

Republic of Ghana
Statistical Service

GHANA LIVING STANDARDS SURVEY

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ANTHROPOMETRIST'S INSTRUCTION
MANUAL

Sample Surveys Section
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ANTHROPOMETRIST'S INSTRUCTION MANUAL

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Definitions

1. **Anthropometry:** The technique that deals with the measurement of the height, weight and proportions of the human body. The anthropometric measurements described in this manual are height, either standing or lying down, and weight of adults and children.
2. **Anthropometrist:** The person who does the anthropometric measurements.
3. **Height:** Distance from the crown of the head to the bottom of the feet (heels) while a person is measured standing (for persons two years and older).
4. **Length:** Distance from the crown of the head to the bottom of the feet (heels) while a child is measured lying down (for children less than two years of age).
5. **Weight:** Weight of the entire body.
6. **Height Measuring Board:** A measuring board that can be used to measure standing height or length (lying down), graduated in 0.1 cm.
7. **Headpiece/Footpiece:** The part of the measuring board that moves and rests on the head for height, and against a child's feet for length.
8. **Hanging Scale:** A portable, lightweight and durable scale that can be hung from a tree, pole, etc. which is graduated in 0.1 kg. and used to weigh children less than six years of age.
9. **Weighing Pants:** The pants used to hold children one to six years of age for taking weight.
10. **Infant Sling:** A sling in which infants, i.e., children less than one year of age, are placed for taking weight.
11. **Floor Scale:** A scale which is placed on the ground or floor which is used to weigh persons six years of age and older. This scale is graduated in 0.5 kg.
12. **Standardization Test:** A test to evaluate competency of anthropometric measurements.
13. **Line of Sight:** The line from the hole in the ear to the bottom of the opening (i.e., orbit, the bone) of the eye. This line indicates the direction of the line of sight and position of the child's head during the height and length measurements.
14. **Assistant:** The person who assists the measurer by helping to hold a child in place during the height and length measurement procedures. In this survey, the supervisor or a household member can serve as the assistant.
15. **Supervisor:** The person who is the head of the team. The supervisor is in charge of the team's work, observes the anthropometrist's measurements, and serves as the assistant to the anthropometrist for child height and length, if necessary.

PART I: INTRODUCTION AND FIELD OPERATIONS

1. INTRODUCTION

1.1 THE GHANA HOUSEHOLD SURVEY PROGRAMME

As a result of a series of discussions with representatives of the United Nations Economic Commission for Africa and the World Bank, the Statistical Service set up the Ghana Household Survey Programme, whose long-term objectives are:

- a. To provide the Government of Ghana with the ability to monitor the effects of the Economic Recovery Programme on household living standards; and
- b. To establish a stock of household and community data capable of supporting in-depth research in a variety of important policy areas.

The Ghana Household Survey Programme is an initial five-year programme, the first component of which is the Ghana Living Standards Survey (GLSS). The GLSS takes a holistic view of the living conditions of elements that affect living conditions in one and the same survey. The other component of the Ghana Household Survey Programme will consist of a series of detailed in-depth surveys on key elements of living standards one year after another.

1.2 OBJECTIVES OF THE GHANA LIVING STANDARDS SURVEY

The principal objective of the GLSS is to make available basic data on the living standards of households on a continuous basis as well as changes in such living standards over time. The key elements of living standards measured by the survey are:

- a. Household income and expenditure
- b. Health and education
- c. Employment and other productive activities
- d. Demographic characteristics and migration
- e. Housing
- f. Nutritional Status

The information gathered is expected to improve planning of economic and social policies in Ghana and to assist in evaluating the impact of policies. It should enable decision-makers to:

- a. Identify target groups for government assistance.
- b. Construct models to simulate the impact, both overall and on individual groups, of the various policy options.
- c. Analyze the impact of decisions already made and of the current economic situation on living conditions of households.

The GLSS will thus meet the urgent needs of a number of users, including the Ministry of Finance and Economic Planning and other agencies.

1.3 METHODOLOGY OF THE SURVEY

To meet the objectives of the survey, it is proposed to survey 3200 households every year. The households were so selected as to provide a self-weighting sample of all non-diplomatic households living in Ghana by means of a two-stage design with a built-in procedure for replacement of non-responding households.

First, the country was divided into three Ecological Zones, Coastal, Forest and Savannah. The 13,000 enumeration areas (EA's) in these zones were stratified into urban, semi-urban and rural (1). Two hundred (200) of these enumeration areas or primary sampling units (PSU's) were selected with a probability proportional to household size. During the second stage, a cluster of 16 households was chosen from each PSU by a random design to serve as the survey sample.

In order to follow changes in the living standards of the same households while ensuring that the data collected would be kept permanently up to date, half of the sample will be retained each year, while the other half will be replaced with an equal number of households.

1

In the 1984 Ghana Population Census, an urban area was defined as a locality with a population size of 5000 or more inhabitants, while a semi-urban area was classified as any locality with a population size of 1500 or more but less than 5000 and a rural area as any locality with a population size of less than 1500.

Four types of questionnaires have been developed:

- a. A household questionnaire addressed to household members, to be completed in two rounds, with a two-week interval between.
- b. A community questionnaire dealing with the locality itself, aimed at identifying the economic infrastructure, education and health facilities existing in the villages.
- c. A price questionnaire for collecting prices of commodities in the local market.
- d. An anthropometric questionnaire for collecting information on the heights and weights of all members of the households.

The following precautions have been taken to ensure that the data are of high quality and are processed without delay:

- a. The questionnaires are pre-coded to eliminate the very slow and tedious coding process, which often is liable to various types of errors.
- b. Micro-computers will be installed in all data collection centres located in eight regional offices of the Statistical Service, in Accra, Kumasi, Sekondi-Takoradi, Koforidua, Sunyani, Ho, Cane Coast and Tamale to enter the data close to the place where they are collected.
- c. A software programme has been designed to check the data automatically to detect inconsistencies, so that any errors can be corrected when the interviewer visits the household for Round Two of the survey.
- d. Supervision will be close, with one supervisor for one anthropometrist, two interviewers and one data entry operator.

1.4 ORGANIZATION OF THE SURVEY

The GLSS will be conducted by a Project Directorate assisted by a staff of technical officers and ten data collection and entry teams based in eight regional offices of the Statistical Service. A micro-computer will be installed at each of the eight regional branch offices for immediate entry of data from all the questionnaires completed by each team. Two teams will be based in Accra and Kumasi, one urban team and one rural team. The decentralization of the data entry operation, which is the first time in the country's survey history, will thus mean increased efficiency in the data collection and data processing aspects of the survey.

The Project Directorate is composed of six members:

- a. The Deputy Government Statistician, who is the Project Director, and therefore, responsible for the administration of the survey and the implementation of its broad guidelines. He directs the work of the directorate, authorizes expenditures and makes the necessary contacts for the smooth running of the project. He is responsible for the conduct of the survey.
- b. The Deputy Project Director, who assists the Project Director in the conduct of the survey in the field. He keeps in touch with the survey teams, and sees to it by frequent visits to the field that the technical or other problems arise, he must be ready with prompt and appropriate solutions.
- c. Two Project Computer Specialists who are concerned with the design of the data entry software and the data processing programs. They are responsible for ensuring that the supervisors and data entry operators follow the instructions for running the programs and for the efficient use of the micro-computers.
- d. The Statisticians, whose task it is to assist the Deputy Projector. The Project Directorate is assisted by a staff of two technical officers (Statisticians) and a typist at the Head Office, and the collection and entry teams at the regional level.

