Households	
	9-11,	All Households	
	18-21	All Households	

Note: Definition of housing types

Residentiel: villas, deluxe houses

Economique: modern type apartments

Evolutif: similar to traditional village compounds but set in city blocks

Spontané: Slums, squatter areas

Table XX. Corrective Weights for Abidjan, 1986 and Panel 1986-87

Type of Housing	Cluster No.	Household Number	1986 and Panel 1986-87 weights
Residentiel	7,8	All Households	0.371
Economique	1	31	0.840
	6, 13-17	All Households	
Spontané	12	All Households	4.498
Evolutif	1	All households except 31	0.894
	2-5, 9-11, 18-21	All Households	

THE REGIONAL WEIGHTS

Comparison of results from the 1988 Population Census with the CILSS showed that the Block 2 data had over-sampled the population in urban areas. Given the distribution of households by region from the Population Census, it was possible to construct corrective regional weights for Block 2 data, as follows. Since the selection error corresponding to these weights occurred at the level of region, the regional weights are to be applied based on the household's region of residence. The numerator reflects the "correct" proportion obtained from the 1988 Census, while the denominator reflects the regional distribution found in the CILSS.

Table XXI. Computing Regional Weights for Block 2 Data

	Abidjan	Other Cities	Rural
Percent of households in each region, derived from the 1988 Population Census results	18	21	61
Distribution of households, by region, CILSS 1988	19	27	54
Distribution of households, by region, for second-half of CILSS 1987	11	16	23
Regional Weights: 1988	18/19	21/27	61/54
Second-half of 1987 (i.e. 1987-88 panel)	18/22	21/32	61/46

Block 1 data could also probably benefit from the application of the regional weights. The distribution of households by region for Block 1 data, by year, was as follows (Table XXII):

Table XXII. Computing Regional Weights for Block 1 Data

	Abidjan	Other Cities	Rural
Percent of households in each region, CILSS 1985	21.2	21.7	57.1
Distribution of households, by region, CILSS 1986	21.1	22.0	56.9
Distribution of households, by region, for first-half of CILSS 1987 (cluster # <=100)	22.0	24.0	54.0

Regional Weights:			
1985	18/21.2	21/21.7	61/57.1
1986	18/21.1	21/22	61/56.9
1987	18/22	21/24	61/54

These regional weights for Block 1 data are not available in the corrective weights data set.

THE HOUSEHOLD SIZE WEIGHTS

The motivation for household size weights was laid out in Chapter III on Sampling. When all four years of the survey data became available, it was noted that the national average household size dropped from 7.96 in 1985 to 7.66 in 1986; 6.79 in 1987 to 6.15 in 1988 (these figures are weighted with the Abidjan weights). Demery and Grootaert (1993) investigated this issue in great detail and concluded that, although there are other probable explanatory factors including evidence of a drop in household size due to demographic changes, the major contributing factor in the decline of household size statistics over the survey years was the change in the sampling procedures, and more particularly, the listing procedures for Block 2 data. Their proposed solution was to re-weight Block 1 data in accordance with the household size distribution found for Block 2 data. The main rationale for giving greater credence to Block 2 data was that this data was not subject to the bias in Block 1 listing procedures that caused larger households to be selected. Moreover, the household size distribution found in Block 2 data corresponded closely with that found in the 1988 Ivoirian Census.

The motivation to correct for the over-enumeration of large households is very clear. However, why 'household size' was the variable chosen to correct for the bias remains to be explained. In fact, several variables could have been used to correct for the bias — the number of doors in the dwelling, the size of the dwelling and household size are three most obvious variables which would logically address the issue of oversampling larger-sized dwellings/households in Block 1 data. However, the size of the dwelling is a variable that is subject to inconsistencies in the data since some dwellings were measured on the inside wall, while others were measured on the outside wall (in some cases, enumerators were not given permission by the household to measure on the inside). Given a choice between the remaining two variables, household size became the more favorable candidate since it is an important variable in welfare analysis. (This issue is discussed in Demery and Grootaert 1993, p.271.)

There is no guarantee that household size weights will adequately compensate for distortions (arising from the sampling bias) in other variables such as household expenditure, age of the household head, etc. Is it reasonable to assume that the distortion caused by sampling bias in the "household

expenditure" variable will be equivalent to the distortion in the household size variable? It is unreasonable to expect the household size weights to address the full range of distortions that may exist due to the sampling bias in Block 1 data. Indeed, it would be impossible to find a single perfect variable that would do this. Using household size weighting factors would at least partially correct for the possible distortions arising from sampling bias in Block 1 data, which may be preferable to not addressing the issue at all.

The importance of the household size weights lies in their application to procedures that calculate summary statistics such as percentages, averages and standard deviations; however, weighting may be unnecessary in other procedures such as multivariate analysis.

Methodology. Household size groups were computed for Block 1 and Block 2 data, by region. All households in a particular region, having a size of 1 were placed in Size Group 1, households with a size of two were placed in Size Group 2 and so on until Size Group 17. Size Group 18 contains all households within the region in question, with a household size of 18 or more. The frequency distribution of Size Group was obtained for Block 1 and Block 2 data. (Block 1 households in Abidjan were weighted with the Abidjan weights and Block 2 data were weighted with the Regional weights). In each region and for a particular Size Group, household size weights were then calculated by dividing the percentage of Block 2 households in that Size Group, by the percentage of Block 1 households in the same Size Group.

The Household Size weights are to be applied to all Block 1 households; the weights differ, of course, by region and by size group. The weights are listed in Annex H.

ALLWAITN — THE THREE WEIGHTS COMBINED AND NORMALIZED

In order to facilitate the use of the weights, the three weights have been combined into one single normalized weight, designed to be usable both for regional and national level analysis.

Normalization of weights was achieved by multiplying each weight by an appropriate normalization factor. The normalization factor is equal to $N/(\text{sum of weights})$; where N = the number of observations over which the normalization exercise is to take place. (If weights are to be normalized over a particular region, then N should equal the number of observations in that region whereas, if weights are to be normalized over the whole sample then N should equal the total number of households in the entire sample). The main outcome of this exercise is that it allows the degrees of freedom in the region/sample to remain the same as that found in the unweighted data. Normalization of weights also ensures that the statistics measuring dispersion, i.e. variance and standard deviation, remain unbiased.

The manner in which the variable ALLWAITN was created, is as follows. First, the Abidjan weights and the household size weights were multiplied together, and then normalized by region. (Where neither of these weights apply, as in the Block 2 data, the default value of the weight is 1). The resulting variable is called CSSIZWTN. Since the regional weights are self-normalized over the entire sample of 1600 households no further manipulations would have been needed. However, in order to create a single weight variable that could be used more conveniently at the analytic stage, CSSIZWTN was multiplied with the regional weights (again, the default value of the weight is equal to 1 if its application is not relevant to that Block of data) and normalized over the entire sample of 1600 households to yield the final variable ALLWAITN. The contents of the datasets containing the corrective weights is documented in the next chapter on "Constructed Data Sets".

VII. Constructed Datasets

Three sets of constructed data are available for public use: corrective weights, income and expenditure aggregates and panel data sets.¹¹ Dataset names are listed in Annex B. This chapter documents the contents and structure of these constructed data sets.

Contents of the CILSS Corrective Weights Dataset

The motivation for the construction of corrective weights was thoroughly described in the previous chapter. The following is a description of the contents of the Corrective Weights data set.

Variable Name	Description
CSWAIT	Abidjan Weights
CSWAITN	Normalized Abidjan Weights
PSUWAITN	Regional Weights
SIZWAIT	Household Size Weights
SIZWAITN	Normalized Household Size Weights
CSSIZWT	Combination of Abidjan Weights with Household Size Weights
CSSIZWTN	Normalized combination of the Abidjan Weights with the Household Size Weights
ALLWAIT	All three weights combined
ALLWAITN	The three weights combined and normalized

Income and Expenditure Aggregates

The survey data contain all necessary information for the construction of a complete set of current accounts for each household. Since income and expenditure data are available in great detail throughout the questionnaire permitting the calculation of detailed income and expenditure aggregates, this enables, theoretically, the derivation of savings as a residual. The theoretical framework for the construction of the set of current accounts for each household, is thoroughly described in Johnson, McKay and Round (1990).

