

**LIBERIA
MULTIPLE-INDICATOR
CLUSTER SURVEY
1995**

**FINAL
REPORT**

STATISTICS & MONITORING
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Ministry of Planning and Economic Affairs
Ministry of Health and Social Welfare
United Nation Children's Fund

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FOREWORD

In 1990, at the World Summit for Children, Heads of State and Governments from countries around the world pledged themselves to a Declaration and Plan of Action for Children. The Summit set clear goals to be achieved by the end of the century. Based on the commitments, many countries, including Liberia, have developed their own National Programme of Action.

The Mid-Decade Goals emerged from the first two years of experience, beginning in 1990. In 1992 the International Conference on Assistance to African Children adopted a set of 13 Mid-Decade Goals which have come to form the milestone that all countries need to achieve by the end of 1995 as stepping stones to the goals for the year 2000.

In Liberia, due to the emergency, the programme focus was on immediate life saving interventions while at the same time supporting rehabilitation efforts. Though emergency in nature, the various programmes implemented by different agencies, and above all the individual efforts made by Liberian families, have a long lasting impact on the situation of children.

The Multiple Indicator Cluster Survey (MICS) is designed to collect data on the well being of children. It helps to look into our progress towards the achievement of the Mid-Decade goals and to estimate the impact of our programmes. The data also provide some information which can be useful for planning purposes. Unfortunately, the information provided in this report covers only three counties (Montserrado, part of Margibi, and Bassa) and does not claim, therefore, to reflect the situation of the whole country. However, about 60 percent of the population resides in this area. We plan to conduct a similar survey in 1996 covering, hopefully, a larger part of the country and population.

It is our hope that this report will lead to a better understanding of the situation of children in Liberia and fill part of the enormous information gap, so helping all of us to identify areas where we can assist the survival and development of children.

Alan Everest
Representative
UNICEF/Liberia

ACKNOWLEDGEMENT

The Liberia Multiple-Indicator Cluster Survey (MICS) was conducted as part of the worldwide survey designed to measure progress toward the Mid-Decade Goals. The survey was carried out for the first time in Liberia and it is expected to be conducted each year in order to establish data bank covering health, education, water and sanitation and mortality of children of Liberia. To be specific, the main objectives of the MICS are:

- a) to produce a body of data for monitoring progress toward Mid-Decade Goals of the World Summit for Children;
- b) to narrow the information gaps for specific areas critical to the survival and development of each Liberian child;
- c) to add to the international body of data which could be used for comparative purposes;
- d) to produce body of data which could be useful to policy makers, for public advocacy and socio-economic planning for the survival and development of children in Liberia; and
- e) to build the institutional capacity of the Bureau of Statistics of the Ministry of Planning and Economic Affairs and to enhance the ability of Liberian staff to conduct MICS in the future.

At the time of the survey, the country was going through a civil crisis which compelled the survey organizers to restrict the field activities in those areas that were under the effective control of the Economic Community of West African States (ECOWAS) Peace Keeping and Monitoring Force (ECOMOG). These areas, included among others, Montserrado County; Harbel and its environs, Margibi County; and Buchanan City and its environs, Grand Bassa County. This implies that only part of the country was covered by the survey. It is our hope, however, that the 1996 MICS will cover the entire country.

Fieldwork for the Liberia Multiple-Indicator Cluster Survey was conducted from 20 March to 3 April 1995 by the personnel of the Ministries of Planning and Economic Affairs and Health and Social Welfare. Financial Assistance was provided by UNICEF while technical and administrative services for the survey were jointly provided by Ministry of Planning and Economic Affairs, the Ministry of Health and Social Welfare and UNICEF.

The successful implementation of the MICS would not have been possible without relentless effort and dedication of the Ministries of Planning and Economic Affairs and Health and Social Welfare, UNICEF and others who made the successful implementation of this program possible. It is in this light, I wish to extend my gratitude to the following individuals and institutions for their immense contribution to the success of the MICS Project;

- a) the UNICEF Resident Representative and his able staff who provided both financial, technical and administrative assistance;
- b) the Minister of Health and Social Welfare and his dedicated personnel who were seconded to the project;
- c) the Minister of Planning and Economic Affairs and her able staff of the Bureau of Statistics who were seconded to the project;
- d) the Minister of Internal Affairs and Officials of the counties where the survey was conducted for their kind support and cooperation with the field staff during the MICS fieldwork;
- e) the High Command of ECOMOG and ECOMOG Officers in the counties where the MICS was implemented for their cooperation and support;
- f) the press and electronic media, particularly ELWA and LBS, for the vital role they played by promoting and educating the public about the objectives and importance of the survey; and
- g) finally, all those who in one way or another contributed to the successful implementation of this very important survey.

Amelia Ward, Minister
Ministry of Planning and
Economic Affairs

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1.0 **BACKGROUND**

1.1 **Introduction**

The Liberia Multiple-Indicator Cluster Survey (MICS) covering health, education, water and sanitation and mortality of children was conducted in March, 1995 by the Bureau of Statistics of the Ministry of Planning and Economic Affairs, Ministry of Health and Social Welfare and UNICEF. The survey which was conducted for the first time in the country, collected data from about 2,520 households that were selected from three distinct regions - Montserrado County; Harbel and its environs, Margibi County; and Buchanan City and its environs, Grand Bassa County. The MICS was restricted to these three regions because, at the time of the survey, the country was going through a civil war and only the above mentioned regions which were under the control of the Economic Community of West African States (ECOWAS) Peace Keeping and Monitoring Force (ECOMOG) were considered safe and accessible.

Technical assistance for the survey was provided by the Bureau of Statistics, Ministry of Planning and Economic Affairs, Ministry of Health and Social Welfare and UNICEF. However, in addition to technical assistance, UNICEF provided funding for the survey.

The MICS was particularly important in Liberia as the routine data collection system has virtually collapsed due to the war. Even pre war (1989) data are not available since the offices of most government agencies were physically damaged and looted. The latest available comprehensive data are the 1984 census and the 1986 DHS survey. Not only that the census and DHS data are outdated, the situation in the Country has totally changed, making meaningful projections impossible.

The objectives of the MICS were:

- a) to produce a body of data for monitoring progress toward Mid-Decade Goals of the World Summit for Children;
- b) to narrow the information gaps for specific areas critical to the survival and development of each Liberian child: the right to be protected against the immunizable diseases, to be treated when sick with diarrhoea, to be breastfed, to be well nourished, to be protected against the disorders of iodine and vitamin A deficiencies, to go to school and to have access to water as well as sanitation facilities¹;

¹United Nations Centre for Human Rights, Geneva, 1990; Human Rights Fact Sheet No. 10, Convention on the Rights of the Child, Article 24.

- c) to add to the international body of data which could be used for comparative purposes;
- d) to produce body of data which could be useful to policy makers, for public advocacy and socio-economic planning for the survival and development of children in Liberia; and
- e) to build the institutional capacity of the Bureau of Statistics of the Ministry of Planning and Economic Affairs and to enhance the ability of Liberian staff to conduct MICS in the future.

1.2 Sample and Methodology

1.2a Coverage: At the time of this Multiple-Indicator Cluster Survey (MICS), Liberia was going through a senseless civil war. Thus, except those areas that were under the control of the Economic Community of West African States (ECOWAS) Peace keeping and Monitoring Force (ECOMOG), most areas of the country were inaccessible to the survey personnel. As a result, it was decided that the survey be conducted in three major areas that were under the effective control of ECOMOG. These selected areas were Montserrado County (Montserrado) - Region I, Harbel and its environs, Margibi County (Harbel) - Region II and Buchanan and its environs, Grand Bassa County (Bassa) - Region III. Nonetheless, at the time of the survey, about 60 percent of the total population lives in these three regions². It is also worth to note that the children covered in this survey do not represent all the children of Liberia, but only those who are living in the three selected regions.

1.2b Sample Frame: The Special Emergency Life Food Program (SELF) demarcated Montserrado County - Region I into zones, communities and blocks in 1991 for the purpose of delivering relief services to the thousands of starving people and for conducting surveys and censuses. A total of about 21 zones, 212 communities and 837 blocks/neighborhoods were established in Monrovia and its surroundings. Since the Bureau of Statistics (BOS) of the Ministry of Planning and Economic Affairs (MPEA), which is the National Statistical Office of Liberia, had earlier worked closely with SELF to verify the boundaries of these demarcated areas, the Multiple-Indicator Cluster Survey Project Coordinating Committee decided to use the SELF structure as the sample frame for Montserrado County.

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- 1. Total estimated population in the country at the time of this survey was 2,000,000.
 - 2. Total estimated population covered by this survey was 1,200,000.
 - a) Total estimated population covered by the survey in Region I was 960,000.
 - b) Total estimated population covered by the survey in Region II was 96,000.
 - c) Total estimated population covered by the survey in Region III was 144,000.

Similarly SELF, BOS and the Catholic Relief Service (CRS) demarcated Region II - Harbel (Harbel, Dolo Town and Smell-No-Taste or Unification Town) and Region III - Bassa (Buchanan and its environs) into zones, communities and blocks/neighborhoods. As a result of the demarcation exercise, Region II has 1 zone, 3 communities and 38 blocks/neighborhoods and Region III comprises of 1 zone, 17 communities and 120 blocks/neighborhoods. These structures were also used as the sample frames for the two regions.

The number of occupied structures in the three zones is constantly updated for the purpose of relief food distribution. It is believed that the total number of people living in these areas could be overestimated as families tend to inflate the number of their members to get increased ration of relief food. This, however, has little, if any, impact on our sample frame as our smallest sampling unit is the "household" and not the individuals in the household.

- 1.2c Sample Size:** The sample size was primarily designed to get separate data for the three distinct regions to generate information for both programme and reporting purposes. The only difference from the methodology of the national sample design is that, in this case, a higher margin of error (ten percent rather than five) was selected. After the computation of the data, however, the margin of error for most of the indicators was in fact below ten percent (see Annex 3.3). It should be noted that the sample size for each region was made to be large enough to get statistically valid results for each district within the above mentioned level of margin of error.

The sample size was designed to obtain data for the three specific regions within 10 percents of margin of error. A weighted average was then computed taking the relative population size of the three regions.³ Technically, therefore, the weighted average will have a margin of error less than 10 percent. Hence, a sample size of 840 households for each of the three regions was estimated using the spreadsheet SAMPGOAL.WK1⁴.

³ Based on their relative population size, Region I (Montserado), Region II (Harbel and environs), and Region III (Bassa), have weights of 0.80, 0.08, and 0.12 respectively.

