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**CHILD SPACING/HIGH RISK PREGNANCY
AND CHILD NUTRITION CHILD SURVIVAL PROJECT
MANABI AND AZUAY PROVINCES
ECUADOR**

Final Survey Report

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**The People-to-People Health Foundation, Inc.
(Project HOPE)
Millwood, Virginia 22646
(703) 837-2100**

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**Francisco Moreno, M.D., M.P.H., Project Director
Teresa Navarez, R.N., Supervisor/Coordinator, Manabi
Lucia Ortiz, R.N., Supervisor/Coordinator, Azuay
Fernando Zambrano, Information Systems Coordinator, Manabi
Marguerite Farrell, Sc.M., Survey Trainer, HOPE Center**

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Dr. Jorge Lozano	Montecristi
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7. Supervisors:

Sara Arias	Project HOPE
Fatima Garcia	Project HOPE
Wilma Garcia	Project HOPE
Yolanda Guerrero	Project HOPE
Betty Moreira	Project HOPE
Lucia Ortiz	Project HOPE
Ruth Chalco	Project HOPE
Gonzalo Moreira	INIAP
Cecilia Ponce	APROFE
Manuel Dias	MSP
Edgar Machado	MSP
8. Surveyors:

Mercedes Santana	Project HOPE
Gira Zambrano	MOH
Gladys Cantos	MOH
Francisca Pacheco	MOH
Julieta Santana	MOH
Libia Suarez	MOH
Antonia Sabando	MOH

Maria Pacheco	MOH
Dennis Giler	MOH
Ramona Ganchozo	MOH
Eledon Chavarria	MOH
Carmen Alvarado	MOH
Alexandra Rivera	MOH
Ramona Solorzano	MOH
Anicia Vincas	MOH
Maritza Macias	MOH
Miguel Pico	MOH
Rosa Alava	MOH
Dolores Cabrera	MOH
Victor Vera	MOH
Cleopatra Solorzano	MOH
Maria Bravo	MOH
Alfonso Burbano	MOH
Graciela Valencia	MOH
Miriam Villacis	MOH
Jackeline Rivera	MOH
Milton Villapardo	Ayuda en Accion
Marco Vera	MOH
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Sixto Mero Mero	Teacher

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Ruth Chalco	Project HOPE
Teresa Narvaez	Project HOPE
Fatima Garcia	Project HOPE
Yolando Guerrero	Project HOPE
Betty Moreira	Project HOPE
Gonzalo Moreira	INIAP

6. Surveyors:

Lucia Albarracin	Project HOPE
Elsa Zhapan	Project HOPE
Claudia Tello	Project HOPE
Nelly Narvaez	Project HOPE
Norman Villota	Project HOPE
Arturo Cruz	Project HOPE
Gicella Palacios	Project HOPE
Yolanda Jacome	Project HOPE
Cumanda Tapia	Project HOPE
Lucia Pena	Project HOPE
Olmedo Escobar	Project HOPE
Pablo Mosquera	Project HOPE
Paul Moscoso	Project HOPE
Sara Arias	Project HOPE
Maria Andrade	Project HOPE
Angela Alban	Project HOPE
Mercedes Santana	Project HOPE

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I. INTRODUCTION

BACKGROUND

In September 1990 Project HOPE initiated the Child Survival V Project in two project areas (Azuay and Manabi). This project accomplished important achievements and provided lessons for the implementation of the Child Survival VIII extension project.

In Azuay the work was carried out in 404 communities in the Cantons of Giron, Gualaceo, Paute, Sigsig and Santa Isabel, communities that previously corresponded to the current Health Areas.: 7, 8, 9, 10, 11; with a total population of 124,892 inhabitants distributed in 3.176 square kilometers. In Manabi the project was implemented in 4 Cantons: Bolivar, Junin, Montecristi, and Pichincha with 380 communities and a total population of 122,059 inhabitants in a geographic area of 2692 square kilometers. In Azuay and Manabi respectively the target populations are divided into the following groups: children less than three years of age 10,785 and 10,090 and 24,145 and 26,662 women of fertile age.

All of the Cantons where the CS project has been implemented were chosen by the MOH as the population in these communities is predominately rural, with limited access to health care services.

The priority interventions implemented by the project in order of importance are the following: growth monitoring (GM) and nutrition 20%; prevention, detection, and referral of high risk births and childspacing 20%; Oral rehydration therapy (ORT) and diarrhea prevention and management 20%; Breastfeeding 14%; Maternal nutrition 10%; immunization 7%; maternal health 5%; and vital statistics 4%.