Given the complexity and detail involved in the different income and expenditure modules, it is possible to build household income and expenditure aggregates in different ways, each of which are legitimate but which may provide considerably different results. Thus, various researchers have constructed their own Income and Expenditure Aggregates using CILSS data. However, only one set of researchers constructed a complete set of income and expenditure aggregates for all four years of the CILSS (85-88), along with their sub-aggregate components, namely the research project "Poverty and the Social Dimensions of Structural Adjustment in Côte d'Ivoire" (RPO 675-26). Oh and Venkataraman (1992) document in detail all of those income and expenditure aggregates and sub-aggregates.¹² The documentation includes data set names, documentation of procedures used to 'clean' the data, clear the data

11. All three sets of data are outputs of the RPO 675-26 project. The income and expenditure aggregates were constructed by Andrew McKay, Martin Johnson and Jeffery Round as part of the same project.

12. However, if a particular variable was not used by the project, it will not necessarily be found in the Oh and Venkataraman document.

of outliers (including information on the percentage of observations classified as outliers), and the summation procedures used to build up variables in the questionnaire into sub-aggregate level variables and finally into aggregates. Since this set of aggregates is also the only one which is accompanied by documentation, it is the only dataset of aggregates formally available for public use. However, users should be cautioned that these data are cleared of outliers and therefore, researchers who want the presence of outliers in their data in the belief that they are meaningful, may not find this set of aggregates suitable.

This section documents the derivation of the "broad" income and expenditure aggregates (i.e. sub-aggregates are not included). A hedonic equation was used to impute rent for owner occupied dwellings and that the use value of durable goods was calculated using a depreciation schedule, given the age of the durable good and assuming a relevant life expectancy for each good.

The tables in Annex I document the derivation of the aggregates from specific questions in the CILSS Household Survey Questionnaire. The following account describes the broad aggregates used to construct total income and expenditure aggregates (see Annex B for dataset names).

Total Household Income = Wage Income + Farm Income — Depreciation of Farm Equipment + Non-Farm Income + Non-Farm Capital Asset Depreciation + Rental Income + Income from Scholarships + Income from Remittances + Other Income.

Total Household Expenditure = Food Expenditure + Consumption of Home-Produced Food + Consumption of Home-Produced Non-Food Products + Other Expenditures + Paid Remittances + Wage Income in Kind

The income and expenditure aggregate datasets include the following variables: ¹³

- | | |
|-----------------------------------------|----------------------------------------------------|
| 1. Total Household Income | 2. Total Household Expenditure |
| 1.1 Wage Income | 2.1 Food Expenditure |
| 1.2 Farm Income | 2.2 Consumption of Home-Produced Food |
| 1.3 Depreciation of Farm Equipment | 2.3 Consumption of Home-produced Non-Food Products |
| 1.4 Non-Farm Income | 2.4 Other Expenditures |
| 1.5 Non-Farm Capital Asset Depreciation | 2.5 Paid Remittances |
| 1.6 Rental Income | 2.6 Wage Income in Kind |
| 1.7 Income from Scholarships | |

Number of Households for which Income and Expenditure Aggregate Data is Available

	1985	1986	1987	1988
Total HHEXP	1588	1600	1600	1600
Total HHINC	1573	1591	1579	1588

13. In the documentation presented in Annex I, the numbering of aggregate and sub-aggregate level variables complies with a hierarchical structure; e.g. (1) would be the number corresponding to a highest level aggregate (i.e. Total Income or Total Expenditure); (1.1) would correspond to the first component variable of the highest level aggregate; (1.1.1) would pertain to the first component of the variable represented by 1.1) ... and so on.

Annex A. How to Obtain the CILSS Data

Researchers must obtain permission from the government of Côte d'Ivoire in order to use the data. Please direct requests to:

Monsieur K. Guessan-Bi
Directeur
Institut national de la statistique
B. P. V55
Abidjan, Côte d'Ivoire
tel: (225) 21.44.01

Requests should include a description of the intended research. Once permission is obtained, you may request ordering information by contacting the LSMS Surveys Unit (PRDPH) at the World Bank via E-mail at LSMS@WORLDBANK.ORG. A nominal fee is charged for each dataset.

Annex B. Data Sets Available

1. Household Survey Data 1985-88
2. Community Data & Summary Data sets from the Community Survey
3. Price Data
4. 1987 Health facility Data
5. Health Facility Data from Administrative Sources (1985-88)
6. School Facility Data from Administrative Sources (1985-88)
7. CENSUS data linked to the CILSS Clusters
8. Income and Expenditure Aggregates (1985-88)
9. Corrective Weights (1985-88)
10. Rainfall Data
11. Panel Households (1985-88)

Naming Conventions for Data files

All CILSS data files are available in each of three formats: SSP (SAS Transport files); DTA (STATA files) and DAT (ASCII files). The second part of the filename reflects the type of data format (SSP, DTA or DAT) that the data are stored in. Note that the year of the survey is not reflected in the file name of the Household Survey files. For example, F00A.SSP is a SAS transport file that contains data from Section 0A of the Household Survey data set. If the file was found in a diskette containing 1986 data (and labelled as such) then the user knows that this is the year that the data pertain to. Filenames of other data sets usually do contain information on the year of the survey. For example, PRICE85.DTA is a STATA file containing 1985 price data.

The school data from administrative sources and rainfall data are also available in the three formats. However, the health facility data from administrative sources and the Census data linked to CILSS clusters are stored in LOTUS files.

The CILSS household data files logically correspond to each section (or sub-section) of the household questionnaire (see table on next page). No data manipulations have been performed on any of these data files; they are "raw" data.

1. Filenames of CILSS Household Survey Files 1985-88

	1985	1986	1987	1988
Section 0	F00A F00B F00C	F00A F00B F00C	F00A F00B F00C	SEC00A SEC00B SEC00C
Section 1: Household Roster	F01A F01B	F01A F01B	F01A F01B	SEC01A SEC01B
Section 2: Housing	F02A F02BN	F02 F02A F02B1 F02B2	F02A F02B	SEC02A SEC02B
Section 3: Education	F03A1 F03A2 F03B	F03A1 F03A2 F03B	F03A1 F03A2 F03B	SEC03A1 SEC03A2 SEC03B
Section 4: Health	F04	F04	F04	SEC04
Section 5: Employment	F05A F05B1 F05B2 F05B3 F05B4 F05C1 F05C2 F05D F05E1 F05E2 F05E3 F05E4 F05F F05G1 F05G2 F05H	F05A F05B1 F05B2 F05B3 F05B4 F05C1 F05C2 F05D F05E1 F05E2 F05E3 F05E4 F05F F05G1 F05G2 F05H	F05A F05B1 F05B2 F05B3 F05B4 F05C1 F05C2 F05D F05E1 F05E2 F05E3 F05E4 F05F F05G1 F05G2 F05H	SEC05A SEC05B1 SEC05B2 SEC05B3 SEC05B4 SEC05C1 SEC05C2 SEC05D SEC05E1 SEC05E2 SEC05E3 SEC05E4 SEC05F SEC05G1 SEC05G2 SEC05H
Section 6: Migration	F06	F06	F06	SEC06
Section 7: ID of Round 2 Respondents	F07	F07	F07	SEC07
Section 8: Housing Characteristics	F08	F08	F08	SEC08

	1985	1986	1987	1988
Section 9: Agriculture	F09A1 F09A2 F09B F09C F09D1A F09D1B F09D1C F09D2A F09D2B F09D2C F09D3A F09D3B F09D4A F09D4B F09D4C F09D5 F09E F09F F09G F09H F09I F09J F09K	F09A1 F09A2 F09B F09C F09D1A F09D1B F09D1C F09D2A F09D2B F09D2C F09D3A F09D3B F09D4A F09D4B F09D4C F09D5 F09E F09F F09G F09H F09I F09J F09K	F09A1 F09A2 F09B F09C F09D1A F09D1B F09D1C F09D2A F09D2B F09D2C F09D3A F09D3B F09D4A F09D4B F09D4C F09D5 F09E F09F F09G F09H F09I F09J F09K	SEC09A1 SEC09A2 SEC09B SEC09C SEC09D1A SEC09D1B SEC09D1C SEC09D2A SEC09D2B SEC09D2C SEC09D3A SEC09D3B SEC09D4A SEC09D4B SEC09D4C SEC09D5 SEC09E SEC09F SEC09G SEC09H SEC09I SEC09J SEC09K
Section 10: Non-Farm Self-Employment	F10A F10B F10C	F10A F10B F10C	F10A F10B F10C	SEC10A SEC10B SEC10C
Section 11: Expenditures and Inventory of Durable Goods	F11A F11B F11C F11D	F11A F11B F11C F11D	F11A F11B F11C F11D	SEC11A SEC11B SEC11C SEC11D
Section 12: Food Expenses and Consumption of Home Production	F12A F12B	F12A F12B	F12A F12B	SEC12A SEC12B
Section 13: Fertility	F13A F13B F13C	F13A F13B F13C	F13A F13B F13C	SEC13A SEC13B SEC13C
Section 14: Other Income	F14A F14B	F14A F14B	F14A F14B	SEC14A SEC14B
Section 15: Savings	F15A F15B F15C	F15A F15B F15C	F15A F15B F15C	SEC15A SEC15B SEC15C
Section 16: Anthropometrics	F16	F16 F16A F16B	F16A F16B	SEC16A SEC16B
Section 17: ID of Panel Households		F17	F17	SEC17

2. Filenames of CILSS Community Survey Files 1985-88

Comm85.xxx Comm86.xxx Comm87.xxx Comm88.xxx (where xxx could be SSP, DTA or DAT)

3. Filenames of Summary data Sets Extracted from the Community Survey

CMEDUC87.wk1: 1987, Education data, pertaining to Clusters 48-150

CMEDUC88.wk1: 1988, Education data, pertaining to Clusters 132-200

1) Name and Number of Cluster, 2) Name of Nearest Primary School, 3) Location (of nearest primary school), 4) Distance in kms, 5) Type of School (Public/Private), 6) Number of Classes, 7) Year built, 8) Name of nearest secondary school; variables 9 — 13 contain the same type of information as variables 3 — 7, but, for secondary schools.