⁴ A Practical Handbook for Multiple-Indicator Surveys - United Nations Children's Fund, New York, January 1995

The sample size was determined by entering the below basic assumptions, estimated prevalence and margin of errors. Besides the spreadsheet, the following formulae could be used to manually tabulate the target sample size, and the required number of households for each indicator:

1.
$$n = (4 * p * (1 - p) * d) / e^2$$

Where n = target sample size
p = estimated prevalence
d = design effect
e = margin of error, and

2.
$$NHHs = n / (APH * PP)$$

Where NHHs = required number of households
n = target sample size
APH = average number of persons per household
PP = proportion of population made up of target group

TABLE 1
COMPUTATION OF SAMPLE SIZE

BASIC ASSUMPTIONS

Design effect	2
Persons per household	7
Pct of population <5 years	0.17
Prevalence of diarrhea 15 days	0.25

Indicator	Target Pop.	Est. Prev.	Margin of Error	Required Target Sample	Required Number of HH's
DPT3 Coverage	12-23 mo	0.4	0.1	192	807
Measles Coverage	12-23 mo	0.4	0.1	192	807
OPV3 Coverage	12-23 mo	0.4	0.1	192	807
BCG Coverage	12-23 mo	0.8	0.1	128	538
TT2 Coverage (pregnancy)	0-11 mo	0.3	0.1	168	706
Vitamin A Coverage	0-23 mo	0.0	0.1	0	0
Iodized Salt Consumption	Households	0.0	0.1	0	0
Use of ORT(1) in Diarrhea	Diarrhea <5 Years	0.4	0.1	192	645
Use of ORT(2) in Diarrhea	Diarrhea <5 Years	0.5	0.1	200	672
Percent Low Weight/Age	All <5 Years	0.4	0.1	192	161
School Enrollment	5-9 Years	0.6	0.05	746	627
Safe Water	Population	0.5	0.1	1000	143
Sanitation	Population	0.5	0.1	1000	143
Required Number of Households					807 (840)

Entering the above assumptions onto the spreadsheet, a maximum required number of households of about 807, which was rounded off to 840, was obtained and used for each region. Note that, from the table above, the total required number of households is the highest required number of households among the number of households for each indicator. Selecting the highest required number of households enables the interviewers to find the target sample size (the required number of children) for each indicator.

- 1.2d Selection of Sample Households:** For the purpose of this survey a household was defined as groups of persons who regularly live under the same roof and cook and eat together. To minimize the design effect, it was decided to have 40 randomly selected clusters which contain 21 households each. In this light a two stage sampling methodology was applied to select the sample households in each region. At the first stage, the primary units, 40 blocks/neighborhoods, were selected using systematic random sampling technique with probability proportional to size, while at the second stage, the first household was selected randomly from a list of households in the block. The twenty subsequent households were selected using the revised EPI technique for choosing the nearest household until 21 households were selected in each block/neighborhood to form one cluster (See Annex 3.1 for the list of the selected primary units.)

1.3 The Collection and Processing of Data

- 1.3a MICS Personnel:** The Assistant Minister for Statistics from the Ministry of Planning and Economic Affairs was seconded to the project to serve as the Coordinator for three months, while the Senior Epidemiologist from the Ministry of Health and the Director of Industrial Statistics from the Ministry of Planning were seconded for two months and one month respectively to serve as Assistant Coordinators. These three personnel from the Government and the UNICEF Monitoring and Evaluation Officer managed the planning, design and implementation of the survey. They reviewed the questionnaire modules and instructional manuals from the Practical Handbook for Multiple-Indicator Cluster Survey, prepared the sample frame, recruited and trained the field staff, and supervised the collection and processing of the data.
- 1.3b Field Staff:** Sixty-eight field personnel were seconded from the Ministry of Planning and Economic Affairs and Ministry of Health and Social Welfare to the MICS project for a period of twenty days. The sixty-eight field staff who have had considerable experience with censuses and surveys like the 1974 and 1984 Population and Housing Censuses, the Liberian Demographic and Health Survey, etc., consisted of eight supervisors (among whom four were assigned to Region I - Montserrado and two each to Region II - Harbel and Region III - Bassa) and sixty interviewers with 20 persons assigned to each of the three regions.

1.3c Training of Field Personnel:- The field staff were trained from 13 to 17 March, 1995 by the MICS personnel. The training included, among others, lectures, role module or practice interviewing both in the classroom and on the field, etc. Since the questionnaires were printed in English, the training and interviews were conducted in English. However, the interviewers were instructed to translate, if necessary, any question into local dialects. The field testing gave us an idea on the amount of time required to complete a questionnaire for an average household. About one hour was required to complete one questionnaire by a team of two interviewers due to the inclusion of the anthropometry module, particularly the measurement of height/length.

1.3d Interviewer Manual: The instructions for interviewers in the Practical Handbook for Multiple-Indicator Surveys were also slightly modified so as to enable the interviewers to comprehend and interpret the survey questionnaires.

1.3e Questionnaire: The following questionnaire modules from the Practical Handbook for Multiple-Indicator Surveys were slightly modified and used as the questionnaire for the survey:

1. **Mortality:** Except incomplete epidemiological reports from few health facilities, there is no estimate on the level of under five mortality in Liberia since 1986. Due to the significant changes, caused by the civil war, it is believed that the mortality rate would be higher. The MICS Coordinating Committee decided to include the module on mortality on the hope of getting some rough estimate on the level of under five mortality. Unfortunately, however, we cannot compute the data with existing programmes. Attempts are being made to use other programmes like "Mortpak" to analyze the data. The report on mortality would, therefore, be prepared later as an addendum to this report.
2. **Water and Sanitation:** The module on water and sanitation was used without much modification to get estimates on water and sanitation coverage, which otherwise are not available from other routine sources. However, the data collected from the two regions (Region II and III) were later on discarded as most of the residents in the two regions are displaced people and the questionnaire did not capture their situation. In areas where most displaced people live, existing water and sanitation facilities are being used by too many people which makes the facilities extremely unhygienic. There was no question to capture this reality, and the results obtained could be misleading. After discussions with professionals in the sector, it was decided that the results from the two regions will not be reported.
3. **Education:** The module was used as it is without revision. At the analysis stage, definitions appropriate to the Country were adopted (the definitions are discussed under "Findings" on education).

4. **For Mothers:** The Tetanus Toxoid and the Care of Acute Respiratory Infection (ARI) modules were included in the questionnaire. Mothers' knowledge of ARI is important for design of health programmes since ARI is one of the three major causes of morbidity and mortality in Liberia.
5. **For Children under Five Years of Age:** All the modules for children, i.e. Diarrhoea, Breast-feeding, Immunization, and Anthropometry were included in the questionnaire since all of them were extremely relevant for the situation in Liberia. In fact, in the anthropometry module, we included the measurement of height/length to be able to compute acute malnutrition, despite its heavy implication on costs. Since Liberia is an emergency country, more accurate data on the nutritional status of children are very important for programme purposes. In addition, available nutrition data, though scattered, in the emergency period are based on Weight for Height and we want this survey to generate data which can be compared to previous studies.

These modules were selected with the consent of the epidemiologist from the Ministry of Health and Social Welfare and UNICEF experts in the areas of health, education and water and sanitation (see Annex 3.2 for sample questionnaire).

The Vit. A module was not included as there is no general Vit. A supplementation programme in the Country. Vit. A supplement, with measles vaccination, is given only for selected groups - primarily for children in newly accessible areas (these are areas which become accessible after being isolated for many months due to fighting). Normally, Vit. A deficiency was not a significant health problem before the war due to the availability of Vit. A rich local food. We are planning to conduct a clinical survey to know the extent of the problem after the war.

The module on salt iodization was also not included in the survey. In 1994 a market survey was done in six counties to test the presence of iodine in all brands of salt. That test showed that all brands of salt in the Liberian market do not contain iodine. Since all Liberian households consume one or another of the brands tested, we believe that testing at a household level is unnecessary.

- 1.3f **Field Work:-** The sixty interviewers were organized into teams of two members. The teams, on 19 March 1995, were given their assignments and field materials which included questionnaires, weighing scales, height measuring board, pens, pencils, erasers and staple machines and pins. A work load of about 84 households were assigned to each team for a period of fifteen days. Immediately after the teams received their assignments and supplies on 19 March 1995, those interviewers who were assigned to Regions II and III were dispatched. Interviews in the three regions began the next day, 20 March 1995 and ended on 3 April 1995 with the collection of all completed and uncompleted questionnaires and returnable supplies.

The experience of the interviewers indicates that the mothers or caretakers of the children highly cooperated during the interviews. However, it was reported by the field supervisors that for the first two days of the survey, interviewers had difficulty completing the Pregnancy History Form, Child Listing Form, Tetanus Toxoid (TT) Questionnaire, Care of Acute Respiratory Illness (ARI) Questionnaire and Anthropometry Questionnaire. For example, in the first two days, interviewers took at most forty five minutes to measure the weights and heights of some of the children between the ages of one and three years. The children were simply afraid of the interviewers and the measuring equipment. This problem was overcome by the interviewers offering sweets and soliciting the help of the children's mothers or caretakers. As for the other forms and questionnaires, the enumerators did not just understand how to complete them. But this was resolved by frequent visits of the field supervisors and the MICS personnel. Besides, all completed questionnaires were carefully field edited by the field supervisors and, where need be, corrections were made on the field by the supervisors and/or interviewers. Additionally, the MICS personnel edited the returned completed questionnaires before the data were entered.

1.3g Data Processing: Data from MICS questionnaires were entered into and processed on two microcomputers at the UNICEF office in Monrovia by the data processing personnel of the Ministry of Health and Social Welfare. With the exception of the mortality information (including the Mother Listing and Pregnancy History Forms), all data were entered, checked for range, skip and consistency errors and analyzed using both the EPI Info Package for Mid-Decade Goal Surveys and the EPI Info 6 software. The mortality Information have not been entered and processed because, during the entry of the MICS data, it was discovered that the EPI Info Package did not include mortality program. As such alternative software like the Mortpak are being considered for the processing of the mortality data.

Also the "Indicatr.pgm" of the EPI Info Package for Mid-Decade Goal Surveys for the tabulation of one of the four education indicators was not functional. Reference is made to the calculation of the retention rate, which is the proportion of children entering first grade of primary school who eventually reach grade 5. The computation of this indicator requires the development of conditional probabilities which was not built in the EPI Info package. It was not also possible to compute the indicator from the frequency distribution as the data collected do not contain all the required information.⁵

⁵ Percentage of children starting grade 1 of primary school who eventually reach grade 5 = $\frac{\{ \text{children starting grade 1 in year } x \text{ who eventually reach grade 5} \}}{\{ \text{all children who start grade 1 in year } x \}}$. At the moment this cannot be computed even from school records as the records in almost all schools have been destroyed in the civil war.