Each of the ten data collection and entry teams consists of six members:

- a. A Supervisor, who is the team leader and responsible for overseeing, monitoring and where necessary, correcting the work of the two interviewers, the data entry operator and the anthropometrist. In addition, he is responsible for managing the team's equipment, vehicle and funds. He acts as the representative of the Project Directorate at the regional office.
- b. Two Interviewers, who must each conduct interviews with 160 households in the course of the year, while keeping to the set timetable.
- c. A Data Entry Operator, responsible for entering the collected data in the micro-computer.
- d. An Anthropometrist, responsible for taking the heights and weights of all members of the households.
- e. A Driver, whose duties are to drive the members of the team from the regional office to the place where the survey is being carried out.

1.5 THE ANTHROPOMETRIC COMPONENT

The objective of the anthropometric component of the survey is to evaluate the nutritional status of individuals. The persons performing this work are called "anthropometrists". The anthropometrists will measure the height and weight of all persons in the households surveyed.

The anthropometrists are also responsible for collecting price information in the markets of all of the communities where households are being interviewed.

2. THE ANTHROPOMETRIST'S TASKS

You play an important role in the survey. The quality of the data depends on the quality of measurements that you make. You must therefore be very careful to follow all the instructions contained in this manual.

2.1 MEASUREMENTS OF PERSONS IN ROUND ONE

During the first round of the survey, you will measure the height and weight of all persons in 16 selected households each week for each selected community. These households will be the same as those surveyed by the interviewers of the team to which you belong. You will be provided with two scales and a measuring board, for which you will be responsible. You will record the measurements in specific places on the questionnaire which you will submit to your supervisor.

2.2 MEASUREMENTS OF PERSONS IN ROUND TWO

During the second round of the survey you will measure persons who were not available during the first round. You will also measure members of selected households for a second time. A list will be provided by your supervisor for this purpose.

2.3 COLLECTION OF PRICE DATA IN THE LOCAL MARKET

During the second round of the survey, you will also collect the prices of certain food items and goods in the market of each community. You will ask the vendors the price of foods or goods which he sells. You will also weigh certain food items on a scale that will be provided and obtain a price for each item. You will record this information on a separate questionnaire form that will be provided.

2.4 SUPERVISION OF YOUR WORK

Your supervisor will assign you work at the beginning of each week of the survey. You must keep in constant touch with your supervisor and inform him of any problems with your work.

If you do not understand an instruction or a procedure, you should ask your supervisor for his advice. Your supervisor will observe the quality of your work in the field as follows:

a. He will examine in detail all the forms you have completed to make sure that you have done all the measurements correctly.

b. He will make random visits to some of the households where you have weighed and measured members to make sure that you went to the correct households.

c. He will observe your weighing and measuring techniques in the field.

d. He will inspect the condition of your anthropometric equipment.

e. Each day he will discuss your work with you. He will send regular reports to the Head Office on your work performance.

The supervisor will submit the anthropometric forms for evaluation using a microcomputer. A special programme will verify the measurements that you have recorded. The programme will detect errors you have made in recording the sex, age, weight or height of persons you have measured and detect persons you have not measured (i.e., omitted).

3. INTERVIEWING PROCEDURES

3.1 ARRIVAL IN THE COMMUNITY

The team will arrive in the community the day before the start of the survey. Accompanied by the two interviewers and the anthropometrist, the supervisor will visit the chief and other prominent community members to explain the purpose of the survey, introduce the members of the team and discuss the survey program for the week.

3.2 COORDINATION OF THE ANTHROPOMETRIC MEASUREMENTS WITH THE SURVEY INTERVIEWS

You must measure all the people in the household during or at the end of an interview, but not at the beginning. If you arrive at a household to weigh and measure persons while an interview is in progress, you must coordinate with the interviewer when it will be a good time to weigh and measure the persons in the households. You should not interrupt or interfere with the interviewer's work. Remember to be polite since you are guests in someone's home. Be sure to thank the household members for their cooperation.

3.3 COMPLETING THE ANTHROPOMETRIC FORM

During both rounds you must weigh and measure all the persons in the households that have been identified as "members of the household" by the interviewers. If one or more household members are not at home during your visit, make arrangements to revisit the household. Make sure that you have weighed and measured all persons from identified households before leaving the community.

a. Round One

During the first round you will record the measurements on the anthropometric form entitled, "SECTION 16A: ANTHROPOMETRICS--ROUND ONE." This form must be completed while the anthropometric interview is in progress. You must write the measurements carefully, immediately and directly on the form. Do not depend on your memory to record the information after leaving the household. Do not waste time.

b. Round Two

A list will be given to you by the supervisor which identifies the households you must visit during the second round. You will record the measurements on the anthropometric form entitled, "SECTION 16B: ANTHROPOMETRICS--ROUND TWO."

3.4 THE ANTHROPOMETRIST'S ASSISTANT

As part of each team, there will be a supervisor, two interviewers, a data entry operator and you, one anthropometrist. For the measurements of child height and length only, you will need an assistant to help hold the child in the correct position. Either a supervisor or an interviewer, in addition to their other duties, will be trained to be assistants.

If a supervisor or interviewer is not available to assist you, you must ask another household member, such as the mother, to serve as your assistant. If this occurs, you must briefly train this assistant (e.g., for only a few minutes just before the measurement) on how to hold the child's head during length and the feet and knees during the height measurement.

3.5 CONDUCT OF THE ANTHROPOMETRIST

You must observe the following rules:

- a. Be courteous to household members and team members. Remember, during the survey, you are representatives of the Statistical Service and the Government of Ghana.

b. Respect the privacy of persons you weigh and measure.

c. Be prompt for an appointment. Do not keep people waiting past an arranged time for weighing and measuring.

d. Be patient yet assertive when weighing and measuring persons. The anthropometric component is different from other parts of the survey in that you will be touching people and handling their children. Therefore, stress levels can be high. You must determine if a child or adult is under so much stress that the weighing and measuring must stop. Remember, young children are often uncooperative; they tend to cry, scream, kick and sometimes bite. This is normal. If someone is under severe stress, try to calm him/her before proceeding with the weighing and measuring.

e. Do not smoke while you are in a household.