CMHLTH87.wk1: 1987, Health data, pertaining to Clusters 48-150

CMHLTH88.wk1: 1988, Health data, pertaining to Clusters 132-200

1) Name and Number of Cluster; 2) For each of the following health services: Doctor, Nurse, Pharmacist, Trained Mid-wife, Other Mid-wife, Traditional Birth Attendant, Healer, Hospital, Dispensary, maternity and PMI; Name of nearest place where the medical service is available (if the service is available within the cluster itself, then this variable is the cluster's own name); 3) for each of the medical services listed above, distance to the nearest place where it can be obtained (in parentheses).

4. Filenames of CILSS Price Survey Files 1985-87

Price85.xxx Price86.xxx Price87.xxx

(Recall that no CILSS price data are available for 1988)

5. HFAC.xxx : 1987 CILSS Health Survey

6. HLTHADM.WK1 : Health Facility Data from Administrative Sources

7. Filenames of School data from Administrative Sources

Primary.xxx : Primary School data

Second.xxx : Secondary School data

Inspect.xxx : Primary School Inspectorate data

8. Census Data linked to the CILSS clusters

This data is stored in a set of LOTUS files. Each dataset is called Tablen.wk1, where n goes from 1 to 15 in correspondence with each of the tables mentioned in Chapter 5.

9. Filenames of Income & Expenditure Aggregate Files

INCOME	EXPENDITURE
HHINC85.xxx	HHEXP85.xxx
HHINC86.xxx	HHEXP86.xxx
HHINC87.xxx	HHEXP87.xxx
HHINC88.xxx	HHEXP88.xxx

10. Corrective Weights Dataset

WEIGHT85.xxx, WEIGHT86.xxx, WEIGHT87.xxx, WEIGHT88.xxx

11. Rainfall data

COTERAIN.xxx

Annex C. List of Related Documents

The following documents can be obtained from the World Bank, Policy Research Department , Poverty and Human Resources Division (PRDPH). In addition, manuals for interviewers, supervisors , anthropometrists and data entry operators are in both English and French. The 1985 manuals were used for all four years. However, an addendum to the interviewer and supervisor manuals was prepared (i n French) in 1986.

CILSS QUESTIONNAIRES AVAILABLE

	1985	1986	1987	1988
Household Questionnaire	English & French	French	French	French
Price Questionnaire			French	
Community (Village) Questionnaire	English & French	French	French	
CILSS Health Facility Survey (1987) Questionnaire	NA	NA	French	NA

Note: NA — not applicable.

OTHER DOCUMENTS

Ainsworth, M. and J. Munoz. 1986. The Côte d'Ivoire Living Standards Survey: Design and Implementation. Living Standards Measurement Study Working Paper No. 26. World Bank , Washington, D.C.

Daho, B. 1991. "Note Concernant l'Enquête P ermanente Auprès Des Ménages". Poverty and Social Policy Division, Africa Technical Department, World Bank, Washington, DC.

Daho, B. 1992. "La Qualité des Données de l'E nquête Permanente Auprès Des Ménages de Côte d'Ivoire". Poverty and Social Policy Division, World Bank, Washington, D.C.

Grootaert, Christiaan. 1986. Measuring and Analyzing Levels of Living in Developing Countries: An Annotated Questionnaire. Living Standards Measurement Study Working Paper No. 24. Worl d Bank, Washington D.C. [Appendix 1 of the Annotated Questionnaire has an English translation of the 1985 Community Questionnaire].

Oh, G.T. and M. Venkataraman. 1992. "Construction of Analytic Variables and Data Sets Using Data From the Côte d'Ivoire Living Standards Survey 1985-88". [This is the documentation of the Income and Expenditure Aggregates]

République de Côte d'Ivoire. 1986. Enquête permanente auprès des ménages: résultats définitifs, année d'enquête 1985. Ministère du Plan, Direction de la Statistique. Novembre.

République de Côte d'Ivoire. 19 86. Enquête permanente auprès des ménages: résultats provisoires, année d'enquête 1985. Ministère de l'Economie et des Finances, Direction de la Statistique. Juillet.

Annex D. List of Reports and Papers that Use CILSS Data

Author(s)	Date	Title	Publisher
Ainsworth, Martha	1989	Socioeconomic Determinants of Fertility in Côte d'Ivoire	World Bank, LSMS Working Paper No. 53; also in Yale University Economic Growth Center Discussion Paper 557
Ainsworth, Martha	1989	The Demand for Children in Côte d'Ivoire: Economic Aspects of Fertility and Child Fostering	Yale University, PhD dissertation
Ainsworth, Martha	1992	Economic Aspects of Child Fostering in Côte d'Ivoire	World Bank, LSMS Working Paper No. 92
Ainsworth, Martha and Munoz, Juan	1986	The Côte d'Ivoire Living Standards Survey: Design and Implementation (English-French)	World Bank, LSMS Working Paper No. 26
Alessie, Rob; Baker, Paul; Blundell, Richard; Heady, Christopher; and Meghir, Costas	1992	The Working Behavior of Young People in Rural Côte d'Ivoire and Ghana	The World Bank Economic Review, 6(1):139-54
Benefo, Kofi and Schultz, T. Paul	1994	Determinants of Fertility and Child Mortality in Côte d'Ivoire and Ghana	World Bank, LSMS Working Paper No. 103
Budd, John W.	1993	Changing Food Prices and Rural Welfare: A Non-Parametric Examination of the Côte d'Ivoire	Economic Development and Cultural Change, 41(April 1993):587-603
Butcher, Kristin	1993	Household Size, Changes in Household Size, and Household Responses to Economic Conditions: Evidence from Côte d'Ivoire	PhD dissertation (chapter 3)
Coulombe, Harold and Demery, Lionel	1993	Household Size in Côte d'Ivoire: Sampling Bias in the CILSS	World Bank, LSMS Working Paper No. 97
Cox, Donald and Jimenez, Emmanuel		A Study of Motivation for Private Transfers in Côte d'Ivoire	
Daho, Bakary	1991	Note Concernant l'Enquête Permanents Auprès des Ménages	World Bank, Poverty and Social Policy Division, Africa Technical Department
de Vreyer, Philippe	1993	Une Analyse Econometrique de la Demande d'Education en Côte d'Ivoire	Revue d'Economie du Developpement, 1(3):49-79

Annex D continued

Author(s)	Date	Title	Publisher
Deaton, Angus	1987	Quality, Quantity, and Spatial Variation of Price	World Bank, LSMS Working Paper No. 30; also in American Economic Review, 78:(June 1988)418-30
Deaton, Angus	1987	The Allocation of Goods within the Household: Adults, Children and Gender	World Bank, LSMS Working Paper No. 39
Deaton, Angus	1989	Looking for Boy-Girl Discrimination in Household Expenditure Data	World Bank Economic Review, 3(January):1-15
Deaton, Angus	1990	On Risk, Insurance, and Intra-Village Consumption Smoothing	Oxford University Press
Deaton, Angus	1992	Household Saving in LDCs: Credit Markets, Insurance, and Welfare	Scandinavian Journal of Economics, 94(2):253-73
Deaton, Angus	1992	Savings and Income Smoothing in the Côte d'Ivoire	Journal of African Economies, 1(1):1-24
Deaton, Angus	1992	Understanding Consumption	Topics in the Economics of Aging, D. Wise, ed., Chicago, University of Chicago Press, pp. 163-206
Deaton, Angus and Benjamin, Dwayne	1988	The Living Standards Survey and Price Policy Reform: A Study of Cocoa and Coffee Production in Côte d'Ivoire	World Bank, LSMS Working Paper No. 44; also World Bank Economic Review, 7(June):293-318
Deaton, Angus and Paxson, Christina	1992	Patterns of Aging in Thailand and Côte d'Ivoire	World Bank Economic Review, Proceedings of the World Bank Annual Conference on Development Economics, 1989) pp. 61-96.
Demery, Lionel and Grootaert, Christiaan	1993	Correcting for Sampling Bias in the Measurement of Welfare and Poverty in the Côte d'Ivoire Living Standards Survey	World Bank Economic Review, 7(September):263-92
Dor, Avi and van der Gaag, Jacques	1987	The Demand for Medical Care in Developing Countries: Quantity Rationing in Rural Côte d'Ivoire	World Bank, LSMS Working Paper No. 35
Dow, William	1994	Unconditional Demand for Curative Health Inputs: Does Selection on Health Status Matter?	