1.4 MAJOR PROBLEMS

The survey coordinating team was not familiar with the methodologies of the MICS. This required longer time to study the MICS manual and revise the questionnaire as necessary.

There were no major problems in the field work as most of the enumerators were experienced in data collection. Logistics requirements were kept to the minimum. In future, if the Country opens up, the need for logistics will be tremendous. There were no commercial accommodations in Region II and III; we were, however, able to arrange accommodation with the help of NGOs operating in the areas.

Initially though, enumerators took more time to complete a questionnaire, which improved later as they got more familiar with the questions. Completed questionnaires were checked twice - first at the field level by the supervisors and later by the coordinating team in Monrovia. Few questionnaires were returned back from Monrovia for correction. The coordinating team also visited some of the households independently to check on the accuracy of the data collected.

Perhaps the major problem was at the data processing stage. We did not, at the beginning, exhaustively check the programme sent from Head Quarter. The manual does not have sufficient guideline on the use of the programme. The results from the programme were, therefore, checked against frequency distributions generated by EPINFO. Where there is some inconsistency, reference was made to the relevant formula. The mortality module still remains unsolved due to lack of appropriate guideline and theoretical consensus on the different methodologies.

2.0 RESULTS

2.1 Immunization of Children

During the MICS, mothers or caretakers of all children under age five years in the selected households were asked if the children had vaccination cards. If yes, the interviewers were instructed to copy the dates for each type of immunization from the card onto the questionnaire. If no date for a vaccination is recorded on the card, or if the card was not available, the interviewers were directed to use the probing questions to find out if the child received that vaccination, and if so, how many doses. The mother's or caretaker's response for each vaccine dose was recorded, but without specific information on the date the vaccine dose was administered. Note that at the time of the MICS in 1995, the country was still going through a civil war which started in 1989. As a result mothers or caretakers could not easily produce their children vaccine cards because most household members in the country, including the selected regions, have been displaced at least once.

The data on Tables 2A - 2B indicate the proportion of children aged 12 - 23 months old who were vaccinated before their first birthday. Table 2A presents data for children of the above mentioned age group with immunization dates for BCG, DPT3, OPV3 or Measles vaccine before the first birthday and verified by cards. The information on the table show that on the average, over 50 percent of the children have received their vaccine for each antigen. However, for Region I - Montserrado County which includes the Capital City of the country, Monrovia, the data show that 57 percent of the children have been vaccinated against all antigens. Also 47 percent of the children in Region II - Harbel, which is located in the largest rubber plantation in the country as well as nearer to the capital city, have received full immunization. For Region III, with the exception of BCG and Measles which had 69 percent and 31 percent coverage, respectively, the coverage rate for each of the other antigens was less than 20 percent, while, Overall coverage for Region III is only 15 percent.

TABLE 2A
VALID IMMUNIZATION COVERAGE
Aged 12 - 23 Months by Region
March, 1995

Antigen	Region I Montser- rado Co.	Region II Harbel*	Region III Bassa**	Weighted Average
Total Children	150	204	174	528
BCG %	87	91	69	85
DPT %	66	51	17	59
OPV %	63	54	17	57
Measles %	67	60	31	62
Overall %	57	47	15	51
TT Protected %	78	89	64	77

*Region II - Harbel includes Harbel, Dolo Town and Smell-No-Taste.

**Region III - Bassa refers to Buchanan City and its environs only.

An EPI coverage survey conducted in 1994 in Region I indicated an overall valid immunization coverage of 32 percent. The present coverage of 57 percent for the same region shows significant progress (even taking into account the confidence intervals). There are no comparable data from the other regions. Pre war (1988) national immunization coverage was 22 percent. We believe that the coverage rate for about 40 percent of the population living in inaccessible areas, and not covered by the survey, could be extremely low; perhaps as low as zero percent in some regions.

The information on Table 1B present the proportion of children aged 12 - 23 months old who have received BCG, DPT3, OPV3 or Measles vaccine verified by either the card or the mother's or caretaker's response. The information on this table show, on the average, 92, 64, 63 and 69 percents coverage for BCG, DPT3, OPV3 and Measles, respectively. Overall coverage based on "Card + History" is 55 percent, with the same pattern as valid coverage based on "Cards". The table shows that Region I has the highest coverage while Region III has the lowest.

TABLE 2B
Card + History Immunization of Children
Aged 12 - 23 Months by Region
March, 1995

Antigen	Region I Montser- rado Co.	Region II Harbel*	Region III Bassa**	Weighted Average
Total Children	150	204	174	528
BCG %	92	95	87	92
DPT %	69	58	21	62
OPV %	68	61	21	62
Measles %	71	71	50	68
Overall %	61	55	19	55

*Region II - Harbel includes Harbel, Dolo Town and Smell-No-Taste.

**Region III - Bassa refers to Buchanan City and its environs only.

Since the immunization programme in Liberia targets all under-five children, immunization coverage for under-fives was collected and analyzed for programming purposes. The data on Table 3A indicate the proportion of children less than sixty months old who have been vaccinated against BCG, DPT3, OPV3 or Measles verified by a card entry. The information on this table show that the overall coverage rate for the regions as well as for males and females was less than 25 percent, with Region III accounting for the least. We were able to compute male/female coverage for under-fives as the sample size is large enough to allow categorical computation with out significantly compromising accuracy. The table shows that Region III has the least immunization coverage rates for DPT3, OPV3 and Measles. Also the table indicates that the coverage rates for these same antigens in Regions I and II are less than 35 percent.

Table 3A:
Card Only Immunization of for Children
Less Than Sixty Months by Region and Sex
March, 1995

Antigen	Region I - Mont- serrado County	Region II - Harbel*	Region III - Bassa**	Weighted Average
	M F T	M F T	M F T	M F T
Total Children	415 427 842	474 475 949	535 542 1077	1424 1444 2868
BCG %	78 80 79	87 84 86	77 75 76	79 80 79
DPT %	28 33 30	26 26 26	9 9 9	26 30 27
OPV %	25 32 28	26 29 28	9 9 9	23 29 26
Measles %	25 29 27	29 32 32	23 23 23	25 29 27
Overall %	19 24 22	21 21 21	6 8 7	18 22 20

*Region II - Harbel includes Harbel, Dolo Town and Smell-No-Taste.

**Region III - Bassa refers to Buchanan City and its environs only.

The information on Table 3B present the proportion of children less than sixty months old who have received BCG, DPT3, OPV3 or Measles vaccine verified by either the card or the mother's or caretaker's response.

Immunization coverage for all under-fives based on cards is less than for those between 12 - 23 months. Two hypotheses can be forwarded - one, that parents are less likely to vaccinate their children after age one; and two, that parents may not keep the vaccination cards of elderly children. The second hypothesis is more plausible considering the fact that many families have been displaced once or more in the last couple of years. Also the card plus history response for under-fives approximates the Valid immunization for 12 - 23 months. The 1984 immunization coverage survey for under-fives shows similar pattern as this one. In both surveys the immunization coverage rates for under-fives is about half of the coverage rate for under-ones.

The coverage rates for males and females, for under-fives, are of the same magnitude for all the regions. We were not able to compute male/female coverage for children between 12 - 23 months due to the small size of the sample.

TABLE 3B
Card + History Immunization of Children
Less Than Sixty Months by Region and Sex
March, 1995

Antigen	Region I - Mont- serrado County	Region II - Harbel*	Region III - Bassa**	Weighted Average
	M F T	M F T	M F T	M F T
Total Children	398 416 814	455 455 910	511 517 1028	1364 1388 2752
BCG %	89 88 89	92 89 90	80 81 80	88 87 88
DPT %	63 63 63	56 47 51	16 18 17	57 56 57
OPV %	59 63 61	56 50 52	18 18 18	54 57 55
Measles %	61 64 62	61 58 59	36 40 39	58 61 59
Overall %	53 54 53	47 42 44	13 15 14	48 48 48

*Region II - Harbel includes Harbel, Dolo Town and Smell-No-Taste.

**Region III - Bassa refers to Buchanan City and its environs only.

2.2 Diarrhea

Diarrhea is the second most common cause of morbidity after malaria. Though the case fatality rate for diarrhea is not as high as other diseases, in terms of absolute numbers, diarrhea is the number one cause of mortality among children.

During the MICS training workshop, the interviewers were instructed to go through each question of the diarrhea questionnaire with mothers or caretakers of children less than sixty months old who have had diarrhea in the last two weeks and circle the number corresponding to the mother's or caretaker's response. The diarrhea questionnaire was basically designed to determine what type of home treatment the child had when he/she had diarrhea. The two definitions of ORT treatment were considered in the analysis. The "Old Definition" or the "Pre-1993 Definition" treatment is defined as the number of diarrhea cases among children under-five years in the last two weeks who were given ORT packet solution and/or recommended home fluids. At the workshop a list of home fluids which included, among others, SSS, rice water, coconut water, breast milk, soup, water alone, orange juice, etc. was given to the interviewers. The "New Definition" is defined as the number of diarrhea cases among children under-five years in the last two weeks who took "more" recommended fluids and continued eating at some what less, the same, or more amounts.

Table 4 presents data for the two basic definitions for diarrhea home treatment. The first data on the table present the magnitude of application of the Old Definition by mothers or caretakers. The figures show that, on the average, 94 percent of the children who had diarrhea received home treatment according to the Old Definition. This is not surprising as the old definition includes all children with cases of diarrhea who received some kind of acceptable fluid, which most mothers do. The second data represent the application of the New Definition and the data show that the home treatment according to the New Definition is less applied by mothers or caretakers. The table shows that, on the average, only 26 percent of the children who had diarrhea were treated by mothers or caretakers according to the New Definition. For both definitions, ORT usage rates were of the same magnitude for all the regions.

TABLE 4
Proportion of Children Less than Sixty Months
with Diarrhea Cases Given ORT by Region
March, 1995

Type of ORT Given	Region I Montser- rado Co.	Region II Harbel*	Region III Bassa**	Weighted Average
Total Children	215	254	391	860
Old Defn. %	94	93	95	94
New Defn %	25	33	26	26

2.3 Timely Complementary Feeding and Breast Feeding

Mothers or caretakers of children were asked four major questions in order to determine whether their children were introduced to timely complementary and/or breast feeding. The first two questions of the breast feeding questionnaire were to determine whether the child has ever been breast fed or is still being breast fed. The third question was a prompt type which was designed to determine whether the child had received, since yesterday, any food item such as vitamin, plain water, sweets, fruit juice, tea, ORS, fresh milk or infant formula, other liquids, solid or semi-solid, only breast milk, etc. The interviewers were instructed to prompt the question to the mother or caretaker of the child and circle the code for her response. The fourth question was, since yesterday, has the child been given anything to drink from a bottle with a nipple or teat.