PART II. HOW TO MEASURE WEIGHT AND HEIGHT

1. INSTRUMENTS FOR MEASURING WEIGHT AND HEIGHT

1.1 THE TYPES OF INSTRUMENTS

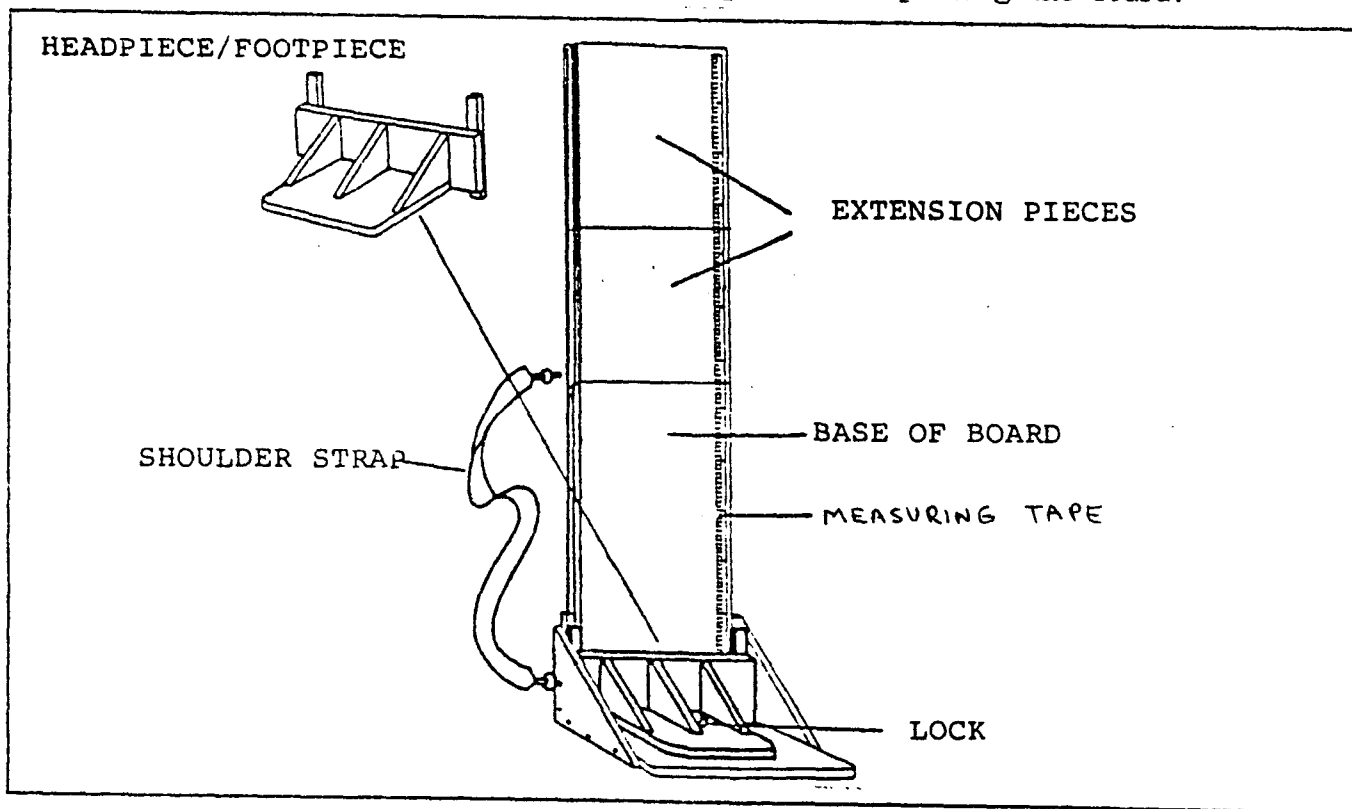
You will be responsible for three instruments:

a. The Measuring Board

A wooden measuring board will be used to measure the height of all persons. It is used in an upright position for measuring the height of all persons aged 2 years and older. It is used in a horizontal position for measuring the length of children lying down who are less than 2 years of age.

The measuring board has five pieces:

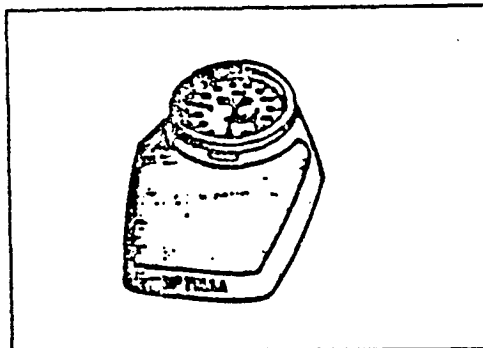
- * the horizontal base, attached to the vertical section,
- * the sliding headpiece, stored in the base,
- * two extension boards, and
- * an adjustable shoulder strap for transporting the board.



The Wooden Measuring Board

a. The Floor Scale

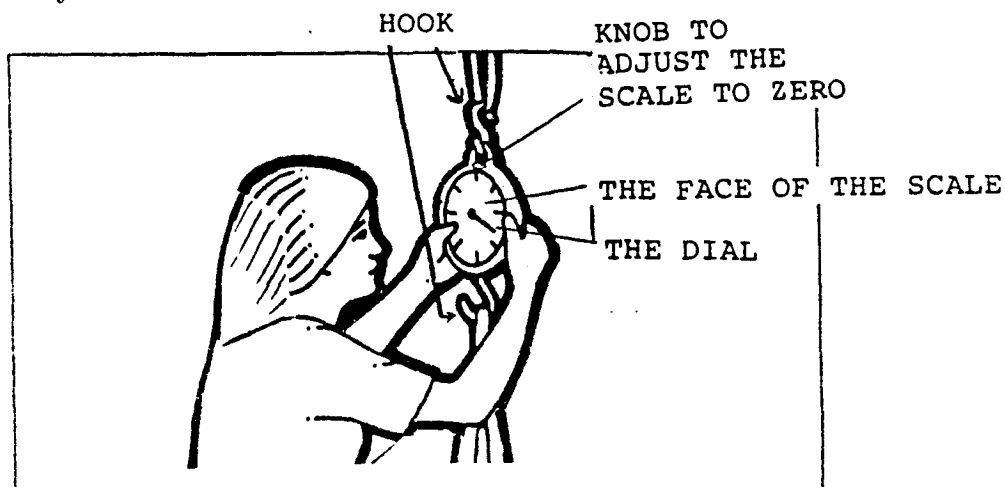
A floor scale will be used to measure the weight of persons aged six years and older.



The Floor Scale

c. The Hanging Scale

A hanging scale will be used to measure the weight of children aged less than 6 years.



The Hanging Scale

1.2 MAINTENANCE OF THE INSTRUMENTS

These three instruments were chosen because they are durable, portable and accurate. To preserve their measuring accuracy for the duration of the survey, you must maintain them on a daily basis.

You must wipe the measuring board and scales with a clean cloth after each use and before using them in the next household.

Each time you return to the Regional Office, you must thoroughly clean all instruments. They must be in excellent condition for their use in the households for the following week.

You must inform your supervisor immediately about any problems with the measuring instruments.

1.3 TRANSPORTING THE MEASURING INSTRUMENTS

You must be sure that each instrument is properly stored in its carrying bag and properly protected during your trips between the Regional Office and the clusters. The shocks and dust of the road can break the equipment and affect their accuracy.

1.4 ADDITIONAL EQUIPMENT

In addition to these three measuring instruments, you will be issued the following equipment for which you will be responsible:

- a. Equipment for protection and maintenance of the instruments: a sponge, a clean cloth and a brush for cleaning.
- b. A wooden board on which to place the floor scale and a small stool to stand on when measuring very tall people.
- c. A wooden pole from which you can suspend the hanging scale when there is no other place such as a tree, ceiling beam, etc. Also, a five foot piece of rope to hang the scale from a tree to keep the scale at eye level. Two child weighing pants and one infant weighing sling will also be issued to you.
- d. Forms and writing materials: pencils, eraser and pencil sharpener.
- e. Carrying cases to protect the instruments from dust and the shocks of transport.
- f. A 10 kilogram scale to use in collecting food prices in the market of each cluster.
- g. A set of weights and a set of three wooden posts for calibrating the scales and measuring board, which will be done by the Director of Anthropometry who will periodically visit you in the field.

IMPORTANT NOTE: THE FOLLOWING PAGES CONTAIN THE WEIGHING AND MEASURING PROCEDURES. MAKE SURE YOUR WEIGH AND MEASURE ONE PERSON AT A TIME COMPLETELY BEFORE BEGINNING THE WEIGHING AND MEASURING OF THE NEXT PERSON. DO NOT, FOR EXAMPLE, TAKE THE HEIGHT OF ALL PERSONS IN A HOUSEHOLD THEN THE WEIGHT OF ALL PERSONS. THIS CAN CAUSE ERRORS.