Annex D continued

Author(s)	Date	Title	Publisher
Glewwe, Paul	1987	The Distribution of Welfare in the Republic of Côte d'Ivoire (English and French)	World Bank, LSMS Working Paper No. 29
Glewwe, Paul	1990	Investigating the Determinants of Household Welfare in Côte d'Ivoire	World Bank, LSMS Working Paper No. 71; also in Journal of Development Economics, 35(April 1991):307-37
Glewwe, Paul	1992	Targeting Assistance to the Poor: Efficient Allocation of Transfers When Household Income is Not Observed	Journal of Development Economics, 38(April):297-321
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Haddad, Lawrence and Hoddinott, John	1994	Household Resource Allocation in the Côte d'Ivoire: Inferences from Expenditure Data	chapter in Poverty and Rural Development, T.A. Lloyd and W.O. Morrissey, eds., New York: St. Martin's Press.
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Annex D continued

Author(s)	Date	Title	Publisher
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Kakwani, Nanak	1990	Large Sample Distribution of Several Inequality Measures with Application to Côte d'Ivoire	Contributions to Econometric Theory and Application, R.A.L. Carter, J. Dutta, and A. Ullah, Springer-Verlag, New York
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Annex D continued

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Strauss, John	1988	The Effects of Household and Community Characteristics on the Nutrition of Preschool Children: Evidence from Rural Côte d'Ivoire	World Bank, LSMS Working Paper No. 40
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Annex D continued

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Van der Gaag, Jacques and Vijverberg, Wim	1989	Wage Determinants in Côte d'Ivoire	World Bank, LSMS Working Paper No. 33; also in Economic Development and Cultural Change, 37(January):371-92
Vijverberg, Wim	1986	Cost Sharing and Net/Gross Revenue Reporting by Non-Agricultural Enterprises in the Côte d'Ivoire Living Standards Survey	World Bank, Living Standards Division
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Vijverberg, Wim	1988	Profits from Self-Employment: A Case Study of Côte d'Ivoire	World Bank, LSMS Working Paper No. 43; and in World Development, 19(6):683-96
Vijverberg, Wim	1992	Educational Investments and Returns for Women and Men in Côte d'Ivoire	presented at the Conference on Women's Human Capital and Development, May 18-22, 1992, Bellagio, Italy
Vijverberg, Wim and Van der Gaag, Jacques	1990 and 1991	Testing for Labor Market Duality: The Private Wage Sector in Côte d'Ivoire	World Bank, LSMS Working Paper No. 66; and in Southern Economic Journal, 58(2):406-22

Annex E. Codes Not Printed in the Questionnaires

Departments and Countries: Codes for Household Questionnaires, Section 1, Part A, Question 10; and for Section 6, Question 8

Code	Departments and Countries	Code	Departments and Countries
01	Abengourou	23	Korogho
02	Abidjan	24	Lakota
03	Aboisso	25	Man
04	Adzope	26	Mankono
05	Agboville	27	Odienne
06	Biankouma	28	Oume
07	Bondoukou	29	Sassandra
08	Bongouanou	30	Seguela
09	Bouafle	31	Soubre
10	Bouake	32	Tingrela
11	Bouna	33	Touba
12	Boundiali	34	Zuenoula
13	Dabakala	35	Yamoussoukro
14	Daloa	36	BURKINA FASO
15	Danane	37	MALI
16	Dimbokro	38	GUINEA
17	Divo	39	GHANA
18	Ferkessedougou	40	SENEGAL
19	Gagnoa	41	LIBERIA
20	Guiglo	42	OTHER AFRICAN COUNTRY
21	Issia	43	OTHER
22	Katiola		

Occupation and Industry Codes

Code	French	English
Occupation: Codes for Section 5, Parts B,C,E,G, Question 1; and Question 2		
01	Cultivateur	Farmer
02	Jardinier	Planter
03	Eleveur, berger	Livestock farmer, shepherd
04	Pêcheur	Fisherman
05	Vendeur ambulant	Peddler
06	Tablier (poste fixe et avec un équipement rudimentaire)	Stallholder (stationary, with simple equipment)
07	Petit commerçant (petite boutique rudimentaire de quelques m ²)	Small shopkeeper (simple shop of a few square meters)
08	Commerçant	Trader
09	Vendeur, courtier, démarcheur	Salesman, middleman, agent
10	Magasinier	Warehouseman
11	Acheteur pour un commerçant	Buyer for a trader
12	Gérant	Manager
13	Ouvrier	Skilled worker
14	Manoeuvre	Unskilled worker
15	Contremaître, chef d'équipe, chef d'atelier, chef de chantier	Foreman, crew chief, workshop head, site supervisor
16	Bûcheron, forestier	Woodcutter, forester
17	Mineur, creuser, terrassier, puisatier	Miner, digger, well-digger
18	Chaudronnier, ferblantier, ferrailleur, forgeron	Boilermaker, tinsmith, scrap metal worker, blacksmith
19	Soudeur, plombier, tôlier, serrurier	Welder, plumber, sheet metal worker, locksmith
20	Menuisier, tapissier, charpentier, ébéniste, scieur	Joiner, upholsterer, carpenter, cabinet maker, sawer
21	Tailleur, couturier	Tailor, dressmaker
22	Mécanicien, ajusteur, tourneur, polisseur, fraiseur, garagiste, réparateur auto	Mechanic, fitter, lathe operator, polisher, grinder, service station owner, auto mechanic
23	Réparateurs, Dépanneurs	Repairer
24	Maçon, carreleur, bétonnière, briquetier, tailleur de pierre	Mason, tiler, cement worker, bricklayer, stonemason

Code	French	English
25	Electricien, électromécanicien, électricien auto, etc.	Electrician, electric motor repairer, auto electrical mechanic
26	Peintre, vernisseur, décorateur, teinturier	Painter, varnisher, decorator
27	Vitrier	Glazier
28	Coiffeur, esthéticienne, manucure	Hairdresser, beautician, manicurist
29	Cordonnier, travailleur de cuir	Shoemaker, leather worker
30	Boulangier, pâtissier	Baker, pastry cook
31	Boucher, charcutier, poissonnier	Butcher, cooked meat seller, fishmonger
32	Fabricant de charbon de bois	Charcoal maker
33	Tisserand	Weaver
34	Potière	Potter
35	Bijoutier	Jeweller
36	Photographe	Photographer
37	Domestique, balayeur	Domestic worker, houseboy
38	Blanchisseur, presseur	Laundryman, presser
39	Cuisinier, serveur, garçon de café ou de restaurant	Cook, waiter, cafe or restaurant worker
40	Gardien, surveillant, bonne d'enfants	Caretaker, watchman, children's nurse
41	Médecin, chirurgien, dentiste, anesthésiste	Doctor, surgeon, dentist, anaesthetist
42	Infirmier, sage femme, matrone, accoucheuse traditionnelle	Nurse, trained midwife, practical midwife
43	Fille ou garçon de salle	Ward attendant, male or female
44	Préparateur en pharmacie, laborantin, pharmacien	Pharmacist's assistant, laboratory worker, pharmacist
45	Avocat, greffier, juge, magistrat	Lawyer, court officer, judge magistrate
46	Journaliste, reporter, animateur radio	Journalist, reporter, radio anchorman
47	Professeur, enseignant dans le secondaire ou à la faculté	Teacher in a secondary school or university
48	Instituteur, moniteur	Primary school teacher, teacher's aide
49	Directeur, proviseur	School principal, primary and secondary school
50	Puériculture, jardinière d'enfants	Pediatrician, nursery school supervisor
51	Elève stagiaire qui perçoit un salaire	Paid trainee
52	Technicien, architecte	Technician, architect