The data on Table 5 indicate (1) the proportion of children between ages 6 - 9 months old who received timely complementary feeding, (2) the proportion of children between ages 12 - 15 months old who continued breast feeding and (3) the proportion of children between ages 20 - 23 months old who continued breast feeding. The information on the table show that, on the average, 17 percent of children between ages 6 - 9 months old were introduced to timely complementary feeding, 78 percent of children were breast fed until they are ages 12 - 15 months old, while 25 percent of children were breast fed until they are between the ages 20 - 23 months. The regional breakdown shows that children in Region I, which includes the capital city, seem to be more likely to be introduced to supplementary feeding, while children in the other two regions are more likely to be breast fed for a longer time.

According to the 1986 DHS, the average length of breast feeding was 13 and 18 months for urban and rural residents respectively. The survey also shows that the duration of breast feeding varies with age (women below 30 years breast feed for a shorter duration than those above 30), and with level of education (women with secondary or higher

education breast feed for an average of 10 months compared to 17 months for women with primary education and 19 months for those with no education). The present data do not allow such comparison. However, a sentinel survey conducted in Monrovia in 1993 placed the age at complete weaning two and half months above the pre war duration of 13 months.

TABLE 5
Timely Complementary and Continued Breast Feedings
of Children Aged 6 - 23 Months by Region
March, 1995

Type of Feeding	Region I Montser- rado Co.	Region II Harbel*	Region III Bassa**	Weighted Average
Timely Complementary Feeding for Children Between Ages 6-9 Months	18	12	12	17
Continued Breast Feeding For Children Between Ages 12 - 15 Months	77	83	82	78
Continued Breast Feeding For Children Between Ages 20 - 23 Months	24	40	25	25

*Region II - Harbel includes Harbel, Dolo Town and Smell-No-Taste.

**Region III - Bassa refers to Buchanan City and its environs only.

2.4 Acute Respiratory Infections (ARI)

According to clinical records, ARI is the third most important cause of morbidity and mortality among children, with a higher case fatality rate than malaria and diarrhea. Early identification of the symptoms of ARI by mothers or care takers is important in order to seek early treatment.

Mothers or caretakers of children below the age of five years were asked what symptoms would lead them to take their child/children to a health provider (clinic, doctor, community health worker, etc.) when he/she is ill with cough and/or cold. Mothers who responded either fast breathing or difficulty in breathing, irrespective of the other answers, were considered to have some knowledge of the signs of ARI. Mothers or Caretakers who did not indicate either of the above two symptoms were not considered to have knowledge about the signs of ARI. Hence, Table 6 shows the proportion of mothers or caretakers of under five children who have some knowledge of ARI.

TABLE 6
Proportion of Mothers/Caretakers of Under Five
Children Who Know the Signs of ARI by Region
March, 1995

Region I - Montserrado County	Region II - Harbel*	Region III - Bassa*	Weighted Average
45%	49%	46%	45.4%

*Region II - Harbel includes Harbel, Dolo Town and Smell-No-Taste.

**Region III - Bassa refers to Buchanan City and its environs only.

2.5 Water and Sanitation

Prior to the war, provision of water supply and sanitation was to a large extent biased towards urban areas. Nationally, 30 percent had access to safe supply of water; 45 percent in urban areas and 23 percent in rural areas. Access to safe sanitation facilities had been very low - about 5 percent of the total population. During the war, many people have left their usual residences and congregated in to safe areas in three counties. The results presented here, which are only for Region I, which is Montserrado County, may not therefore, reflect the situation in the long run as the configuration of the population may change dramatically in the coming years.

The interviewers were directed to ask the questions in the water and sanitation questionnaire once for each household visited. The interviewers were asked to record the number for only one answer. However, if a respondent gives more than one answer, the interviewers were instructed to enter the most usual source of water supply or sanitation facility. The water and sanitation questionnaire was designed to determine the "safe and convenient" categories for water supply and sanitation facility. Household residents are considered to have access to "safe and convenient" source of water supply if the following

categories are fulfilled: (a) piped-in dwelling, (b) public tap, (c) tube well or borehole, (d) protected dug well or protected spring and (e) located not further than one kilometer. Similarly household residents are considered to have access to "safe and convenient" sanitation facility if the following conditions are met: (a) flush to sewage system, (b) flush to septic tank, (c) pour flush latrine, (d) covered by dry latrine, and (e) located in dwelling or less than 50 m away.

The information on Table 7 indicate (1) the proportion of number of household residents with access to "safe and convenient" water supply and (2) the proportion of number of household residents with access to "safe and convenient" sanitation facility.

It should be noted that most of the residents in Region II and III are displaced persons living in a camp situation where facilities are used by large number of people and in a non-consistent manner. The questionnaire, however, did not adequately capture the reality in the two regions.

TABLE 7
Proportion of the Population with Adequate Access
to Water and Sanitation-Region I
March, 1995

Facility	Region I Montserado County
Proportion of Population with Access to Water	79
Proportion of Population with Access to Sanitation Facilities	53

2.6 Nutrition

Nutritional status assessments were infrequent prior to the civil conflict. The only nation wide assessment dates back to 1976. At that time chronic malnutrition or "stunting" (as indicated by a height-for-age measure below 90% of the reference median) was identified as the main nutrition problem in under fives. Acute malnutrition or "wasting" (as indicated by a weight-for-height measure below 80% of the reference median) was not identified as a problem in the country. A community based survey in 1985 showed that chronic malnutrition was 27% while acute malnutrition was only 1%.

The civil conflict worsened the food and nutrition situation. It created an acute scarcity

of food due to the disruption of food production, which resulted in widespread hunger and malnutrition with its associated high morbidity and mortality among children. The available data reviewed on acute malnutrition since the war show a significant increase. For example at the peak of the emergency in 1990, the acute malnutrition rate in Monrovia was as high as 35 percent. Nutritional status in displaced shelters is far from satisfactory. Surveys of acute malnutrition by international NGOs in displaced camps between June 1994 and March 1995 show a range between 5% - 26%.

In this MICS the interviewers were instructed to measure the weight and height of each child less than sixty months old after the questionnaires for all children in the household are complete. The interviewers were directed to take care in recording the measurements for each child. They were instructed to make sure that the measurements for a particular child is not interchanged for another. The interviewers were also taught to measure the heights of children in either the lying down or standing up position. For those children who may be afraid of the interviewers and/or the measuring equipment, the interviewers were instructed to solicit the help of their mothers or caretakers and/or give them some sweets in order to obtain their cooperation. It is also worth to note that children who were very sick or very young (usually below six months) were not included in the measurement exercises.

Table 8A presents the prevalence of Weight-for-Height Malnutrition data. The table shows that, on the average, the global acute malnutrition rates for males, females, and total are 10.6, 8.1 and 9.3 percents (Z Score < -2 SD), respectively. The table shows that, on the average, the severe malnutrition rates for males, females and total are 2.9, 3.0 and 2.9 percents (Z Score < -3 SD), respectively. The table also presents the acute malnutrition rates as measured by Weight-for-Height < 80% of Median for males and females for all regions. From Table 8A, it can clearly be seen that the global and severe malnutrition figures for Region III are relatively high as compared to those of Regions I and II. Malnutrition rates measured by Weight-for-Height below 80% of Median are normally lower than those measured by below -2SD.

Table 8B displays the prevalence of Height-for-Age Malnutrition. The information on the table represent the malnutrition rates as measured by Height-for-Age for males, females and total for all regions and the weighted average. From the table it can also clearly be seen that chronic malnutrition figures for Region III are, again, relatively high as compared to those of Regions I and II. The data on the table show that, as usual, malnutrition rates measured by Weight-for-Age below 80% of Median are lower than those measured by below -2SD for all regions.

Compared to pre war data, we observe a significant rise in acute malnutrition rate (from an average of 1% to 7%); it is believed that the acute malnutrition rate in areas which are not covered by this survey could be much higher. The level of chronic malnutrition, on the other hand, is of similar magnitude in both periods - quite understood since chronic malnutrition is not very sensitive to short term changes in nutritional status.

TABLE 8A
Prevalence of Weight-For-Height Malnutrition
Among Under-Fives by Region and Sex
March, 1995

Indicator	Region I - Mont- serrado County	Region II - Harbel*	Region III - Bassa**	Weighted Average
	M F T	M F T	M F T	M F T
<-2SD	10.5 7.8 9.1	9.8 6.5 8.2	11.8 11.0 11.4	10.6 8.1 9.3
<-3SD	2.6 2.8 2.7	4.0 3.4 3.7	4.1 4.2 4.1	2.9 3.0 2.9
<80% of Median	7.2 6.1 6.6	7.5 7.2 7.4	9.4 9.9 9.7	7.5 6.7 7.0
<70% of Median	1.9 2.1 2.0	3.6 3.0 3.3	3.5 3.7 3.6	2.2 2.4 2.3

TABLE 8B
Prevalence of Height-For-Age Malnutrition
Among Under-Fives by Region and Sex
March, 1995

Indicator	Region I - Mont- serrado County	Region II - Harbel	Region III - Bassa	Weighted Average
	M F T	M F T	M F T	M F T
<-2SD	31.1 29.4 30.2	35.6 30.0 32.8	46.0 43.8 49.9	33.3 31.1 32.8
<-3SD	19.4 15.1 17.2	15.7 14.1 14.9	27.8 25.4 26.6	20.8 16.3 18.1
<90% of Median	24.2 20.7 22.4	22.8 20.5 21.6	36.3 32.2 34.2	25.5 22.1 23.8
<80% of Median	6.9 4.0 5.5	2.3 2.1 2.2	8.3 8.3 8.3	6.7 4.4 5.6

2.7 Primary Education

The proportion of school aged children attending schools was low in Liberia even before the war. In fact the economic decline in the 1980s has considerably affected enrollment rate. In 1988, for example, the percentage of school aged children entering first grade was only 34%, much lower than the 1984 rate of 52%. There are no national data on enrollment since the war; however, a comprehensive school survey in Monrovia in 1994 showed a Gross Enrollment Ratio (GER) of 65% and a Net Enrollment Ratio (NER) of 32%. The MICS for Region I shows a higher GER and NER; this may be due to an overestimation of the denominator (which was based on estimated total population figure) in the former survey. Both the 1994 school survey and the MICS, however, indicate that the gap between boys and girls enrollment has narrowed down compared to the pre war level. In 1986, the male/female ratio in primary schools was 60/40. At the same level, the present ratio is 52/48.

In the MICS, the education questionnaire was directed to mothers or caretakers of all children ages five and less than fifteen years old in the household. The questions that were posed to the mothers or caretakers of these children were (a) has child ever attended school?, (b) is the child currently at school this year?, (c) which grade and level is the child currently attending?, (d) was the child attending school last year? and (e) which grade and level did child attend last year? The preliminary results for this education questionnaire are found on Table 8 below.