The CS-V project began in June of 1990 with a baseline survey in both regions that permitted data analysis and determination of health status in the target communities with respect to Tier II indicators.

With the purpose of ensuring sustainability of project activities achieved with the CS-V project, and of replicating successful strategies, a proposal for an extension and expansion was submitted and funded by USAID. This project, CS-VIII began in November of 1992.

Primarily, the project implemented health education activities at the community level utilizing appropriate technologies targeting mothers and other family members.

II. OBJECTIVES OF THE STUDY

- To evaluate the health knowledge and practices of mothers of children less than two years of age with reference to the specific CS interventions.

- To facilitate sharing of information and data with the project counterparts for use in programming to jointly achieve an increase in health goals and coverage.

- To obtain information to facilitate the evaluation of the Child Survival V project.

III. METHODOLOGY

In 1991, AID required PVOs with new Child Survival projects centrally funded by FHA/PVC to conduct 30 cluster baseline surveys (the methodology applied by WHO/PAHO in diarrhea and immunization) using the standardized questionnaire developed by Johns Hopkins University. An updated instrument using this same methodology was utilized for the final evaluation survey. Two separate surveys were performed in Azuay and Manabi with 45 clusters each. 30 clusters were chosen from the existing project area while 15 clusters were chosen from the new extension areas. 30 clusters in each of the two areas were analyzed for the CS-V evaluation survey. 30 clusters (15 from the old and 15 from the new) were used for the baseline survey of the new extension project. A subsample analysis was performed on a smaller number of clusters that participated more actively in the CS-V project. Although this subsample is not large enough to be statistically significant, where interesting differences occur between the subsample and the 30 cluster analysis they have been reported in the results and discussion sections of this report.

A. QUESTIONNAIRE

The questionnaire included relevant questions pertaining to mothers health knowledge and practices, in relation to the key project interventions as well as questions to determine current health status in diarrhea, acute respiratory infection, and vaccination coverage. The questionnaire was given to mothers with children less than two years of age.

The questionnaire is based on the tested and standardized instrument developed by the Johns Hopkins PVO-CSSP staff and was revised by the project staff supervisors (Project HOPE/Ecuador and other NGOs). The survey training and implementation was conducted with the technical assistance of Marguerite Farrell, Sc.M., Assistant Director of Maternal Child Health Programs of HOPE Center. The team of interviewers was comprised of MOH staff (doctors, nurses, and auxiliaries), other NGO's staff, and community health volunteers.

The questionnaire consists of 47 questions, of which the first five refer to general information about the mother and the child; questions 6 to 11 are about breastfeeding and child nutrition; 12 and 13 growth monitoring; 15 to 24 are about diarrhea; 25 to 29 refer to respiratory infections; 14, 30, 31, 32, and 33 are about immunizations; 34 to 47 are about maternal health with respect to

pregnancy, birth, prenatal and postpartum care, and family planning.

B. DETERMINATION OF SAMPLE SIZE

In Azuay the communities in the Parishes of Amaluza, Guarainag, San Jose de Raranga, Gima, Zona alta de Pucara, Ponce Enriquez, Jadan, Zhimad, and El Carmen de Pijili were eliminated as they were excluded in the Detailed Implementation Plan (DIP).

Sample Size

Sample sizes were calculated with the following formula:

$$n = z^2 (pq)/d^2$$

where n = sample size; z = statistical certainty chosen; p = estimated prevalence/coverage rate/level to be investigated; $q = 1 - p$; and d = precision desired.

The value of p was defined by the coverage rate that requires the largest sample size ($p = .5$). The value d depends on the precision, or margin of error, desired (in this case $d = .1$). The statistical certainty was chosen to be 95% ($z = 1.96$). Given the above values, the following sample size (n) needed was determined to be:

$$\begin{aligned} n &= (1.96 \times 1.96) (.5 \times .5)/(.1 \times .1) \\ n &= (3.84) (.25)/.01 \\ n &= 96 \end{aligned}$$

It is time-consuming and cumbersome to randomly select an identified individual from the survey population, and then perform this selection 96 times to identify a sample of $n = 96$. Time can be saved by doing a 30 cluster sample survey in which several individuals can be interviewed within each cluster selected to achieve the required sample size. However, in order to compensate for the bias which enters the survey from interviewing persons in clusters, instead of from a simple random sample, experience has shown that a minimum sample of 210 (or 7 surveys per cluster) should be used given the value of p , d , and z above. In general, when using a 30 cluster sample survey, the sample size used should be approximately double the value n , when: $n = (z \times z) (pq)/(d \times d)$. In this case, a sample size of 240 (8 per cluster) was selected so as to ensure that the required minimum sample of 210 would be obtained.