2. MEASURING THE HEIGHT OF PERSONS TWO YEARS AND OLDER, IN A STANDING POSITION

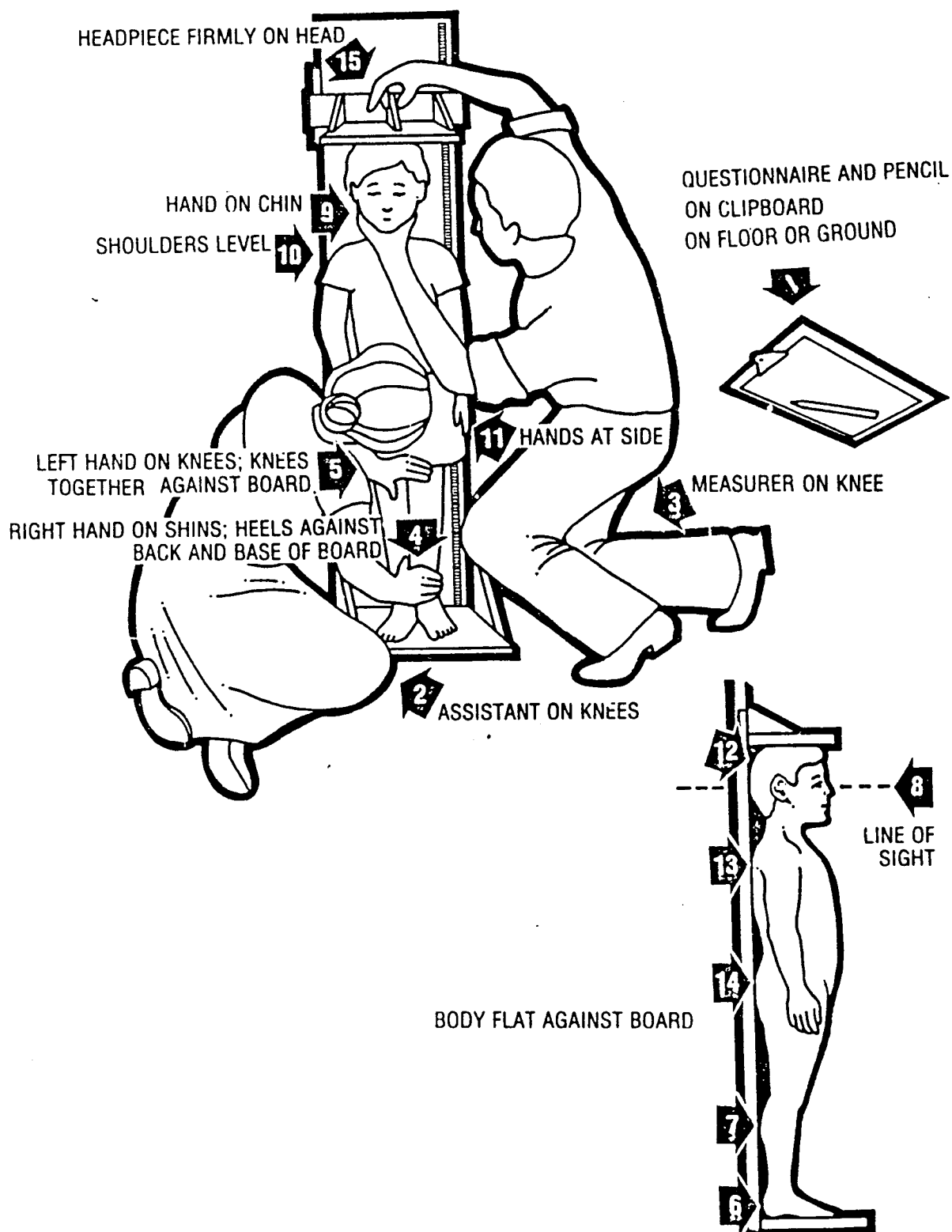
(ILLUSTRATION 1)

1. Set up the measuring board on a flat, solid surface, such as next to a wall, a table, a tree or a staircase. Make sure that the measuring board is stable.
2. Ask the person to take off his shoes and, if necessary, to undo any hairdos that will affect their height measurement. If the person is a child, ask the mother to lead the child to the board and to kneel in front of him (if she is not being used as the assistant).
3. Place the questionnaire form and the pencil on the ground directly next to you (ARROW 1). Ask the assistant to kneel on both knees to the right of the person being measured (ARROW 2).
4. Kneel on the ground (on your right knee only) on the left side of the person, so you can be mobile (ARROW 3).
5. Ask the assistant to place the person's feet together, flat, and in the centre of the board. The person's heels should touch the back of the board. Ask the assistant to place his right hand on the person's shins (just above the ankles; ARROW 4), his left hand on the person's knees (ARROW 5) and press the person's legs against the back of the board. Make sure that the person's legs are straight and the ankles and calves are in contact with the back of the board (ARROWS 6 and 7).
6. Ask the person to look straight ahead. Make sure that the person's line of sight is level with the ground (ARROW 8). Place your open left hand on the person's chin. Gradually close your hand (ARROW 9). Do not cover the person's mouth or ears. Make sure the shoulders are level (ARROW 10), the hands are at the side his body (ARROW 11), and the head, shoulder blades, and buttocks are against the vertical part of the board (ARROWS 12, 13 and 14). With your right hand, lower the sliding headpiece to the person's head. Make sure you push through the hair (ARROW 15).
7. Check the person's position (ARROWS 1-15). Repeat any steps as necessary.
8. When the person is in the correct position, read and call out the measurement to the nearest 0.1 cm. Remove the sliding headpiece from the person's head, your left hand from the person's chin, and ask the assistant to support the person you record the measurement.
9. Immediately record the measurement on the questionnaire.
10. Check that the measurement you recorded on the questionnaire is correct and readable. If you have made an error, erase it completely and record the correct measurement.

Note: For taking the height of children you will use only two of the three sections of the board. For taking the height of adults, you will need all three sections.

The weighing and measuring procedures and accompanying illustrations were adapted from, "How To Weigh And Measure Children", U.N. Statistical Office, United Nations, New York, 1987.