Table 9 presents (1) gross enrollment rate which is the proportion of children ages five and less than fifteen years old currently enrolled in primary school, (2) net enrollment rate defined as the proportion of children currently enrolled in primary school of primary-school age and (3) primary school entry rate - proportion of children of school-entry age who are currently attending grade 1. Note that the primary school age is defined to be between 5 - 12 years, inclusive, while primary school entry age is defined as between 5 - 7 years, inclusive. The data on Table 9 show that, on the average, there is no significant difference in the indicators for males and females. The table shows that the primary school entry rates for males and females in each of the three regions are less than 50 percent. The net enrollment rates are greater than 55 percent for males and females in Regions I and II; while the net enrollment rates are less than 45 percent for males and females in Region III.

TABLE 9
Primary Education Indicators for Children
Aged 5 - 14 Years Per Region and Sex
March, 1995

Indicator	Region I - Mont- serrado County	Region II - Harbel*	Region III - Bassa**	Weighted Average
	M F T	M F T	M F T	M F T
Gross Enrollment	76 67 72	66 66 66	55 43 49	73 64 69
Net Enrollment	61 55 58	59 58 58	44 36 40	59 53 56
Primary School Entry Rate***	44 40 42	47 49 48	30 35 33	43 37 41

*Region II - Harbel includes Harbel, Dolo Town and Smell-No-Taste.

**Region III - Bassa refers to Buchanan City and its environs only.

*** The primary school entry rate is not higher than the Net Enrollment ratio as may be expected. This may be due to either the inclusion of five year olds, who in the majority do not attend school, or due to the tendency of fewer and fewer children going to school in the past few years. If the later is the case, the Net Enrollment Ratio could be reduced in the future.

APPENDICES

3.1 Confidence Intervals for Selected Immunization Indicators

SE = Standard Error

LCL = Lower Confidence Limit {at 95%, this = mean - 2(SE)}

UCL = Upper Confidence Limit {at 95%, this = mean + 2(SE)}

Deff = Design Effect

IMMUNIZATION COVERAGE RATES WITH 95 PERCENT CONFIDENCE INTERVAL

1. VALID OVERALL IMMUNIZATION COVERAGE FOR CHILDREN BETWEEN 12 - 23 MONTHS

	REGION I	REGION II	REGION III	WTD AVR.
COVERAGE %	57.3	46.6	14.9	50.6
SE %	4.0	3.5	2.7	3.1
LCL%	49.3	39.6	9.5	44.4
UCL %	65.3	53.6	20.3	56.8
Deff	1.007	1.005	1.006	2.0763

2. MEASLES COVERAGE

	REGION I	REGION II	REGION III	WTD AVR.
COVERAGE %	66.7	59.8	31.0	61.6
SE %	3.9	3.4	3.5	3.0
LCL %	58.9	53.0	24.0	55.6
UCL %	74.5	66.6	38.0	67.6
Deff	1.007	1.005	1.006	2.01

3. CHILDREN PROTECTED AGAINST NEO-NATAL TETANUS

	REGION I	REGION II	REGION III	WTD AVR.
COVERAGE %	78.3	89.3	63.7	76.8
SE %	2.7	2.0	2.7	2.1
LCL %	72.9	85.3	58.3	72.6
UCL %	83.7	93.3	69.1	81.0
Deff	1.004	1.004	1.003	1.997

3.2 List of Selected Clusters

3.2a List of selected Clusters for Region I - Montserrado County

Cluster Number	Zone Code	Zone	Comm. Code	Community	Block
101	0100	New Kru Town	0102	Duala Market East	A
102	0100	New Kru Town	0105	Mombo Town East	A
103	0100	New Kru Town	0108	Fundaye	B
104	0100	New Kru Town	0113	Popo Beach	B
105	0200	Logan Town	0203	Jamacia Road	B
106	0200	Logan Town	0206	Little White Chapel	D
107	0200	Logan Town	0210	Central Logan Town	C
108	0300	Clara Town	0305	River View	B
109	0300	Clara Town	0309	Freeport Dev. Community	E
110	0400	West Point	0401	Power Plant Comm.	A
111	0400	West Point	0403	General Market Area	B
112	0500	Cen. Monrovia A	0501	Rock Crusher	A
113	0500	Cen. Monrovia A	0505	Randall/Lynch St.	A
114	0500	Cen. Monrovia A	0508	Central Monrovia	B
115	0600	Cen. Monrovia B	0605	Buzzi Quarters	A
116	0600	Cen. Monrovia B	0607	Bishop Brooks	B
117	0600	Cen. Monrovia B	0612	Jallah Town	B
118	0700	Sinkor	0703	Cooper's Clinic	B
119	0700	Sinkor	0707	Pyne People Comm.	C
120	0800	Lakpazee	0806	Central Lakpazee	B
121	0900	Old Road	0903	Carbral Estate	C

Cluster Number	Zone Code	Zone	Comm. Code	Community	Block
122	0900	Old Road	0911	Key & Death Holes	A
123	1100	Paynesville A	1101	Duport Road South	E
124	1100	Paynesville A	1107	Town Hall Area	B
125	1200	Caldwell	1201	North Road Comm.	C
126	1200	Caldwell	1206	New Georgia Town	M
127	1200	Caldwell	1211	Upper Cald. N/E	B
128	1300	Brewerville	1304	Brewerville	K
129	1300	Brewerville	1308	Rick Community	B
130	1300	Brewerville	1312	Belaparkor Comm.	E
131	1400	Paynesville B	1402	Neezoe	C
132	1400	Paynesville B	1406	Red Light Comm.	C
133	1400	Paynesville B	1410	Duport Road North	B
134	1500	Gardnersville	1502	Kesselle Comm.	A
135	1500	Gardnersville	1507	S. Tolbert Estate	A
136	1500	Gardnersville	1513	Town Hall Comm.	A
137	1600	New Georgia	1602	Barnersville Oldfield	F
138	1600	New Georgia	1607	Iron Factory	F
139	1800	Careysburg	1809	Kponei's Town	B
140	2200	Bensonville/ Mount Coffee	2201	Central Bensonville	A

3.2b List of selected Clusters for Region II - Harbel

Cluster Number	Community	Block
201	Dolo Town	E
202	Harbel	T
203	Harbel	B
204	Harbel	F
205	Harbel	C
206	Harbel	M
207	Harbel	S
208	Harbel	U
209	Harbel	P
210	Harbel	H
211	Harbel	O
212	Harbel	G
213	Harbel	L
214	Harbel	K
215	Harbel	N
216	Harbel	Q
217	Harbel	J
218	Harbel	I
219	Harbel	R
220	Harbel	R
221	Harbel	D
222	Harbel	X
223	Smell-No-Taste	D
224	Smell-No-Taste	G

Cluster Number	Community	Block
225	Smell-No-Taste	G
226	Smell-No-Taste	A
227	Smell-No-Taste	A
228	Smell-No-Taste	A
229	Smell-No-Taste	E
230	Smell-No-Taste	E
231	Smell-No-Taste	F
232	Smell-No-Taste	F
233	Smell-No-Taste	F
234	Smell-No-Taste	B
235	Smell-No-Taste	B
236	Smell-No-Taste	B
237	Smell-No-Taste	B
238	Smell-No-Taste	C
239	Smell-No-Taste	C
240	Smell-No-Taste	C

3.2c List of selected Clusters for Region III - Bassa

Cluster Number	Community Code	Community	Block
301	3001	Lower Buchanan	I
302	3001	Lower Buchanan	O
303	3001	Lower Buchanan	L
304	3001	Lower Buchanan	E
305	3001	Lower Buchanan	M
306	3001	Lower Buchanan	D
307	3001	Lower Buchanan	J
308	3001	Lower Buchanan	P
309	3001	Lower Buchanan	K
310	3001	Lower Buchanan	G
311	3001	Lower Buchanan	C
312	3001	Lower Buchanan	B
313	3001	Lower Buchanan	B
314	3001	Lower Buchanan	Q
315	3001	Lower Buchanan	F
316	3001	Lower Buchanan	H
317	3001	Lower Buchanan	H
318	3001	Lower Buchanan	H
319	3002	Central Buchanan	A
320	3002	Central Buchanan	B
321	3002	Central Buchanan	B
322	3002	Central Buchanan	C
323	3002	Central Buchanan	D

Cluster Number	Community Code	Community	Block
324	3002	Central Buchanan	E
325	3002	Central Buchanan	F
326	3003	Upper Buchanan	A
327	3003	Upper Buchanan	C
328	3101	Gorr Zohon	E
329	3101	Gorr Zohon	G
330	3101	Gorr Zohon	H
331	3302	Bexley	E
332	3201	Neekrein	B
333	3404	Dwen's Town	A
334	3403	Sonwein	A
335	3307	Peter Harris Town	E
336	3307	Peter Harris Town	F
337	3310	Goingbo*	C
338	3102	Before Flour Mill	A
339	3102	Before Flour Mill	F
340	3102	Before Flour Mill	G

*This community was not accessible at the time of the survey.

3.3 Sample MICS Questionnaire and Interviewer Instructional Manual

3.3a Sample MICS Questionnaire

CLUSTER NO. _____ STRUCTURE NO. _____ HOUSEHOLD NO. _____

MINISTRY OF PLANNING AND ECONOMIC AFFAIRS

&

UNICEF

MULTI INDICATOR CLUSTER SURVEY

MARCH 1995

HOUSEHOLD QUESTIONNAIRE

INTERVIEWER: *Begin by introducing yourself,* WE ARE FROM THE MINISTRY OF PLANNING & ECONOMIC AFFAIRS AND UNICEF AND WOULD LIKE SOME INFORMATION THAT WILL HELP US IMPROVE THE HEALTH AND WELL-BEING OF CHILDREN. THE QUESTIONS WILL TAKE ONLY A FEW MINUTES.