The estimates of the confidence limits for the survey results were calculated using the following formula:

$$95\% \text{ confidence limit} = p + z (\text{square root of } (pq/n))$$

where: p = proportion in population found from survey; z = statistical certainty chosen (if 95% certainty chosen, then

$z = 1.96$); $q = 1 - p$; and $n =$ sample size

EXAMPLE: If the proportion of children in the survey who were completely and correctly immunized is 37% and $n = 297$:

95% confidence limit = $.37 + 1.96$ (square root of $\{.37 \times .63/297\}$) ($z = 1.96$)

$1.96 = .37 + .03$ (or, 34% to 40%)

In other words, we are 95% sure that the actual proportion of children in the survey area who are completely and correctly immunized is between 34% and 40%.

C. SELECTION OF THE SAMPLE

Two samples consisting of 240 women with children 0-23 months of age in each province (Manabi and Azuay) were selected. In each of the two 30 clusters 8 women were surveyed following the process described in The EPI Coverage Survey training manual (WHO, Geneva, Oct. 1988).

Because the 6 Cantons to be covered by the new Child Survival (CS) VIII project overlapped with 4 Cantons of the CS-V, and due to the fact that one new intervention (ARI) was to be added in CS-VIII, the final evaluation survey was conducted in the following manner in both project areas:

- a.) From the current list of sectors of the census (the smallest administrative unit), (178 in Manabi) in the 4 Cantons Bolivar, Junin, Montecristi, and Pichincha the 30 clusters were obtained for the evaluation survey, and from these, 15 were randomly selected to comprise the 30 clusters necessary for the baseline.
- b.) From the 175 sectors of the census of the Cantons of Santa Ana and 24 de Mayo (expansion area) one proceeded to select 15 clusters randomly to form part of the 30 for the baseline.

The same methodology was utilized in Azuay.

SAMPLING INTERVAL

The sampling interval was calculated using the following formula:

Sampling interval = $\frac{\text{Total Population}}{30 \text{ clusters}}$

For the 4 Cantons in Manabi we had the following:

$\frac{79955}{30} = 2,665 = \text{Sampling Interval}$

The same was done for Azuay and the two expansion areas in each of the project regions:

RANDOM NUMBER

Is a randomly determined number that can be equal or less than the sampling interval. In the case of the first group (the 4 Cantons) it was 1,944 and the second group (the two expansion Cantons) it was 4,901.

STARTING POINT TO BEGIN SURVEYING

Due to the fact that each census sector that was initially chosen was comprised of from 1 to 10 tiny communities, the community in which to begin in each sector was randomly chosen. It was known that many of the communities that were selected as the starting point were made up of very few families and that it was highly probable that there would not be 8 mothers with children less than 2 years of age to complete 8 surveys in one community. Therefore the interviewer was directed to go to the nearest community, (although this community may be outside of the census sector) until the required 8 surveys were completed for each cluster.

Once in the center of the community, the direction to begin interviewing was chosen by spinning a bottle, and the first house to be interviewed was randomly selected.

D. TRAINING OF SUPERVISORS AND INTERVIEWERS

First Day:

Supervisors Training

- Administrative issues
- Objectives of the knowledge and practice survey
- Selection of the sample
- Methodology for identifying the sample
- Revising the questionnaire
- Role Plays (Survey Practice)
- Supervision
- Hand-tabulation methodology
- Analysis tables
- Date and presentation of report
- Cluster assignment

Second Day:

Training of Supervisors and Interviewers

- Administrative Issues
- Objectives of the knowledge and practice survey
- Methodology to identify the sample
- Revising the questionnaire

Role plays
Supervision

Third Day:

Pilot test of the questionnaire
Review of the questionnaire and group consensus
Cluster assignment

E. SCHEDULE MANABI

DAY	DATE	ACTIVITIES
MONDAY	12-10-92	AM Technical Orientation Meeting with Project HOPE Child Survival team PM Technical meeting to review and modify questionnaire. PM Selection of the communities Printing of the first questionnaire
TUESDAY	13-10-92	AM General group meeting of supervisors and interviewers Begin technical training PM Printing of 50 questionnaires
WEDNESDAY	14-10-92	AM Field Test PM Analysis of the results of the field test PM Printing of 300 questionnaires
THURSDAY	15-10-92	SURVEY IMPLEMENTATION IN THE DESIGNATED COMMUNITIES AND ENTERING THE DATA INTO THE COMPUTER
FRIDAY	16-10-92	
SATURDAY	17-10-92	
TUESDAY	20-10-92	Hand tabulation of the survey data
WEDNESDAY	21-10-92	Analysis of the results, conclusions, and recommendations
THURSDAY	22-10-92	Continuation of the conclusions and recommendations
FRIDAY	23-10-92	Preparation of the report and presentation of the results
MONDAY	26-10-92	Feedback information to the survey participants, provincial authorities, Canton directors, and the communities involved
TUESDAY	27-10-92	Feedback information to the Canton authorities and community leaders

The schedule of survey implementation for Azuay was similar, although hand tabulation of the data was not completed.