Illustration 1
Child Height Measurement

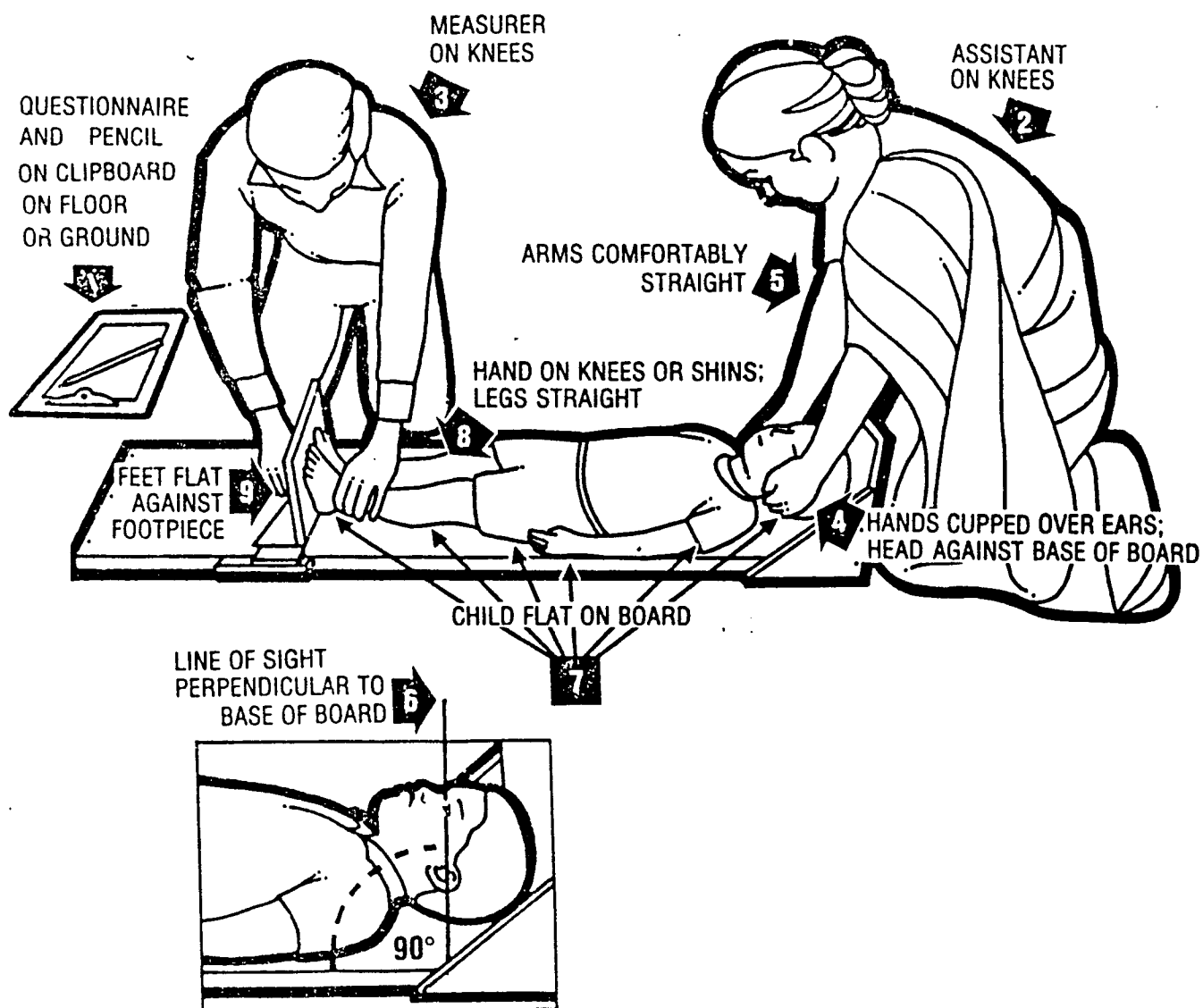


3. MEASURING THE LENGTH OF CHILDREN LESS THAN TWO YEARS OF AGE

(ILLUSTRATION no. 2)

1. Place the measuring board flat on the ground or floor. If you are outdoors, make sure that the board is placed so that the child will not be looking directly into the sun while being measured.
2. Put the questionnaire and the pencil on the ground or floor (ARROW 1). Ask the assistant to kneel on the ground, behind the base of the board (ARROW 2).
3. Kneel to the right of the child so that you can hold the sliding headpiece with your right hand (ARROW 3).
4. With the help of the mother, if she is not the assistant, lay the child down on the board. Ask the assistant to hold the back of the child's head in his hands and gently lower it on the board. Hold the child at the waist.
5. If the mother is not the assistant, ask her to kneel on the other side of the board, in front of you, to help keep the child calm.
6. Ask the assistant to place his cupped hands over the child's ears (ARROW 4). Keeping his arms straight but not stiff (ARROW 5), ask the assistant to place the head of the child against the base of the board so that the child is looking straight up. The child's line of sight should be perpendicular to the ground (ARROW 6). Ask the assistant to place his head directly above the child's head and look directly into the child's eyes.
7. Make sure that the child is lying flat and is in the centre of the board (ARROW 7). Place your left hand on the child's shins (above the ankles) or on his knees (ARROW 8). Press them firmly against the board. With your right hand, place the sliding footpiece firmly against the child's heels (ARROW 9).
8. Check the child's position (ARROWS 1-9). Repeat any steps as necessary.
9. When the child is in the correct position, read and call out the measurement to the nearest 0.1 cm. Remove the footpiece, release your left hand from the child's shins or knees, and ask the assistant to support the child while you record the measurement. Immediately record the measurement on the questionnaire.
10. Check to see that the measurement you have recorded on the questionnaire is correct and readable. If you have made a mistake, erase it completely and record the correct measurement.

Illustration 2
Child Length Measurement

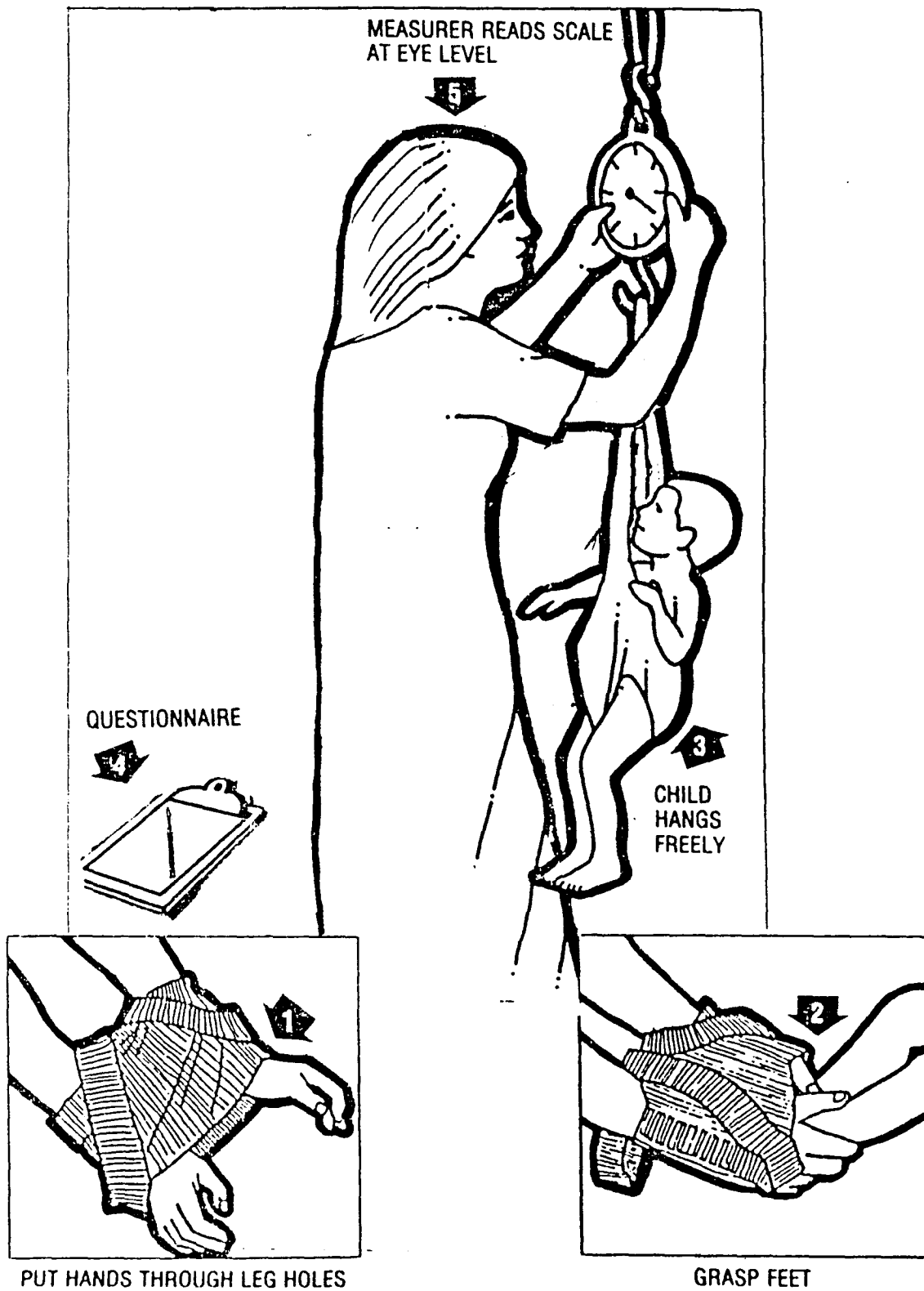


4. WEIGHING CHILDREN LESS THAN SIX YEAR OF AGE

(ILLUSTRATION 3)