Household Information Panel

County: City/town/village:	Cluster number: Structure number: Household number:	Date of interview (day/month/year): ___ / ___ / ___
Interviewer no.: Supervisor no.:	Name of head of household:	Call-back necessary? Yes / No Time: ___ A.M./P.M.
No. persons in HH usually resident:	Material of dwelling floor: 1 wood/tile 2 planks/concrete 3 dirt/straw 4 other	Number of rooms in dwelling:
Data entry clerk no.:	All forms completed? 1 Yes 0 No If not, why not? 1 Refusal 2 Not at home 3 HH not found/destroyed 4 other	Region 1 2 3 4 Urban 1 Rural 2

INTERVIEWER: CAN YOU TELL ME THE NAMES AND AGES OF ALL WOMEN OVER AGE 15 WHO USUALLY RESIDES HERE? *Fill in the following information about each woman in the household, listing the first woman's name in line 10. First ask for names, and then go back and ask for each woman in turn, naming her: HOW OLD ARE YOU? HAVE YOU EVER HAD A CHILD? If she answers yes, ask about own-born children living with her, own-born children living elsewhere and own-born children who are now dead. (For this part of the questionnaire, you need to make it clear that you are **not** interested in the children of **other** women (i.e., children adopted or fostered into the household). If the woman is not present, ask the head of household or other women to supply the information for her. If you cannot obtain the answer to a question, **do not leave a blank space: put a 99 in the space provided for the answer.***

Mother Listing Form

Line no.	1. Mother's name	2. Age in years		Children ever-born to mother:							
				Living at home		Living elsewhere		Died		Total children	
				Male	Female	Male	Female	Male	Female		
10											
20											
30											
40											
50											
60											
70											

Fill in the Pregnancy History Form below for every mother listed in the Mother Listing Form on page 1. If the woman is not at home, you may ask for the information about her from another woman living in the household—for example, her mother, adult daughter, co-wife, etc.

Structure no. ____ Cluster no. ____ Household no. ____

INTERVIEWER: For each woman with at least one birth (alive or dead) listed on the previous table, ask each woman in turn about her last three pregnancies: FIRST, I WOULD LIKE TO RECORD SOME INFORMATION ABOUT YOUR MOST RECENT PREGNANCIES. WAS THE OUTCOME OF YOUR LAST PREGNANCY A LIVE BIRTH, A STILLBIRTH OR A MISCARRIAGE? Make sure the woman understands that a live birth is any child who breathed or cried after birth, even if he/she lived only a short time. Fill in the table below, once for each woman, going back as far as three pregnancies. If the woman has never given birth don't use the pregnancy history form.

Pregnancy History Form

Woman's line no.: ____ Name: ____ _____ _____	Pre gnan cy outcome ^a	Child's name	For live births only:							Age at death (months)		
			Child's sex: 1 = Male 2 = Female	Date of birth: (dd / mm / yy)				Still alive? 1 = Y 0 = N				
1. Last			1	2						1	0	
2. Next-last			1	2						1	0	
3. Second- last			1	2						1	0	

^a1 = LIVE BIRTH, 2 = STILLBIRTH, 3 = MISCARRIAGE/ABORTION.

STRUCTURE NO. ____ CLUSTER NO. ____ HOUSEHOLD NO. ____

INTERVIEWER: NOW FILL IN THE CHILD LISTING FORM BELOW ABOUT ONLY THE CHILDREN UNDER AGE 15 FOR WHOM THIS WOMAN IS THE PRIMARY CARETAKER (THAT IS, HER LIVING CHILDREN AND ANY OTHER CHILDREN IN THE HOUSEHOLD THAT SHE CARES FOR, EVEN IF THEY ARE NOT THE BIOLOGICAL CHILDREN OF ANY WOMAN IN THE HOUSEHOLD—I.E., FOSTERED CHILDREN, STEPCHILDREN, YOUNGER SIBLINGS OF THE WOMAN). STOP LISTING WHEN YOU REACH A CHILD OVER AGE 15. THEN ASK: ARE THERE ANY OTHER CHILDREN YOU CARE FOR WHO LIVE HERE, EVEN IF THEY ARE NOT AT HOME NOW? THESE MAY INCLUDE CHILDREN IN SCHOOL OR AT WORK. IF YES, LIST THESE CHILDREN. ADD CONTINUATION SHEET IF NOT ENOUGH ROOM ON THIS PAGE. IF CONTINUATION SHEET USED, TICK HERE. ☐

CHILD LISTING FORM

WOMAN'S NAME: _____

LINE NO.: _____

CHILD LINE NO.	1. CHILD'S NAME:	2. CHILD'S SEX: 1 = MALE 2 = FEMALE	3. DAY, MONTH, YEAR OF BIRTH? (D D / M M / Y Y)	4. AGE IN YEARS	5. AGE 5 OR OVER? Y = 1, N = 0
		1 2			1 0
		1 2			1 0
		1 2			1 0
		1 2			1 0
		1 2			1 0
		1 2			1 0
		1 2			1 0

CONTINUE TO COMPLETE THE CHILD LISTING FORM FOR EVERY WOMAN IN THE HOUSEHOLD WHO IS A PRIMARY CARETAKER, USING ONE TABLE FOR EACH WOMAN. COPY LINE NUMBERS FOR ALL CHILDREN OVER AGE 5 TO THE EDUCATION QUESTIONNAIRE. COPY LINE NUMBERS FOR ALL UNDER-FIVE TO THE SEPARATE QUESTIONNAIRES FOR CHILDREN UNDER FIVE YEARS OF AGE, ONE FOR EACH UNDER-FIVE.

WATER AND SANITATION QUESTIONNAIRE

STRUCTURE NO. ____ CLUSTER NO. ____ HOUSEHOLD NO. ____

ASK THE QUESTIONS IN THIS QUESTIONNAIRE ONCE FOR EACH HOUSEHOLD VISITED. RECORD THE NUMBER FOR ONLY ONE ANSWER IN THE SPACE AT RIGHT. IF A RESPONDENT GIVES MORE THAN ONE ANSWER, ENTER THE MOST USUAL SOURCE/FACILITY:

1. WHAT IS THE SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD?

PIPED-IN DWELLING	1	UNPROTECTED DUG WELL	
PUBLIC TAP	2	OR SPRING,	5
TUBE WELL OR BOREHOLE	3	RAINWATER	6
PROTECTED DUG WELL OR		POND, RIVER OR STREAM	7
PROTECTED	4	TANKER-TRUCK, VENDOR	9
SPRING		OTHER	—

2. HOW FAR IS THIS SOURCE FROM YOUR DWELLING?

ON PREMISES	1	500M-1KM	4
LESS THAN 100 METRES	2	MORE THAN 1 KM	5
100M-LESS THAN 500M	3	DON'T KNOW	9

3. HOW LONG DOES IT TAKE TO GET THERE, GET WATER AND COME BACK?

NO. OF MINUTES ☺
 WATER ON PREMISES 888
 DON'T KNOW 999

4. WHAT KIND OF TOILET FACILITY DOES YOUR HOUSEHOLD USE?

FLUSH TO SEWAGE SYSTEM	1	COVERED BY DRY LATRINE	4
FLUSH TO SEPTIC TANK	2	UNCOVERED LATRINE	5
POUR FLUSH LATRINE	3	NO FACILITIES ◊ GO TO NEXT	9

QUESTIONNAIRE

5. HOW FAR IS THE FACILITY FROM YOUR DWELLING?

IN DWELLING	1	50M OR MORE AWAY	3
LESS THAN 50M AWAY	2	DON'T KNOW	9

EDUCATION QUESTIONNAIRE

STRUCTURE NO. ____ CLUSTER NO. ____ HOUSEHOLD NO. ____

THE QUESTIONS IN THIS QUESTIONNAIRE SHOULD BE ASKED FOR ALL CHILDREN IN THE HOUSEHOLD AGE 5 YEARS AND OVER (OR OVER SCHOOL-ENTRY AGE).

QUESTIONS	LINE NO.: ____ NAME: ____	LINE NO.: ____ NAME: ____	LINE NO.: ____ NAME: ____	LINE NO.: ____ NAME: ____
1. HAS [NAME] EVER ATTENDED SCHOOL?				
YES 1	1	1	1	1
NO 0 ◊ GO ON TO NEXT CHILD	0	0	0	0
DK 9 ◊ GO ON TO NEXT CHILD	9	9	9	9
2. IS HE/SHE CURRENTLY AT SCHOOL THIS YEAR?				
YES 1	1	1	1	1
NO 0 ◊ GO TO QUESTION 4	0	0	0	0
DK 9 ◊ GO TO QUESTION 4	9	9	9	9
3. WHICH GRADE AND LEVEL IS HE/SHE CURRENTLY ATTENDING?	GRADE ____			
LEVEL: PRIMARY 1				
SECONDARY 2	LEVEL ____			
4. WAS [NAME] ATTENDING SCHOOL LAST YEAR?				
YES 1	1	1	1	1
NO 0 ◊ GO ON TO NEXT CHILD	0	0	0	0
DK 9 ◊ GO ON TO NEXT CHILD	9	9	9	9
5. WHICH GRADE AND LEVEL DID [NAME] ATTEND LAST YEAR?	GRADE ____			
LEVEL: PRIMARY 1				
SECONDARY 2	LEVEL ____			

QUESTIONNAIRES FOR MOTHERS

THE FOLLOWING QUESTIONS ARE DIRECTED TO ALL MOTHERS OF UNDER-FIVES IN THE HOUSEHOLD. FILL IN THE MOTHERS' IDENTIFYING NUMBERS AND NAMES IN THE SPACES PROVIDED.

TETANUS TOXOID (TT) QUESTIONNAIRE STRUCTURE NO. ____ CLUSTER NO. ____ HOUSEHOLD NO. ____

QUESTIONS	MOTHER LINE NO.: NAME: _____	MOTHER LINE NO.: NAME: _____	MOTHER LINE NO.: NAME: _____
1. DO YOU HAVE A CARD OR OTHER DOCUMENT WITH YOUR OWN IMMUNIZATIONS LISTED? YES (SEEN) 1 YES (NOT SEEN) 2 No 0 DON'T KNOW 9			
2. WHEN YOU WERE PREGNANT WITH YOUR LAST CHILD, DID YOU RECEIVE ANY INJECTION (E.G., TO PREVENT HIM/HER FROM GETTING CONVULSIONS AFTER BIRTH, AN ANTI-TETANUS SHOT, AN INJECTION AT THE TOP OF THE SHOULDER)? YES 1 No 0 DK 9			
3. IF YES, HOW MANY DOSES OF TT DID YOU RECEIVE DURING YOUR LAST PREGNANCY? NO. OF DOSES:			
IF THE MOTHER REPORTS TWO TT INJECTIONS DURING THE LAST PREGNANCY, STOP HERE. IF SHE HAS RECEIVED FEWER THAN TWO TT INJECTIONS DURING HER PREGNANCY, CONTINUE TO QUESTION. USE THE FOLLOWING QUESTIONS:			
4. DID YOU RECEIVE ANY TT INJECTION (AT THE TOP OF THE SHOULDER) AT ANY TIME BEFORE YOUR LAST PREGNANCY, EITHER DURING A PREVIOUS PREGNANCY OR BETWEEN PREGNANCIES? - YES 1 No 0 DK 9			
5. IF YES, HOW MANY DOSES DID YOU RECEIVE? NUMBER OF DOSES:			
6. WHEN WAS THE LAST DOSE RECEIVED? (RECORD MONTH AND YEAR OR NUMBER OF YEARS AGO.)	MM/YY: OR YEARS AGO:	MM/YY: OR YEARS AGO:	MM/YY: OR YEARS AGO:
ADD UP RESPONSES TO Q.3 AND Q.5 AND ENTER IN BOX(ES) BELOW:			
7. TOTAL DOSES IN LIFETIME:			