Code	French	English
53	Chauffeur de taxi, autobus	Taxi driver, bus driver
54	Chauffeur de camion, de grutier	Truck driver, logging vehicle driver
55	Conducteur d'engins, de train, de pinasse	Heavy equipment operator, train driver, motorboat operator
56	Marin	Seaman
57	Pilote, hôtesse de l'air	Pilot, air hostess
58	Machiniste, opérateur	Machinist, mechanical equipment operator
59	Transporteur	Vehicle carrier operator
60	Dessinateur, cartographe, topographe, géomètre	Draftsman, cartographer, topographer, surveyor
61	Planton, huissier, concierge	Messenger, usher, doorkeeper
62	Administrateur, cadre supérieur, inspecteur directeur de service, PDG	Administrator, executive, inspector, department head, managing director
63	Comptable, aide-comptable	Accountant, assistant accountant
64	Caissier	Cashier
65	Ingénieur	Engineer
66	Secrétaire, dactylo, téléphoniste, hôtesse d'accueil	Secretary, stenographer, telex machine operator, office equipment operator
67	Standardiste, téléphoniste, hôtesse d'accueil	Telephone switchboard operator, telephonist, receptionist
68	Scientifique, informaticien, programmeur	Scientist, computer operator, programmer
69	Religieux, guérisseur, marabout	Cleric, healer, marabout
70	Militaire, policier, gendarme, garde national, pompier, douanier	Soldier, detective, policeman, fireman, customs officer
71	Artiste, acteur, musicien, danseur	Artist, actor, musician, dancer
72	Autre travail technique ou professionnel	Other technical or professional activity
73	Autre travail	Other occupation

Code	French	English
Industry: Codes for Section 5, Parts B, C, E, G, Question 2; Part F, Question 3; and Section 7, Question 4		
01	Production agricole: cultures vivrières et d'exportation	Agricultural production: food and export crops
02	L'élevage	Livestock farming
03	Exploitation forestière et sylviculture	Logging and forestry
04	Pêche et chasse	Fishing and hunting
05	Extraction de minerais et minéraux	Mining
06	Fabrication et transformation de produits alimentaires (travail des grains et farines; boulangerie; pâtisserie; conservation d'aliments, fabrication des boissons et glaces; huileries; autres industries alimentaires)	Manufacture and processing of food products (grain and flour milling; bread and pastry making; canning foodstuffs, manufacture of beverages and ice cream; edible oil production; other food industries)
07	Industries de textiles et de l'habillement (égrenage du coton, filature, tissage, teinturerie, impression; corderie, ficellerie, fabrication d'articles d'habillement et d'autres articles textiles)	Textile and clothing industries (cotton ginning, spinning, weaving, dyeing, printing; rope and twine manufacture, manufacture of articles, clothing, and other textile goods)
08	Industrie de cuir et des articles chaussants (y compris en plastique)	Leather and footwear industry (including plastic footwear)
09	Industrie du bois (sciage, tranchage, déroulage, placage, fabrication de panneaux, menuiserie, fabrication de meubles et autres choses en bois, fabrication d'articles en papier et carton, imprimeries, éditions)	Wood industry (sawing, slicing, peeling, veneering, manufacture of particle and fiber board, carpentry, manufacture of furniture and other articles in wood, manufacture of paper and cardboard goods, printing and publishing)
10	Industrie chimique (fabrication d'engrais, pesticides, insecticides, peintures, vernis, laques, cosmétiques, parfums, produits de beauté et de toilette, produits pharmaceutiques, produits en plastique autres que les chaussures, etc.)	Chemical industry (manufacture of fertilizers, pesticides, insecticides, paint, varnish, lacquer, cosmetics, perfume, beauty, and toilet products, pharmaceutical products, plastic products other than shoes, etc.)
11	Production d'articles en caoutchouc	Production of natural rubber and rubber goods (not including cultivation of rubber trees)
12	Transformation et travail des métaux (première transformation des métaux, fabrication d'ouvrages simples en métaux, construction de machines à l'exclusion des machines électriques, fabrication de menuiseries métalliques et de charpentes métalliques)	Processing and working metal (primary metal processing, manufacture of simple metal goods, construction of machines other than electrical machines, manufacture of construction metalwork)
13	Fabrication et réparation des produits électriques	Manufacture and repair of electrical goods
14	Energie électrique, gaz, eau	Electric power, gas, water

Code	French	English
15	Bâtiment et construction (production de matériaux de construction, tels que des carrelages, dalles, briques, produits en ciment; construction de routes; forages; adduction de l'eau; maçonnerie; installation de lignes électriques; plomberie; pose d'installation électriques telles que la climatisation, l'ascenseur, et le téléphone; travaux de peinture et de vitrerie; réparation et entretien général du bâtiment)	Building and construction (production of building materials, such as tiles, paving-stone, bricks, cement products; road construction; drilling; water supply works; masonry work; installation of electric power lines; plumbing; electrical installations such as air conditioning, elevators and telephones; painting and glazing; general building repair and maintenance)
16	Transport et communication (transports ferroviaires; transports routiers de marchandises et de voyageurs; taxis; transports maritimes ou lagunaires; transports aériens; agences de compagnies aériennes; agences de voyages; location de véhicules automobiles; postes et télécommunications)	Transport and communications (rail transport; road transport of goods and passengers; taxis; maritime and lagoon shipping; air transport; airline agencies; travel agencies; automobile rental; postal and telecommunications services)
17	L'hôtellerie et la restauration	Hotel and restaurants
18	Services techniques (ingénieur, architecte, services informatiques et mécanographiques, instituts de recherches, etc)	Technical and professional services (engineer, architect, computer and electrical accounting services, research institutes, etc.)
19	Services financiers et d'assurance (banques; compagnies d'assurances; établissements financiers; sociétés et promoteurs immobiliers; holdings; sociétés de capitaux; comptables)	Financial and insurance services (banks; insurance companies; financial institutions; real estate companies and developers; holding companies; investment companies; accountants)
20	L'enseignement (primaire, secondaire, supérieure, technique, auto-école)	Teaching (primary and secondary, university, technical, driving school)
21	Services médicaux (médecine, santé publique, dentistes, vétérinaires, laboratoires, guérison traditionnel)	Medical services (doctors, public health services, dentist, veterinarians, medical laboratories, traditional healers)
22	Récréation et loisirs (cinéma, piscine, marina, centres hippiques, autres centres sportifs)	Recreation and leisure (cinemas, swimming pools, marinas, racecourses, other sports centers)
23	Services personnels (blanchisseries, pressings, salons de coiffure, salons de soins esthétiques, domestiques)	Personal services (laundries, drycleaners, hairdressing and beauty salons, domestic servants, prostitutes)
24	Commerce général (non-spécialisé)	General trade (not specialized)
25	Commerce spécialisé dans l'exportation (exportation de gomme arabique, exportation de cuir, autres exportations)	Export trade (export of coffee and cocoa, wood export, other exports)
26	Commerce d'alimentation	Foodstuffs trade
27	Commerce d'habillement, boubous, malehfes, pagnes, tissus, ou chaussures	Clothing trade, pagnes, fabrics, footwear

Code	French	English
28	Administration publique (sans caractère industriel ni commercial ni technique)	Public administration (not concerned with industrial, commercial, or technical activities)
29	Autre industrie	Other industry
30	Autre service	Other service activity
31	Autre commerce	Other trade

Annex F. Additional Sections of the Household Questionnaires

Cote d'Ivoire Living Standards Survey 1986-88

SECTION 16: Anthropometrics

Translation of Section 16

Cluster:

Household: Roster:

Head of Household:

Address:

Part A: Anthropometry — Round One

1. Sex

MALE...1

FEMALE...2

PREGNANT FEMALE...3

BREASTFEEDING FEMALE...4

PERSON NOT MEASURED...5

2. Date of Measurement

DAY MONTH YEAR

3. Weight

GRAMS

4. Height

MILLIMETERS

If the person has not been measured, give the reason:

AT WORK...1

AT SCHOOL...2

SICKNESS OR PERMANENT DISABILITY...3

SICKNESS OR TEMPORARY DISABILITY...4

WAS TRAVELLING...5

OTHER...6

Interviewer:

Observations:

Data-entry operator:

Date entered:

Name of Household Member

SECTION 17: Household roster from the

previous year

Translation of Section 17

Code from previous year

Name and descriptive information (M or F, age)

1. Is ..[NAME].. on the household roster this year?

YES...1 NO...2 (>3)

2. Copy the new ID code of ..[NAME].. for this year --> next person

3. Why is ..[NAME].. no longer in the household?

DIED...1 (>7)

MOVED...2

OTHER...3 (>7)

4. Why did ..[NAME].. move?

OWN WORK OR FAMILY'S WORK...1

MARRIAGE.....2

SCHOOLING.....3

OTHER.....4

5. Did he/she leave ..[NAME OF PLACE OF INTERVIEW]...?

YES...1 NO....2 (>7)

6. The place where..[NAME]..has moved, is it..

a city?.....1

a large town?.....2

a large village?...3

a small village?...4

a hamlet/campment?...5

other?.....6

7. When did the move (or death) occur?

MONTH: _____

YEAR: _____

Annex G. The Nearest Schools and Health Facilities to Rural Clusters, 1985-88

Annex G is not available on this web version. If you would like a copy of this annex, please contact us at our E-mail address (LSMS@WORLD BANK.ORG).