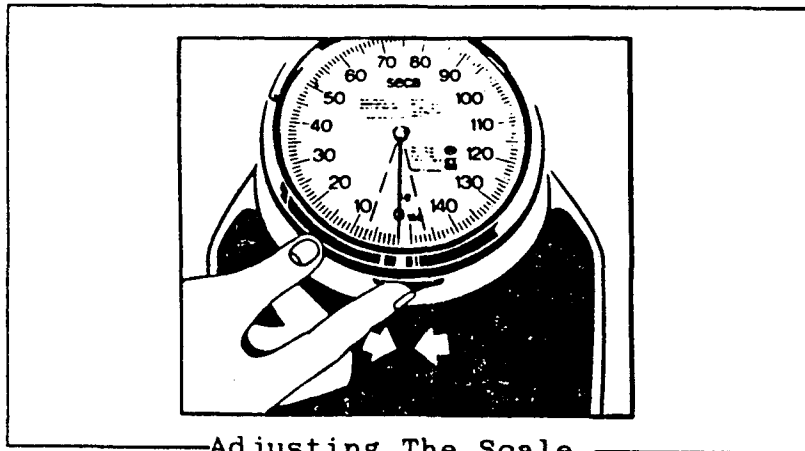
1. Hang the balance from a tree branch, a ceiling beam, a tripod or a pole held by two people. You may need a piece of rope to hang the scale at eye level. Ask the mother to undress the child.
2. Attach the empty weighing pants or infant sling to the hook of the scale. Set the needle to zero, then remove the pants or sling from the scale.
3. Ask the mother to hold the child. Put your hands through the leg holes of the pants (ARROW 1). Grasp the child's feet and pull the legs through the leg holes of the pants (ARROW 2). Make sure the strap of the pants is in front of the child.
4. Attach the straps of the pants to the hook of the scale. NEVER CARRY THE CHILD BY THE STRAPS OF THE PANTS. Gently lower the child and allow the child to hang freely (ARROW 3). Make sure the questionnaire is directly near you (ARROW 4).
5. Check the child's position. Make sure the child is hanging freely and not touching anything. Repeat any steps as necessary.
6. Hold the face of the scale with your hands and read the weight to the nearest 0.1 kg (ARROW 5). Call out the measurement when the child is still and the scale needle is stationary. Even children who are very active and move a lot, which causes the needle to wobble greatly, will become still long enough to read the scale. WAIT UNTIL THE NEEDLE STOPS MOVING.
7. Once the scale needle stops moving, immediately record the measurement on the questionnaire.
8. After recording the weight, put your arm around the and gently lift him off of the scale. DO NOT LIFT THE CHILD BY THE STRAP OF THE WEIGHING PANTS. Remove the strap from the hook of the scale with your free hand.
9. Check that the recorded measurement on the questionnaire is correct and readable. If you have made an error, erase it completely and record the correct measurement.

Illustration 3
Child Weight



5. MEASURING THE WEIGHT OF PERSONS SIX YEARS AND OLDER

1. Ask the person to take off his shoes and to take off excessive clothing. The person should not be wearing heavy clothing.
2. Put the wooden board on a flat and stable surface. Put the floor scale on the board.
3. Make sure that the needle is pointing to zero when no one is standing on the scale. Adjust the needle to zero, if necessary. **BE CAREFUL! DO NOT MOVE THE ADJUSTMENT DIAL TOO FAR, OR THE SCALE WILL COMPLETELY DISENGAGE!**



Adjusting The Scale

4. Kneel on the ground next to the scale to see the numbers on the scale well. Place the questionnaire and pencil near you on the ground or floor.
5. Ask the person to stand on the scale. Make sure that the person is not touching anything and stands completely still.
6. Wait for the needle to stop moving. Check the position of the person. Repeat any steps as necessary.
7. When the person is in the correct position and the scale needle is still read the weight to the nearest 0.5 kg. Call out the weight and immediately record the weight on the questionnaire.
8. Check that the weight you have recorded is correct and readable. If you have made an error, erase completely and record the correct weight.

PART III. COMPLETING THE ANTHROPOMETRIC FORMS

You will measure the height and weight of all household members during the first round of the survey. During the second round you will measure the height and weight of everyone whose name appears on the anthropometric form.

1. GENERAL INSTRUCTIONS

In general, you must always write clearly in pencil. If you make a mistake, you must erase it completely before writing the correct information.

You must write words in block (capital) letters and the numbers in arabic characters. For example, Victoria Mensah is written:

VICTORIA MENSAH

and the figure "two hundred and fifty" is written: 250

You must always write in the space reserved for the answer to the question, without going into space reserved for other questions -- even if the next question is blank.

For height and weight measures, you must always write the result in the space reserved for the measurements, without writing the unit of measure. For example, for a height of 152.6 centimeters, you must write:

152.6

in the space provided, and not

152.6 cm

2. ROUND ONE

2.1 THE FORM

The form in which you will record the height and weight measurements during round one is called:

"SECTION 16A: ANTHROPOMETRICS -- ROUND ONE"

This form will be provided to you by your supervisor. You will complete one of these forms for each household interviewed during round one.

Section 16A has five different "blocks" (see illustration):

- A. A large box in the upper left corner of the page. In this box there is space for:
 - The name and number of the cluster.
 - The household number.
 - The sheet number.
 - The name of the head of the household and the address.
- B. A large box in the upper right corner of the page. In this box there is space for:
 - Your name and code.
 - Your observations about the measures for this household.
 - The name and code of the data entry operator.
 - The date of data entry of this form.
- C. A block on the left side of the sheet, made of three columns -- Column A, Column B and a third column for writing people's names. Note that there is enough space in this block for writing the names of 20 persons. Next to each name is an Identification Code, from 01 to 20.
- D. A block in the center of the page, made of 6 columns with questions and the title of the form.
- E. A block on the right side of the page, made of one column with the title "OBSERVATIONS".

You must complete Blocks A, B and C before beginning the measurements for the household.

—A—|—D—|—B—

SECTION 16 PART A. ANTHROPOMETRICS - ROUND ONE									
CLUSTER: _____		HOUSEHOLD: _____ SHEET: _____		HEAD OF HOUSEHOLD: _____		ADDRESS: _____			
NAME OF HOUSEHOLD MEMBER		1 SEX	2 DATE OF MEASUREMENT	3 WEIGHT	4 HEIGHT OR LENGTH	5 REASON NOT MEASURED:	OBSERVATIONS		
A	B								
		01							
		02							
		03							
		04							
		05							
		06							
		07							
		08							
		09							
		10							
		11							
		12							
		13							
		14							
		15							
		16							
		17							
		18							
		19							
		20							

$$\begin{array}{c} \text{H} - \text{C} - \text{H} \\ | \\ \text{H} \end{array} \quad \begin{array}{c} \text{H} - \text{E} - \text{H} \\ | \\ \text{H} \end{array}$$

2.2 COMPLETING BLOCK A

When you receive the form from your supervisor, all of the necessary information will already have been written in this block by the supervisor, except for the number of the sheet. You will use this information to find the household if you do not go with the interviewer.

a. Households With Up To 20 Persons

If the household has up to 20 persons, according to the questionnaire completed by the interviewer, you will complete just one of these forms for the household. In this case, you will write in the box labelled SHEET:

SHEET:

1 / 1

b. Households With More Than 20 Persons

If the household has more than 20 persons, the interviewer will have completed more than one questionnaire for the household. He will have continued on a second questionnaire. For example, if there are 25 persons in the household, the interviewer will have completed two questionnaires. In this case, you will have to complete two copies of Section 16A for the household.