CARE OF ACUTE RESPIRATORY ILLNESS QUESTIONNAIRE

STRUCTURE NO: ____ CLUSTER NO. ____ HOUSEHOLD NO. ____

QUESTIONS	LINE NO.: ____ NAME: _____	LINE NO.: ____ NAME: _____	LINE NO.: ____ NAME: _____
1. COUGH AND COLD ARE COMMON ILLNESSES. WHEN YOUR CHILD IS ILL WITH A COUGH AND/OR COLD, WHAT SIGNS OR SYMPTOMS WOULD LEAD YOU TO TAKE HIM/HER TO A [LIST APPROPRIATE HEALTH PROVIDERS—E.G., CLINIC, COMMUNITY HEALTH WORKER, DOCTOR] OR OTHER HEALTH PROVIDER? DO NOT PROMPT. CIRCLE THE NUMBER FOR EACH ANSWER MENTIONED. MORE THAN ONE ANSWER CAN BE CIRCLED. WHEN HE/SHE: 1A. HAS A BLOCKED NOSE 1 1A 1B. HAS TROUBLE SLEEPING/EATING 2 1B 1C. HAS A FEVER 3 1C 1D. IS BREATHING FAST 4 1D 1E. HAS DIFFICULTY BREATHING 5 1E 1F. IS ILL FOR A LONG TIME 6 1F 1G. OTHER 1G 1H. DON'T KNOW 9 1H	1 2 3 4 5 6 7 9	1 2 3 4 5 6 7 9	1 2 3 4 5 6 7 9

QUESTIONNAIRES FOR CHILDREN UNDER FIVE YEARS OF AGE

THE FOLLOWING QUESTIONNAIRES ARE DIRECTED TO THE MOTHERS OR CARETAKERS OF ALL CHILDREN UNDER AGE 5 IN THE HOUSEHOLD.

A SEPARATE FORM SHOULD BE FILLED IN FOR EACH CHILD UNDER 5 YEARS LISTED IN THE CHILD LISTING FORM. FILL IN THE NAME AND LINE NUMBER OF EACH CHILD ALONG WITH THE CLUSTER AND HOUSEHOLD NUMBERS IN THE SPACE AT THE TOP OF EACH QUESTIONNAIRE. GO THROUGH EACH QUESTION WITH THE MOTHER. CIRCLE THE NUMBER CORRESPONDING TO THE MOTHER'S RESPONSE WHERE INDICATED. MAKE SURE ALL IDENTIFYING INFORMATION IS FILLED IN CORRECTLY, UNTIL ALL CHILDREN UNDER AGE 5 HAVE BEEN COVERED.

DIARRHOEA QUESTIONNAIRE STRUCTURE NO.: CLUSTER NO. ____ HOUSEHOLD NO. ____ CHILD NO.

CHILD NAME _____

QUESTIONS	RESPONSE
1. HAS [NAME] HAD DIARRHOEA IN THE LAST 2 WEEKS? (DIARRHOEA IS DETERMINED AS PERCEIVED BY MOTHER, OR AS THREE OR MORE LOOSE OR WATERY STOOLS/DAY OR BLOOD IN STOOL.) YES 1 No 0 GO TO NEXT QUESTIONNAIRE DK 9 GO TO NEXT QUESTIONNAIRE	
2. DURING THIS LAST EPISODE OF DIARRHOEA, DID [NAME] DRINK ANY OF THE FOLLOWING? (PROMPT AND CIRCLE CODE FOR ALL ITEMS MENTIONED.) 1 = Yes 2 = No 9 = DK 2A. BREAST MILK? 2A. 1 0 9 2B. CEREAL-BASED GRUEL OR GRUEL MADE FROM ROOTS OR SOUP? 2B. 1 0 9 2C. ACCEPTABLE HOME FLUIDS (E.G., SSS, RICE WATER, COCONUT WATER)? 2C. 1 0 9 2D. ORS PACKET SOLUTION? 2D. 1 0 9 2E. OTHER MILK OR INFANT FORMULA? 2E. 1 0 9 2F. WATER WITH FEEDING DURING SOME PART OF THE DAY? 2F. 1 0 9 2G. WATER ALONE? 2G. 1 0 9 2H. DEFINED "UNACCEPTABLE" FLUIDS (HOT SOUP) 2H. 1 0 9 2I. NOTHING GO TO QUESTION 4 2I. 1 0 9	Y N DK
3. DURING [NAME]'S DIARRHOEA, DID HE/SHE DRINK MUCH LESS, ABOUT THE SAME, OR MORE THAN USUAL? MUCH LESS OR NONE 1 ABOUT THE SAME (OR SOMEWHAT LESS) 2 MORE 3 DON'T KNOW 9	
4. DURING [NAME]'S DIARRHOEA, DID HE/SHE EAT LESS, ABOUT THE SAME, OR MORE FOOD THAN USUAL? (IF LESS, PROBE: MUCH LESS OR A LITTLE LESS THAN USUAL?) NONE 1 MUCH LESS 2 SOMEWHAT LESS 3 ABOUT THE SAME 4 MORE 5 DON'T KNOW 9	

BREASTFEEDING QUESTIONNAIRE: STRUCTURE NO.: ____ **CLUSTER NO.** ____ **HOUSEHOLD NO.** ____

CHILD NO. ____ **CHILD NAME** _____

1. HAS [NAME] EVER BEEN BREASTFED? YES 1 NO 0 ◊ GO TO QUESTION 4 DK 9 ◊ GO TO QUESTION 4																	
2. IS HE/SHE STILL BEING BREASTFED? YES 1 NO 0 ◊ GO TO QUESTION 4 DK 9 ◊ GO TO QUESTION 4																	
3. SINCE THIS TIME YESTERDAY, DID HE/SHE RECEIVE ANY OF THE FOLLOWING? <i>PROMPT AND CIRCLE CODE FOR ALL ITEMS MENTIONED. 1=Yes 2=No 9=DK</i> <table border="0"> <tr> <td>3A. VITAMIN, MINERAL SUPPLEMENTS OR MEDICINE</td> <td>3A. 1 0 9</td> </tr> <tr> <td>3B. PLAIN WATER</td> <td>3B. 1 0 9</td> </tr> <tr> <td>3C. SWEETENED, FLAVOURED WATER OR FRUIT JUICE OR TEA OR INFUSION</td> <td>3C. 1 0 9</td> </tr> <tr> <td>3D. ORAL REHYDRATION SOLUTION (ORS)</td> <td>3D. 1 0 9</td> </tr> <tr> <td>3E. TINNED, POWDERED OR FRESH MILK OR INFANT FORMULA</td> <td>3E. 1 0 9</td> </tr> <tr> <td>3F. OTHER LIQUIDS (BOILED HERBS)</td> <td>3F. 1 0 9</td> </tr> <tr> <td>3G. SOLID OR SEMI-SOLID (MUSHY) FOOD</td> <td>3G. 1 0 9</td> </tr> <tr> <td>3H. RECEIVED ONLY BREAST MILK</td> <td>3H. 1 0 9</td> </tr> </table>	3A. VITAMIN, MINERAL SUPPLEMENTS OR MEDICINE	3A. 1 0 9	3B. PLAIN WATER	3B. 1 0 9	3C. SWEETENED, FLAVOURED WATER OR FRUIT JUICE OR TEA OR INFUSION	3C. 1 0 9	3D. ORAL REHYDRATION SOLUTION (ORS)	3D. 1 0 9	3E. TINNED, POWDERED OR FRESH MILK OR INFANT FORMULA	3E. 1 0 9	3F. OTHER LIQUIDS (BOILED HERBS)	3F. 1 0 9	3G. SOLID OR SEMI-SOLID (MUSHY) FOOD	3G. 1 0 9	3H. RECEIVED ONLY BREAST MILK	3H. 1 0 9	Y N DK
3A. VITAMIN, MINERAL SUPPLEMENTS OR MEDICINE	3A. 1 0 9																
3B. PLAIN WATER	3B. 1 0 9																
3C. SWEETENED, FLAVOURED WATER OR FRUIT JUICE OR TEA OR INFUSION	3C. 1 0 9																
3D. ORAL REHYDRATION SOLUTION (ORS)	3D. 1 0 9																
3E. TINNED, POWDERED OR FRESH MILK OR INFANT FORMULA	3E. 1 0 9																
3F. OTHER LIQUIDS (BOILED HERBS)	3F. 1 0 9																
3G. SOLID OR SEMI-SOLID (MUSHY) FOOD	3G. 1 0 9																
3H. RECEIVED ONLY BREAST MILK	3H. 1 0 9																
4. SINCE THIS TIME YESTERDAY, HAS [NAME] BEEN GIVEN ANYTHING TO DRINK FROM A BOTTLE WITH A NIPPLE OR TEAT? YES 1 No 0 DK 9																	

IMMUNIZATION QUESTIONNAIRE STRUCTURE NO. ___ CLUSTER NO. ___ HOUSEHOLD NO. ___

CHILD NAME _____ CHILD NO. ___

IF AN IMMUNIZATION CARD IS AVAILABLE, COPY THE DATES FOR EACH TYPE OF IMMUNIZATION BELOW. IF NO DATE FOR VACCINATION IS RECORDED ON THE CARD, OR IF NO CARD IS AVAILABLE, USE PROBING QUESTIONS TO FIND OUT IF THE CHILD RECEIVED THAT VACCINATION, AND IF SO, HOW MANY DOSES. RECORD THE MOTHER'S RESPONSE FOR EACH VACCINE DOSE IN THE SPACE PROVIDED.