Annex H. Household Size Weights

WEIGHTS FOR ABIDJAN

	Percent of Block 1 households (1)	Percent of Block 2 households (2)	Household Size Weight (2) / (1)
Household Size: 1	11.4159	11.1144	0.97359
Household Size: 2	7.8969	6.9079	0.87476
Household Size: 3	8.0458	8.5128	1.05804
Household Size: 4	6.5688	11.4035	1.73600
Household Size: 5	10.4073	13.1878	1.26717
Household Size: 6	11.9835	10.2472	0.85511
Household Size: 7	8.3376	10.3270	1.23860
Household Size: 8	6.7984	6.7185	0.98824
Household Size: 9	8.1710	5.6220	0.68805
Household Size: 10	4.8717	5.7815	1.18675
Household Size: 11	2.3523	4.3361	1.84335
Household Size: 12	2.9287	1.0367	0.35398
Household Size: 13	3.0888	1.2560	0.40662
Household Size: 14	2.1440	1.1962	0.55793
Household Size: 15	1.4052	0.4087	0.29085
Household Size: 16	0.3097	1.0965	3.54060
Household Size: 17	1.1361	0.2193	0.19303
Household Size: 18+	2.1383	0.6280	0.29369

WEIGHTS FOR OTHER CITIES

	Percent of Block 1 households (1)	Percent of Block 2 households (2)	Household Size Weight (2) / (1)
Household Size: 1	5.4054	11.0291	2.04039
Household Size: 2	5.8559	8.3623	1.42802
Household Size: 3	7.6577	7.8752	1.02841
Household Size: 4	6.9820	10.8507	1.55410
Household Size: 5	6.6441	10.3877	1.56344
Household Size: 6	8.7838	11.9792	1.36378
Household Size: 7	9.5721	6.6069	0.69022
Household Size: 8	8.8964	8.3140	0.93454
Household Size: 9	7.5450	5.5604	0.73696
Household Size: 10	5.1802	3.7471	0.72335
Household Size: 11	4.0541	3.7712	0.93023
Household Size: 12	3.6036	2.3245	0.64504
Household Size: 13	3.6036	2.6331	0.73063
Household Size: 14	2.9279	2.0882	0.71319
Household Size: 15	3.1532	1.2683	0.40224
Household Size: 16	3.0405	0.7475	0.24584
Household Size: 17	0.7883	0.3086	0.39153
Household Size: 18+	6.3063	2.1460	0.34030

WEIGHTS FOR EAST FOREST

	Percent of Block 1 households (1)	Percent of Block 2 households (2)	Household Size Weight (2) / (1)
Household Size: 1	3.8589	6.6106	1.71308
Household Size: 2	4.8512	7.8495	1.61806
Household Size: 3	7.3870	9.6616	1.30792
Household Size: 4	9.4818	10.0407	1.05894
Household Size: 5	8.4895	11.8251	1.39290
Household Size: 6	9.9228	11.9360	1.20289
Household Size: 7	8.4895	7.9512	0.93659
Household Size: 8	8.2690	8.8757	1.07337
Household Size: 9	7.0562	6.2777	0.88967
Household Size: 10	5.2922	4.7245	0.89273
Household Size: 11	4.7409	3.7629	0.79372
Household Size: 12	3.6384	2.2744	0.62512
Household Size: 13	4.4101	2.4871	0.56394
Household Size: 14	2.9768	0.6379	0.21430
Household Size: 15	1.7641	1.4238	0.80713
Household Size: 16	2.6461	1.1372	0.42977
Household Size: 17	2.0948	0.6379	0.30453
Household Size: 18+	4.6307	1.8861	0.40731

WEIGHTS FOR WEST FOREST

	Percent of Block 1 households (1)	Percent of Block 2 households (2)	Household Size Weight (2) / (1)
Household Size: 1	2.5000	5.2995	2.11979
Household Size: 2	6.0714	9.5964	1.58058
Household Size: 3	6.0714	12.7474	2.09957
Household Size: 4	11.0714	14.2448	1.28663
Household Size: 5	9.1071	9.3490	1.02655
Household Size: 6	10.5357	16.0547	1.52383
Household Size: 7	8.3929	8.5026	1.01308
Household Size: 8	8.9286	5.0521	0.56583
Household Size: 9	10.0000	5.5469	0.55469
Household Size: 10	7.3214	3.8021	0.51931
Household Size: 11	5.7143	3.0469	0.53320
Household Size: 12	2.6786	1.4063	0.52500
Household Size: 13	2.3214	2.7995	1.20593
Household Size: 14	1.0714	1.0026	0.93576
Household Size: 15	1.7857	0.6510	0.36458
Household Size: 16	1.4286	0.2995	0.20964
Household Size: 17	1.0714	0.2995	0.27951
Household Size: 18+	3.9286	0.2995	0.07623

WEIGHTS FOR SAVANNA

	Percent of Block 1 households (1)	Percent of Block 2 households (2)	Household Size Weight (2) / (1)
Household Size: 1	5.4847	8.9728	1.63597
Household Size: 2	5.6122	10.9707	1.95477
Household Size: 3	9.1837	11.1386	1.21287
Household Size: 4	8.6735	11.6513	1.34333
Household Size: 5	11.4796	10.1574	0.88482
Household Size: 6	10.4592	8.0799	0.77252
Household Size: 7	7.3980	6.8600	0.92728
Household Size: 8	6.6327	6.3119	0.95164
Household Size: 9	7.1429	4.5173	0.63243
Household Size: 10	6.3776	4.8621	0.76238
Household Size: 11	4.4643	3.6687	0.82178
Household Size: 12	3.1888	2.1040	0.65980
Household Size: 13	3.4439	1.3260	0.38504
Household Size: 14	2.9337	1.9714	0.67198
Household Size: 15	2.1684	1.9360	0.89284
Household Size: 16	1.0204	1.0873	1.06559
Household Size: 17	1.1480	1.0873	0.94719
Household Size: 18+	3.1888	3.2974	1.03406

Annex I. Derivation of Income and Consumption Variables from the CILSS Household Survey

Total Income and Expenditure are comprised of the following broad aggregates which are available in the data sets HHINC and HHEXP, the income and expenditure aggregate data sets specified in Annex B.

1. Total Income
 - 1.1 Wage Income (WGMY7)
 - 1.2 Farm Income (FARMY)
 - 1.3 Farm Equipment depreciation (FARMDEP)
 - 1.4 Non-farm income (NFYAVG)
 - 1.5 Non-farm capital asset depreciation (NFDEP)
 - 1.6 Rental Income (RENTY)
 - 1.7 Income from scholarships (SCHOLY3)
 - 1.8 Income from remittances (REMITY)
 - 1.9 Other Income (OTHERY)

2. Total Expenditure
 - 2.1 Average food expenses (FOODEAVG)
 - 2.2 Farm product home consumption (FARMHC)
 - 2.3 Non-food home consumption (NFHC)
 - 2.4 Other expenditures (OTHERE)
 - 2.5 Paid remittances (REMITE)
 - 2.6 Wage income in kind (WGKY7)

The following documentation of the evolution of questionnaire level variables into sub-aggregates and aggregates mentions several sub-aggregate variables that were used in the computation process. These variables are mentioned for illustration purposes only; they are not available in the HHINC and HHEXP datasets.

Sometimes a particular variable will be defined in exactly the same way as its "sub-component"; the only difference between them being that their names are different. [For example, LABEXP, i.e. expenditure on inputs for growing crops - labour, equals its "sub-component" variable XPLAB which is expenditure on labour (at household level).] This is merely a reflection of the way the data processing was handled and should not confuse the user.