When you need to complete more than one anthropometric form for the household, you will have three things to do before beginning the measurements:

- a. Copy the information found in Block A of the first form onto the Block(s) A of all of the other forms you will use for the household.
- b. Number the sheets using the box labelled SHEET. There is space for two figures in the box. The first figure is the number of the current sheet. The second figure is the total number of sheets completed for the household.

Let's take the case of a household with 25 people, requiring two questionnaires. There will be two forms in all. In the box labelled SHEET on the first form is written:

SHEET:

1 / 2

And on the second form is written:

SHEET:

2 / 2

- c. Re-number the identification codes on the second form. Each person in the household has a unique identification code written on the questionnaire. It is found at the beginning of Block D. If there are more than 20 people in the household, you must re-number by hand the identification codes on the second form. The code 01 on the second form becomes code 21. Code 02 becomes code 22, etc.

When you have finished this task, codes 01 to 20 will appear on the first form and codes 21-40 will appear on the second form.

2.3 COMPLETING BLOCK B

Before beginning the measures, you will write your name in Block B and your personal code.

If there is more than one form for the same household, you will write your name and code on all of the forms.

You must leave blank the spaces for the data entry operator's name and code and the date of data entry.

2.4 COMPLETING BLOCK C

In Block C you will copy certain information from the household questionnaire, completed by the interviewer. This information is located on the folded page in the middle of the questionnaire. This page is called "Section 1A: Household Roster" (see the illustration).

You must copy the first three columns of the Household Roster onto Section 16A. The information to copy is the contents of columns A and B and the names of the persons on the Household Roster.

In Column A of the Household Roster there will be a cross next to the name of some people. In Column B will be written the age of some people. Then there will be a complete list of names, each name written next to an identification code in the next column.

COMPLETING BLOCK C

CLUSTER: ABOKOBI 25

HOUSEHOLD: 12 SHEET: 1/1

HEAD OF HOUSEHOLD: KWAME OSEI

ADDRESS: ACROSS FROM
CATHOLIC CHURCH

SECTION 16 PART A: ANTHROPOMETRIC.

IDENTIFICATION CODE	1	SEX	2	DATE OF MEASUREMENT	3
	MALE.....1				
	FEMALE....2				
	PREGNANT...3				
	BREAST-FEEDING...4				
	PERSON NOT MEASURED...5 (95)		DAY	MONTH	Y'

A	B
---	---

NAME OF HOUSEHOLD MEMBER

X	40
X	36
X	18

KWAME OSEI
EFUA ABBAN
ABENA OSEI

01			
02			
03			

X	10
X	4

AKWASI OSEI
ADWOA OSEI
KWADWO OSEI

04			
05			
06			

X	25

KWEKU OSEI

07			
08			
09			

10			
11			
12			

13			
14			
15			

16			
17			
18			

19			
20			

You must copy the information exactly as it appears on the Household Roster:

All of the names must be copied and in the same order that they appear on the Household Roster.

Each name should have the same identification code in both places -- in Section 16A and on the Household Roster. If Columns A and B are left blank for certain people on the Roster, they should be left blank on the anthropometric form as well.

2.5 COMPLETING BLOCK D

Once Blocks A, B and C are completed, you will be ready to begin the measurements. There are 6 questions in Block D. These questions are to be completed for each person in Block C with a cross in Column A.

You will complete Block D only for persons with a cross in Column A.

You will complete the questions and take all the measurements for one person in Block C before beginning the measurements on the next person.

a. Correction of the Form

Before completing block D, make the following corrections by hand on the questionnaire:

(1). QUESTION 3: Cross out GR and write in KG.

(2). QUESTION 4: Cross out MM and write in CM.

b. People Who Are Not Available

If someone on the list of people is not available during your first visit to the household, you will return later to measure the person at a date and time that is convenient to him. You must do everything possible to get measurements for everyone during round one.

c. Coding the Questions

For questions 1 and 5 there is already a list of possible answers written on the questionnaire. Each answer is followed by a code. For the first question, for example, there are five possible answers: male, female, pregnant, breastfeeding and person not measured. The code for the answer "male" is code 1; the code for "breastfeeding" is code 4.

For these questions, you will write the response code in the space reserved for the question and the person concerned.

For questions 2, 3 and 4 you will write the figures for the date, the weight and the height directly in the spaces reserved for the question and for the person concerned.

d. Skip Instructions

You will usually complete the questions for each person in the order that the questions appear in the questionnaire. Sometimes it will be necessary to skip a question. The instructions for skipping a question are called skip instructions.

Skip instructions are denoted by an arrow / followed by a number. The number corresponds to the number of the question that you must ask next. For the first question, for example, after the response for "person not measured" there is a code and, in parentheses, an arrow followed by the number 5:

PERSON NOT MEASURED....5 (» 5)

If the person was not measured, write code 1 in the space reserved for the question and the person concerned, and go directly to question 5. You will skip over questions 2 to 4.

When there is an arrow with an instruction enclosed in a box, you must follow the instruction regardless of the answer to the question. For example, the instruction:

» NEXT PERSON

means that in all cases, after having completed the current question you must go to the first question for the next person.

e. Question 1: Sex

You must verify the sex of the person yourself at the time you take measures. You must not copy this information from the Household Roster, since it is possible that the interviewer made a mistake.

There are three possibilities for females: female, pregnant and breastfeeding. When you encounter a woman 15 or older you must ask whether she is pregnant or breastfeeding. Ask this question discretely, away from other people, so as not to embarrass the woman or compromise the confidentiality of the survey.

Code 5 is reserved for people who were not measured. This code is to be used only if:

- (1). The person was away from the cluster during the entire period that the team was in the cluster.
- (2). If an illness, injury or deformity of the person prevents measurement.

Here is a list of the illnesses, deformities or handicaps that are criteria for not measuring a person:

- (1). Persons who are very sick and incapable of getting out of bed.
- (2). Persons who have a temporary handicap that prevents measurement, like a broken leg which is in a cast.
- (3). Persons with permanent handicaps that will affect their measurements. You should measure neither the height nor the weight of persons who are missing an arm, a leg or a foot, or persons who are not capable of standing. Note: To be courteous, you may want to weigh and measure such people but do NOT record the measurements on the questionnaire.

f. Question 2: Date of Measurement

You will write the date of measurement in the order of day, month and year. Each of these numbers should be written in two digits.

The codes for the months are:

JANUARY....01	MAY.....05	SEPTEMBER..09
FEBRUARY...02	JUNE.....06	OCTOBER....10
MARCH.....03	JULY.....07	NOVEMBER...11
APRIL.....04	AUGUST....08	DECEMBER...12

For the year, you will write only the last two digits of the year.

g. Question 3: Weight

You will write the weight of the person to the nearest 0.1 kg for children weighed on the hanging scale and to the nearest 0.5 kg for persons weighed on the floor scale.

You must always write the weight to one figure after the decimal point. The decimal points are not already written on the questionnaire; you will write them in yourself. For example, if someone weighs exactly 85 kilograms, you will write:

85.0

h. Question 4: Height or Length

You will record the height or length to the nearest 0.1 centimetre. You must always record the height or length to one figure past the decimal point. If you measure the standing height of a child less than two years of age (children less than two years of age should be measured for length lying down), or if you measure the recumbent length of a child greater than or equal to two years of age (children greater than or equal to two years of age should be measured standing up unless such a child is not capable of standing up well), make sure you note this in Block E, "Observations" (see Section 2.6, "COMPLETING BLOCK E."

i. Question 5: Reason Not Measured

This question is for persons you are unable to measure.