QUESTIONS	Y=1 N=0 DK=9	DATE OF IMMUNIZATION (DAY) (MONTH) (YEAR)		
1. IS THERE A VACCINATION RECORD CARD FOR [NAME]? YES 1 No 0 DK 9				
2. BCG YES 1 No 0 DK 9				
3A. DPT1 YES 1 No 0 DK 9				
3B. DPT2 YES 1 No 0 DK 9				
3C. DPT3 YES 1 No 0 DK 9				
4A. OPV1 YES 1 No 0 DK 9				
4B. OPV2 YES 1 No 0 DK 9				
4C. OPV3 YES 1 No 0 DK 9				
5. MEASLES YES 1 No 0 DK 9				
6. BCG SCAR? (CHECK FOR SCAR, AND SEE OPTIONAL PLACEMENT IN THE ANTHROPOMETRY QUESTIONNAIRE.) YES 1 No 0 NOT EXAMINED 9				
PROBING QUESTIONS TO USE WHEN NO VACCINATION CARD IS AVAILABLE:				
2. HAS [NAME] EVER BEEN GIVEN A BCG VACCINATION AGAINST TUBERCULOSIS — THAT IS, AN INJECTION IN THE RIGHT SHOULDER THAT CAUSED A SCAR?				
3. HAS [NAME] EVER BEEN GIVEN "VACCINATION INJECTIONS" — THAT IS, AN INJECTION IN THE THIGH OR BUTTOCKS — TO PREVENT HIM/HER FROM GETTING TETANUS, WHOOPING COUGH, DIPHTHERIA? HOW MANY TIMES?				
4. HAS [NAME] EVER BEEN GIVEN ANY "VACCINATION DROPS" TO PROTECT HIM/HER FROM GETTING DISEASES — THAT IS, POLIO? HOW MANY TIMES HAS HE/SHE BEEN GIVEN THESE DROPS?				
5. HAS [NAME] EVER BEEN GIVEN "VACCINATION INJECTIONS" — THAT IS, A SHOT IN THE ARM, AT THE OF 9 MONTHS OR OLDER) — TO PREVENT HIM/HER FROM GETTING MEASLES?				

ANTHROPOMETRY QUESTIONNAIRE STRUCTURE NO: ___ CLUSTER NO. ___ HOUSEHOLD NO. ___

INTERVIEWER: AFTER QUESTIONNAIRES FOR ALL CHILDREN ARE COMPLETE, THE MEASURER WEIGHS (AND OPTIONALLY MEASURES) EACH CHILD. RECORD WEIGHT (AND HEIGHT, IF MEASURED) BELOW, TAKING CARE TO RECORD THE MEASUREMENT ON THE CORRECT QUESTIONNAIRE FOR THAT CHILD (CHECK CHILD'S NAME).

MEASUREMENTS CHILD NAME _____ CHILD No. _____	RESULT
OPTIONAL PLACEMENT: (SEE IMMUNIZATION QUESTIONNAIRE QUESTION 6) 1. BCG SCAR? (CHECK FOR SCAR.) YES 1 No 0 NOT EXAMINED 9	
2. WEIGHT (KG)	□□.□
3. HEIGHT/LENGTH (CM)	□□□.□
3A. MEASUREMENT MADE: LYING DOWN 1 STANDING 2	
4. RESULT: MEASURED 1 NOT PRESENT 2 REFUSED 3 OTHER 9	
MEASUREMENTS CHILD NAME _____ CHILD No. _____	RESULT
OPTIONAL PLACEMENT: (SEE IMMUNIZATION QUESTIONNAIRE QUESTION 6) 1. BCG SCAR? (CHECK FOR SCAR.) YES 1 No 0 NOT EXAMINED 9	
2. WEIGHT (KG)	□□.□
3. HEIGHT/LENGTH (CM)	□□□.□
3A. MEASUREMENT MADE: LYING DOWN 1 STANDING 2	
4. RESULT: MEASURED 1 NOT PRESENT 2 REFUSED 3 OTHER 9	
MEASUREMENTS CHILD NAME _____ CHILD No. _____	RESULT
OPTIONAL PLACEMENT: (SEE IMMUNIZATION QUESTIONNAIRE QUESTION 6) 1. BCG SCAR? (CHECK FOR SCAR.) YES 1 No 0 NOT EXAMINED 9	
2. WEIGHT (KG)	□□.□
3. HEIGHT/LENGTH (CM)	□□□.□
3A. MEASUREMENT MADE: LYING DOWN 1 STANDING 2	
4. RESULT: MEASURED 1 NOT PRESENT 2 REFUSED 3 OTHER 9	

THANK THE MOTHER FOR HER COOPERATION

3.4 LIST OF SURVEY PERSONNEL *

No.	NAME	TITLE	ORGANIZATION
1	T. EDWARD LIBERTY	COORDINATOR	MIN. OF PLANNING
2	CHARLES NAGBE	ASST. COORD. & PROGRAMMER	MIN. OF HEALTH
3	WILLIAM CURRAN	ASST. COORD.	MIN. OF PLANNING
4	FRANCIS GOMOYAN	SUPERVISOR	MIN. OF PLANNING
5	JULIUS HARMON	SUPERVISOR	MIN. OF PLANNING
6	FAITH LAWRENCE	SUPERVISOR	MIN. OF PLANNING
7	JAMES SAWO	SUPERVISOR	MIN. OF PLANNING
8	CLEARANCE PAASAWA	SUPERVISOR	MIN. OF PLANNING/U.L.
9	DANIEL F. KINGSLEY	SUPERVISOR	MIN. OF PLANNING
10	A. K. TARWAY-TWALLA	SUPERVISOR	MIN. OF PLANNING/U.L.
11	AUGUSTINE FAYIAH	SUPERVISOR	MIN. OF PLANNING
12	ALPHONSO TRYE	INTERVIEWER	MIN. OF PLANNING
13	EMMANUEL SIAFA	INTERVIEWER	MIN. OF PLANNING/U.L.
14	STEPHEN KOHN	INTERVIEWER	MIN. OF PLANNING
15	ANTHONY SHERMAN	INTERVIEWER	MIN. OF PLANNING
16	RICHARD MASSAQUOI	INTERVIEWER	MIN. OF HEALTH
17	HAWA BARCLAY	INTERVIEWER	MIN. OF HEALTH
18	NICHOLAS NIMENE	INTERVIEWER	MIN. OF PLANNING
19	NPOLEON WESLEY	INTERVIEWER	MIN. OF PLANNING
20	JOHN DAVIES	INTERVIEWER	MIN. OF PLANNING
21	FRED SWEN	INTERVIEWER	MIN. OF PLANNING
22	CHARLES KANGBA	INTERVIEWER	MIN. OF PLANNING
23	WASHAMA HOFF	INTERVIEWER	MIN. OF PLANNING
24	JERRY AKOI	INTERVIEWER	MIN. OF PLANNING
25	RICHARD A. KPADEH	INTERVIEWER	MIN. OF PLANNING
26	GLANIA FLUMO	INTERVIEWER	MIN. OF HEALTH
27	VIOLA WESLEY	INTERVIEWER	MIN. OF PLANNING

No.	NAME	TITLE	ORGANIZATION
28	BEN LIBERTY	INTERVIEWER	MIN. OF PLANNING
29	ROLAND LAWRENCE	INTERVIEWER	MIN. OF PLANNING/U.L.
30	EVA LANSSANAH	INTERVIEWER	MIN. OF PLANNING
31	LUE BOLLIE	INTERVIEWER	MIN. OF PLANNING
32	ALICE KROMAH	INTERVIEWER	MIN. OF HEALTH
33	HENRY Z. KYNE	INTERVIEWER	MIN. OF PLANNING
34	JESSIE PAYNE	INTERVIEWER	MIN. OF PLANNING
35	LAHAI SASAY	INTERVIEWER	MIN. OF PLANNING
36	MATTHEW GORVEABOE	INTERVIEWER	MIN. OF PLANNING
37	STEPHEN TAMBA	INTERVIEWER	MIN. OF PLANNING
38	JACKSON PENNEH	INTERVIEWER	MIN. OF HEALTH
39	JAMES YANGBIE	INTERVIEWER	MIN. OF PLANNING
40	HELENA BROPLEH	INTERVIEWER	MIN. OF PLANNING
41	ROXANA SOKO	INTERVIEWER	MIN. OF PLANNING
42	ELIZABETH KAIFA	INTERVIEWER	MIN. OF PLANNING
43	MORRISON K. NYALLEY	INTERVIEWER	MIN. OF PLANNING
44	JOHNNY BOAKAI	INTERVIEWER	MIN. OF HEALTH
45	GERTRUDE NEUFILLE	INTERVIEWER	MIN. OF HEALTH
46	VICTORIA KPAH	INTERVIEWER	MIN. OF HEALTH
47	JULIETTE NYANFORH	INTERVIEWER	MIN. OF HEALTH
48	VERONICA BUDY	INTERVIEWER	MIN. OF HEALTH
49	CECELIAN DAVIES	INTERVIEWER	MIN. OF HEALTH
50	GBOYAH TUGBEH	INTERVIEWER	MIN. OF PLANNING
51	MOMO KAMARA	INTERVIEWER	MIN. OF PLANNING
52	VASHTI GOE	INTERVIEWER	MIN. OF PLANNING
53	BEATRICE DUANA	INTERVIEWER	MIN. OF HEALTH
54	PETER GWEH	INTERVIEWER	MIN. OF PLANNING
55	JANJAY JONES	INTERVIEWER	MIN. OF HEALTH
56	MARTIN BELLA	INTERVIEWER	MIN. OF HEALTH

No.	NAME	TITLE	ORGANIZATION
57	PETER GREAVES	INTERVIEWER	MIN. OF HEALTH
58	THOMAS TARPLAH	INTERVIEWER	MIN. OF PLANNING
59	JOYCE SARTEE	INTERVIEWER	MIN. OF HEALTH
60	ROSE E. JONES	INTERVIEWER	MIN. OF HEALTH
61	THELMA BENSON	INTERVIEWER	MIN. OF HEALTH
62	MORRIS BRYANT	INTERVIEWER	MIN. OF PLANNING
63	TARNUE K. SAWO	INTERVIEWER	MIN. OF PLANNING
64	ZAZA FORKPA	INTERVIEWER	MIN. OF PLANNING
65	WOLOBAH TELLEWOYAN	INTERVIEWER	MIN. OF PLANNING
66	GEORGE C. HARRIS	INTERVIEWER	MIN. OF PLANNING
67	JOHN BRYANT	INTERVIEWER	MIN. OF PLANNING
68	BENJAMIN JONES *	INTERVIEWER	MIN. OF PLANNING/U.L.
69	JOHN RANDALL	INTERVIEWER	MIN. OF HEALTH
70	MAMIE SANKOWOLO	INTERVIEWER	MIN. OF HEALTH
71	THOMAS NAH	INTERVIEWER	MIN. OF PLANNING
72	SANDO BLIDI	DATA RECORDER	MIN. OF HEALTH
73	GERTRUDE NEUFVILLE	DATA RECORDER	MIN. OF HEALTH
74	CLAVINIA VARNEY	DATA RECORDER	MIN. OF HEALTH
75	AUGUSTINE KPDAH	DATA RECORDER	MIN. OF HEALTH

* OVERALL GUIDANCE AND SUPERVISION WAS PROVIDED BY MR. SELESHI JEMBERE - MONITORING AND EVALUATION OFFICER; UNICEF/LIBERIA.