(1.1) WAGE INCOME (WGMY7)

Components of Wage Income	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
<p>1.1.1) M7TOT Total Wage Income from primary job of past 7 days</p> <p>(Note: All sub components pertain to income derived from the main job; reference period is last 7 days).</p>	<p>1.1.1.1) M7CASH Employment Income in cash,main job</p>	<p>Q.5B10</p>
	<p>1.1.1.2) M7BONK Bonus Income not already included in 1.1.1.1</p>	<p>Q.5B21</p>
	<p>1.1.1.3) M7K Employment Income in food</p>	<p>Q.5B23</p>
	<p>1.1.1.4) M7H Employment income paid as subsidized housing</p>	<p>Q.5B25</p>
	<p>1.1.1.5) M7CL Employment Income as subsidized clothing</p>	<p>Q.5B27</p>
	<p>1.1.1.6) M7TR Employment Income as subsidized transport</p>	<p>Q.5B29</p>
	<p>1.1.1.7) M7OTH Employment Income paid in other forms</p>	<p>Q.5B31</p>
<p>1.1.2) S7TOT Wage Income from secondary job of past 7 days</p> <p>(Note: All sub components pertain to income derived from the secondary job; reference period is last 7 days)</p>	<p>1.1.2.1) S7CASH Employment Income in Cash</p>	<p>Q. 5C9</p>
	<p>1.1.2.2) S7K Employment Income in kind</p>	<p>Q. 5C16</p>

(1.2) FARM INCOME

$$\text{FARMY} = \text{CRPSINC} + \text{TRCRPINC} + \text{ANIMINC} + \text{NOSHHOME} - \text{TOTCRPXP} - \text{INPTRANS} - \text{INPREAR} - \text{SHAREXP}$$

Components of Farm Income, FARMY	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
1.2.1) CRPSINC Revenue from sale of crops; derived by summing 1.2.1.1 over all crops, per household	1.2.1.1) INCCRPS Revenue from sale of crops, at level of individual crop	Q.9B4, Q.9B5
1.2.2) TRCRPINC Revenue from sale of transformed crop products; derived by summing 1.2.2.1 over all products, per household	1.2.2.1) INCTRCRP Revenue from sale of transformed crops, for each individual crop	Q.9E3 Q.9E4 Q.9E5
1.2.3) ANIMINC Revenue from sale of animal products; derived by summing 1.2.3.1 over all products per household	1.2.3.1) INCANIM Revenue from sale of animal products; for each animal product	Q.9G3
1.2.4) NOSHHOME Consumption of home production; derived by aggregating 1.2.4.1, per household	1.2.4.1) HOMENOSH Consumption of home production, at the level of each individual item	Q.12B3 Q.12B4 Q.12B5
1.2.5) TOTCRPXP Total expenditure on inputs for growing crops, per household	Described on next page	see next page
1.2.6) INPTRANS Expenditure on inputs for transformed food products, per household	1.2.6.1) TRANSINP Exp. on inputs for transformed crop products, for each food product	Q.9E7
1.2.7) INPREAR expenditure on inputs for livestock rearing; derived by summing 1.2.7.1 over all products, per household	1.2.7.1) REARINP exp. on inputs for livestock rearing, at level of each item	Q.9I2
1.2.8) SHAREXP Amount derived from renting land at household level	1.2.8.1) SHARE Same as 1.2.8	Q. 9A20

1.2.5) Total expenditure on inputs for growing crops (TOTCRPXP)

This is the fifth component variable of FARMY.

$$\text{TOTCRPXP} = \text{SEEDSEXP} + \text{FERTEXP} + \text{MANUREXP} + \text{INSEXP} \\ + \text{TRANSEXP} + \text{SACKEXP} + \text{STOREXP} + \text{LABEXP} + \text{EXPOTH}$$

1.2.5.1) SEEDSEXP = (household level) expenditure on seeds. Derived by aggregating SEEDS over all crops; where SEEDS = expenditure on seeds (at level of each individual crop). Relevant CILSS Household Survey questions : Q.9D3

1.2.5.2) FERTEXP = (household level) expenditure on fertilizer. Derived by aggregating FERT over all crops. FERT = expenditure on fertilizer (at level of each individual crop). Relevant CILSS Household Survey Question: Q.9D9

1.2.5.3) MANUREXP = expenditure on manure. Derived by aggregating MANURE over all crops. MANURE = expenditure on organic manure (at level of each individual crop). Relevant CILSS Household Survey Question: Q.9D15

1.2.5.4) INSEXP = expenditure on insecticides and herbicides. Derived by aggregating INSECT over all crops. INSECT = expenditure on insecticides/herbicides (at level of each individual crop). Relevant CILSS Household Survey Question: Q.9D20

1.2.5.5) TRANSEXP = expenditure on inputs for crops - transport. Derived by aggregating TRANSPT over all crops. TRANSPT = expenditure on transporting crops (at level of each individual crop). Relevant CILSS Household Survey Question:Q.9D26

1.2.5.6) SACKEXP = expenditure on inputs for crops - sacks etc. Derived by aggregating SACKS over all crops. SACKS = expenditure on sacks/twine/containers (at level of each individual crop). Relevant CILSS Household Survey Question:Q.9D30

1.2.5.7) STOREXP = expenditure on storing crops and is derived by aggregating STORAGE over all crops. STORAGE = expenditure on storage (at level of each individual crop). Relevant CILSS Household Survey Question:Q.9D36

1.2.5.8) LABEXP = expenditure on inputs for growing crops - labour. LABEXP equals XPLAB which is expenditure on labour (at household level). Relevant CILSS Household Survey Question: Q.9D39

1.2.5.9) EXPOTH = expenditure on other inputs for growing crops. It equals OTHINPEX which is expenditure on other crop inputs (at household level). Relevant CILSS Household Survey Question: Q.9D41

1.3) Farm Equipment Depreciation (FARMDEP)

Components of FARMDEP	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
1.3.1) DEPNEQ ; derived by aggregating EQDEPN over all categories.	1.3.1.1)EQDEPN depreciation of farm equipment (at level of each individual item).	Q.9K4

1.4) Average Non-Farm Income: NFYAVG. NFYAVG is the average value of two different estimates [NFYDIR (a) and NFY5 (b)] of Household Non-Farm Income.

$$\text{NFYAVG} = (\text{NFYDIR} + \text{NFY5}) / 2$$

$$1.4a) \text{NFYDIR} = \text{PROFITNF} + \text{NFDOMINC}$$

$$1.4b) \text{NFY5} = \text{SENONF} + \text{NFDOMINC}$$

Components of NFYAVG	Sub-Components of Variables listed in Col. 1	Sub-Components of Variables listed in Col. 2	Relevant questions from the CILSS Household Survey
1.4A) NFYDIR	1.4A.1) PROFITNF money profit from non-farm enterprises (at the household level). Derived by aggregating the sum of two variables, (PRNFDOM + PRNFUND) over all firms run by the household	1.4A.1.1) PRNFDOM profit of non-farm enterprises used within household (at level of each enterprise).	Section 10A
		1.4A.1.2) PRNFUND retained profit of non-farm enterprises (at level of each enterprise).	Section 10A

Components of NFYAVG	Sub-Components of Variables listed in Col. 1	Sub-Components of Variables listed in Col. 2	Relevant questions from the CILSS Household Survey
	1.4A.2) NFDOMINC value of output of nonfarm enterprises consumed domestically (at the household level). This is derived by aggregating INCNFDOM over all enterprises.	1.4A.2.1) INCNFDOM value of output of non-farm enterprises consumed domestically (at level of each enterprise).	Q.10A23
1.4B) NFY5	1.4B.1) SENONF non-farm self-employment income. It is derived by aggregating the sum of [SE7CASH + SSE7CASH] for non-agricultural activities only, over all members of the household.	1.4b.1.1) SE7CASH self-employment income in cash, main job, past 7 days (at level of individual)	Q. 5B10
		1.4b.1.2) SSE7CASH self employment income in cash, secondary job past 7 days (at level of individual)	Q.5C9
	1.4B.2) NFDOMINC Same as 1.4A.2		

1.5) Non-Farm Capital Asset Depreciation (NFDEP)

Components of NFDEP	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
<p>1.5.1) DEPNASS</p> <p>DEPNASS is the depreciation of non-farm capital assets (at level of the household); derived by aggregating ASSDEPN over all enterprises and asset categories.</p>	<p>1.5.1.1) ASSDEPN</p> <p>ASSDEPN is the depreciation of non-farm capital assets (at level of each individual item).</p>	<p>Q10C2</p>

1.6) Rental Income (RENTY)

RENTY stands for 'rent and imputed rent'. It is formulated as follows:

IF MISCINC1 GT (LNDINC + LEASINC) THEN RENTY = MISCINC1 + RENTIMP

IF MISCINC1 EQ (LNDINC + LEASINC) THEN RENTY = MISCINC1 + RENTIMP

IF (LNDINC + LEASINC) GT MISCINC1 THEN RENTY = LNDINC + LEASINC + RENTIMP

Components of NFDEP	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
1.6.1) MISCINC1 income from leasing land/equipment/etc and is directly taken from INCMISC (category 413 only)	1.6.1.1) INCMISC miscellaneous income (at level of each type of miscellaneous income)	Q. 14A2
1.6.2) LNDINC income from renting out land; equals INCLND	1.6.2.1) INCLAND income for renting out land etc (at household level).	Q. 9A14
1.6.3) LEASINC household level income from leasing farm equipment ; derived by aggregating INCLEAS over all categories.	1.6.3.1) INCLEAS revenue from leasing farm equipment (at level of each individual item).	Q. 9K11
1.6.4) RENTIMP imputed rent of owner occupied dwellings ; directly taken from IMPRNT	1.6.4.1) IMPRNT imputed rent of owner-occupied dwellings (at household level).	Imputation based on hedonic rental equation

1.7) Scholarships (SCHOLY3) : Income from educational scholarships/grants

Components of SCHOLY3	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
1.7.1) SCHOL1 SCHOL1 is a household-level variable derived by aggregating SCHOL over all individuals.	1.7.1.1) SCHOL value of educational scholarship (at individual level)	Q3A20

1.8) Remittance Income (REMITY)

Components of REMITY	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
1.8.1) INCREM income from remittances (at level of each individual remittance); summed over all remittances to yield REMITY	None	Q14B6

1.9) Other Income (OTHERY)

Components of OTHERY	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
1.9.1) INCMISC miscellaneous income of the household (data stored at level of each type of income source) is summed over the following categories: 401, 402, 403, 404, 405, 406, 408, 412, 417; to yield OTHERY.	None	Q14A2

2. Total Household Expenditure (HHEXP)

Household expenditure is built from the following broad aggregates:

Total Expenditure

- 2.1 average food expenses (FOODEAVG)
- 2.2 farm product home consumption (FARMHC)
- 2.3 non-food home consumption (NFHC)
- 2.4 other expenditures (OTHERE)
- 2.5 paid remittances (REMITE)
- 2.6 wage income in kind (WGKY7)

2.1) Expenditure on Purchased Food (FOODEAVG)

FOODEAVG is the average of two different estimates of food expenditure. One estimate is based on the respondent's recall of expenditures over the last 14 days (FOODE2W) and the second estimate (FOODEAN) is based on a one year recall period.

$$\text{FOODEAVG} = (\text{FOODE2W} + \text{FOODEAN}) / 2$$

2.1a) FOODE2W = food expenses — first estimate, based on 2 week recall period.

$$\text{FOODE2W} = \text{FOODEXP1} + \text{EXPDAY (category 101 only)}$$

Components of FOODE2W	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
2.1a.1) FOODEXP1 food expenses - 1st estimate, based on a 2 week recall period (at household level); derived by aggregating NOSH1 over all categories.	2.1a.1.1) NOSH1 food expenses - 1st estimate (at level of each individual item); based on a 2 week recall period	Q12A2, Q12A3
2.1a.2) EXPDAY — expenditure on food consumed outside the home; EXPDAY equals DAYEXP ; category 101 only	2.1a.2.1) DAYEXP daily expenses (at level of each individual item) Category 101	Q11A2

2.1b) FOODEAN = 'food expenses — second estimate'; based on recall over the past 12 months.

$$\text{FOODEAN} = \text{FOODEXP2} + \text{EXPDAY (category 101 only)}$$

2.1b.1) FOODEXP2 is derived by aggregating NOSH2 over all categories. NOSH2 is 'food expenses — 2nd estimate (at level of each individual item).' NOSH2 is derived from questions 12A4 and 12A5 of the CILSS Household Survey Questionnaire (Section 12).

2.1b.2) EXPDAY is defined the same way as in 2.1a.2

2.3) Consumption of Home Produced Food (FARMHC)

Components of FARMHC	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
2.3.1) HOMENOSH Consumption of home production (at level of each individual item). Homenosh is summed over all categories to yield FARMHC	None	12B3, 12B4, 12B5

2.4) NFHC: Consumption of Home Produced Non-Food Items

Components of NFHC	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
2.4.1) INCNFDOM value of output of non-farm enterprises consumed domestically (at level of each enterprise). It is summed over all enterprises to yield NFHC for each household.	None	Q10A23

2.5) Other Expenditure (OTHER)

$$\text{OTHER} = \text{EXPHOUSE} + \text{HHUTILS} + \text{EXPEDUC} + \text{EXPYRDAY} + \text{VALUSE}$$

Components of OTHER	Sub-Components of Variables listed in Col. 1	Sub-Components of Variables listed in Col.2	Relevant questions from the CILSS Household Survey
2.5.1) EXPHOUSE	2.5.1.1 RENTM Rent paid in cash (household level variable)		Q2B4
	2.5.1.2 RENTGS Rent paid in goods and services (household level variable)		Q2B6
	2.5.1.3 RENTIMP Imputed rent of owner occupied dwellings (household level)	2.5.1.3.1 IMPRNT Same as RENTIMP	based on hedonic rental equation

Components of OTHERE	Sub-Components of Variables listed in Col. 1	Sub-Components of Variables listed in Col.2	Relevant questions from the CILSS Household Survey
	2.5.1.4 IMPRNTPA Imputed value of rent paid by relatives (household level variable)		based on hedonic rental equation
2.5.2) HHUTILS	2.5.2.1) WATB Annual water bill (at household level)		Q2B14,Q2B15
	2.5.2.2 ELECB Electric bill (at household level)		Q2B26,2B27
2.5.3) EXPEDUC expenditure on education (at household level). Derived by summing up EDUCEXP over all individuals.	2.5.3.1) EDUCEXP expenditure on education (at the level of the individual)		Q3A18
2.5.4) EXPYRDAY Daily and Annual Expenses	2.5.4.1) EXPDAY Daily Expenses; derived by summing DAYEXP over all categories except 101	2.5.4.1.1) DAYEXP Daily Expenses; at level of each individual item	Q11A2
	2.5.4.2) EXPYEAR Yearly Expenses; derived by summing YREXP2 over all categories except 122, 126, 127, 139, 143, and 145	2.5.4.2.1) YREXP2 Annual expenses; estimate based on 12 month recall period; at level of each individual item	Q11B4
2.5.5) VALUSE Use Value of All Durable Goods Owned by the Household; derived by aggregating USEVAL over all goods	2.5.5.1)USEVAL use value of durable goods (at level of each individual good)	None	Q.11C2, Q.11C3, Q.11C4

2.6) Remittances Paid Out (REMITE)

$$\text{REMITE} = \text{EXPREMS} + \text{LOSTCASH}$$

Components of REMITE	Sub-Components of Variables listed in Col. 1	Relevant questions from the CILSS Household Survey
2.6.1) EXPREMS expenditure on remittances, at the household level. Derived by aggregating REMITS over all remittances.	2.6.1.1) REMITS expenditure on remittances (at level of each individual remittance).	Q.11D6
2.6.2) LOSTCASH money lost; LOSTCASH equals YREXP2, category 145 only.	2.6.2.1) YREXP2 annual expenses; based on 12 month recall period (at level of each individual item)	Q.11B4

2.7) Wage Income In Kind (WGKY7)

WGKY7 is consumption of employment income received in-kind. It is derived by aggregating TOTKIND1 over all individuals in the household.

$$\text{TOTKIND1} = \text{M7KTOT} + \text{S7KTOT}$$













Components of TOTKIND1	Sub-Components of Variables Listed in Column 1	Relevant questions from the CILSS Household Survey
2.7.1) M7KTOT Consumption of employment income received in-kind; for main job; reference period is past 7 days	2.7.1.1) M7K Employment income in food	Q5B23
	2.7.1.2) M7H Employment income paid as subsidized housing	Q5B25
	2.7.1.3) M7CL Employment income paid as subsidized clothing	Q5B27
	2.7.1.4) M7TR Employment income paid as subsidized transport	Q5B29
	2.7.1.5) M70TH Employment income paid in other forms	Q5B31
2.7.2) S7KTOT Consumption of employment income received in-kind; for secondary job; reference period is last 7 days	2.7.2.1) S7K Employment income in-kind	Q5C16

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CÔTE D'IVOIRE LIVING STANDARDS SURVEY LOCATION OF PRIMARY SAMPLING UNITS

-  PRIMARY SAMPLING UNITS
-  PAVED ROADS
-  EARTH AND GRAVEL ROADS
-  RAILWAY
-  NATIONAL CAPITAL
-  DEPARTMENT CAPITALS
-  OTHER TOWNS
-  INTERNATIONAL AIRPORTS
-  OTHER AIRPORTS
-  PORTS
-  RIVERS
-  DEPARTMENT BOUNDARIES
-  INTERNATIONAL BOUNDARIES



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