Codes 1 and 2 (at work and at school) are to be used only if the person is out of the cluster of the survey and will not return during the time that the team is there. These codes are not to be used for persons who are at their daily jobs when you visit the household. You must make an appointment to return to the household to measure these people.

If someone refuses to be measured, you will use code 6, "other". In general, people are very happy to be measured. Refusals are rare. If you encounter a refusal, ask your supervisor to help you to convince the person to be measured.

2.6 COMPLETING BLOCK E

Block E is reserved for your observations on the results for each person. You should note the following:

- a. Particular problems with the measurement of a person.
- b. The whereabouts of persons you were unable to measure because they were away.
- c. The circumstances surrounding a refusal

2.7 EXAMPLE OF SECTION 16A COMPLETED

CLUSTER: <u>ABON OBI</u> <u>25</u> HOUSEHOLD <u>12</u> SHEET: <u>1/1</u> HEAD OF HOUSEHOLD: <u>KWAME OSEI</u> ADDRESS: <u>ACROSS FROM CATHOLIC CHURCH</u>		SECTION 16 PART A: ANTHROPOMETRICS - BODYS DME				INTERVIEWER: <u>THEO FEDA</u> <u>13</u> OBSERVATIONS: _____ DATA ENTRY OPERATOR: _____ DATE OF ENTRY: _____																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		SEX MALE.....1 FEMALE....2 PREGNANT...3 BREAST-FEEDING...4 PERSON NOT MEASURED...5 (NS)	DATE OF MEASUREMENT DAY MONTH YEAR	WEIGHT KG. CM.	HEIGHT OR LENGTH CM.	REASON NOT MEASURED: AT WORK.....1 AT SCHOOL.....2 TRAVELLING.....3 PERMANENT ILLNESS OR DEFORMITY.....4 TEMPORARY ILLNESS.....5 OTHER.....6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
A	B	NAME OF HOUSEHOLD MEMBER		C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	JJ	JK	JL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KK	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LL	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TT	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YY	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX	ZY	ZZ

3. ROUND TWO

3.1 THE FORM

The form in which you will write the height and weight of persons during round two is called:

"SECTION 16B: ANTHROPOMETRICS -- ROUND TWO"

This form is printed by the microcomputer in the Regional Office, for every household.

Section 16B closely resembles Section 16A. There are the same Blocks A, B, C, D and E. Certain information will already be written on the form:

- a. The number of the cluster, the household number, and the name of the household head in Block A.
- b. Columns A and B and the name of persons who must be measured in Block C.

The list of persons that appears on the form will include, in general, only some of the persons in the household. During the second round you will only take the measurements of the persons whose names appear on the form.

You must take the height and weight of these persons during the second round WITHOUT CONSULTING SECTION 16A FROM ROUND ONE. The round one forms will be left with the data entry operator in the Regional Office.

3.2 COMPLETING BLOCKS A AND B

You will have nothing to add to Block A.

In Block B you must write your name and your code.

3.3 COMPLETING BLOCK C

The names of all persons to be measured will already be written in the column for names. In general, Columns A and B will also already be filled for these persons.

Sometimes Column B (reserved for the person's age in years) will be blank for someone in the second round. The computer will leave the column blank if the age that you copied in Column B during round one does not agree with the age written in the Household Roster. This could be the case if you made a mistake in copying the age from Column B or if the interviewer made a mistake in Column B of the Household Roster.

When Column B is left blank by the computer during round two, you will write in the correct age after examining the Household Roster. You must compare the contents of Column B with the answer to question 6.

NEVER CORRECT THE AGE BY ASKING THE PERSON HIS OR HER AGE. It is the job of the interviewer to establish each person's correct age, using their birth certificates and other documents.

NEVER CHANGE ANY OF THE INFORMATION ON THE HOUSEHOLD ROSTER. If you discover an error between Column B and the age question, discuss it with the interviewer in private, away from the household, and have him change it. The interviewer will have to notify the supervisor so that the correct information is entered after round two.

3.4 COMPLETING BLOCKS D AND E

Sometimes a code will already be written in the first question, on sex. If there is already a code, leave it. If the question has been

PART IV. PRICE COLLECTION DURING ROUND TWO

1. THE PROCEDURE TO FOLLOW

1.1 GENERAL INSTRUCTIONS

You must organize your time so as to complete the anthropometric measurements and the price questionnaire during round two.

The price questionnaire collects price information on three groups of products:

- a. Foods
- b. Pharmaceutical products
- c. Other non-food products

There are a total of 47 products for which you must collect the price.

For each of these products you will collect three prices. You will get these prices from three different sources located in different parts of the market.

You must always explain to the person selling a product that you have no intention of buying it. You must reassure the person, explaining that you are conducting a survey of market prices, and that the survey has no tax purpose. You will write down the first price cited by the vendor, without discussing it.

If you cannot find a product in the market or in a boutique, you will leave the box for the product blank. If there is only one vendor of a product, you will write his price and leave the boxes for the other two prices blank.

1.2 COLLECTION OF FOOD PRICES

For food prices, you will have to weigh the amount of the product for sale and write the weight in grams and the price on the price questionnaire. You will be issued a 10-kilogram food scale to do this work. If the product you are weighing is in a container, you should first calibrate the scale at zero with the empty container, then add the product. Afterwards, recalibrate the empty scale to zero for the next product.

Sometimes the sellers of food products will not let the food be weighed unless it is being purchased. In this case, you will wait for someone to buy the product and record the weight and the price of what was bought.

The tinned products, like evaporated milk and tomato paste, have their weight written on the tin. It is not necessary to weigh them.

1.3 PRICES OF OTHER PRODUCTS

For the other products, you will have to look for products with the description provided on the price questionnaire. In general, you will not weigh the other products with the 10 kg scale.

2. COMPLETING THE PRICE QUESTIONNAIRE

The price questionnaire will be given to you by the supervisor at the beginning of round two.

The questionnaire is to be completed in the market of every cluster. If the cluster includes more than one community, you must complete a price questionnaire in the market of each community.

The price questionnaire has four pages. The first page is reserved for administrative information. The price information is recorded on pages 2-4.

2.1 COMPLETING THE FIRST PAGE

On the first page of the questionnaire, write the name of the community, the number of the cluster, your name and code. If there is more than one community in the cluster, the supervisor will write the numbers of the households belonging to each community on each of the price questionnaires.

2.2 FOOD PRODUCTS

All of the products on the second page and some on the third page are food products. There is space for three observations on each product and the weight in kilograms and price for each observation.

You will write the weight in kilograms, with up to three places after the decimal point. For eggs, take the price per egg. The number 1 (for one egg) is already written in the questionnaire in the weight column.

In writing the weight, you must always include three places after the decimal point. For example, a weight of 2 and a half kilograms will be written:

2.500

2.3 PHARMACEUTICAL PRICES

You must look for the prices of pharmaceutical products in the market, in shops and in pharmacies.

For each observation you must record the number of tablets and the price. For Andrew's liver salt and milk of magnesia, simply record three prices.

2.4 NON-FOOD PRICES

For the non-food products, look for the product whose description appears on the form. You must never substitute a different product for the one that is listed. For all of these items except charcoal, you will record three prices. For charcoal, you will have to weigh the amount for sale and record a price. You should try to weigh charcoal sold in small quantities -- not a large sack.