F. SURVEY IMPLEMENTATION

After completing the training of the supervisors and the interviewers, and forming 11 work teams, the pilot test was implemented and then data collection proceeded in the 30 selected clusters. 240 interviews were completed in each area. In Manabi, 14 had errors and of these, 4 surveys were corrected by returning to the communities interviewed; the remaining 10 had to be eliminated from the analysis, leaving 230 surveys to be included in the analysis. In Azuay, only 3 surveys were eliminated due to errors, leaving 237 in the sample to be analyzed.

IV. RESULTS

Before proceeding to the results of the baseline survey, it is important to discuss the methodology used to select the 30 clusters. Each cluster was randomly selected from the communities listed in information provided by the National Institute of Statistics and Census. It also merits mentioning that among the 30 communities selected for inclusion in the Manabi sample only 8 were visited more than five times by the project (representing 26.6% of the sample) due to the vast number of very small and geographically inaccessible communities included in the project target area. The project has concentrated efforts on communities with larger populations to increase cost-effectiveness, emulating AID's big countries strategy on a micro level. For this reason two analyses were performed on the data: one analysis included data from the 30 clusters, while a subsample analysis was performed on the 8 communities that were more intensively visited by the project. We have included comparisons of the two data sets where differences worthy of note occur.

A. MANABI

General Data on the Mother and Child

The average age of the 230 women interviewed in the sample of mothers with children less than 2 years of age is 26.95. 9 mothers (4%) are less than 18 years of age, 170 (74%) are between 18 and 35 years of age and 51 (22%) are greater than 35 years, with the youngest mother 15 years old and the oldest 48 years old.

The average age of the children interviewed is 11.43 months. 47% of the children are between 12 and 23 months which resembles the expected age distribution.

Mothers literacy and educational level attained

Of the mothers interviewed 23.9% reported not being able to read, 21 (9.6%) completed secondary school or higher, and 66.5% have attended school or non-formal classes and can read.

Occupation

58.3% of the mothers interviewed reported having no economic activity or work. The principal economic activity reported in the interviews is agriculture and raising small animals (19.6%), followed by folk art (14.8%); a smaller percentage (10.8%) performed other work, as domestic employees, in domestic service, and sewing, etc.

When the mother leaves home, the majority of the children (48.3%) are taken care of by relatives, 26% remain in the care of their older siblings and a considerable percentage (23%) of the mothers take the child with them.

Breastfeeding and Nutrition

139 mothers (60.4%) of the 230 interviewed reported that they were currently breastfeeding their children and 91 (39.6%) were not breastfeeding.

Of the 91 mothers that reported that they were not breastfeeding, 89 (98%) breastfed at least once and 2 (2%) reported never having breastfed their child.

Of 228 mothers, 119 mothers (52%) breastfed within the first hour after birth, 43 (18.8%) breastfed between two and eight hours, and 61 (26.8%) initiated breastfeeding more than eight hours after birth; in the subsample analysis performed on the 8 communities included in the sample that were visited most intensively by field staff, 21.7% initiated breastfeeding more than eight hours after birth.

With reference to feeding practices of the children in the sample, of the 37 infants between the ages of 0 and 3 months, no more than (24.3%) receive exclusive breastfeeding.

Mothers are giving waters or herbal teas to 28 children (75.7%) in this age group, milks other than breastmilk to 13 infants (35.1%), purees or cereal beverages to 7 infants (18.9%), adding sugar or a sugar cane derivative to the foods of the children (51.4%); other foods such as carrots, papaya, cheese, local liquid cheese called "cuajada", eggs, dry beans, meat, fish, respectively occurs 8%, 5.4%, 2.7%. In the subsample of the 8 communities most frequently visited, 57.2% of the children older than 4 months receive a varied diet.

With respect to mothers knowledge about breastfeeding successfully, 2.2% and 3% reported that they breastfeed

frequently and take care of their breasts and nipples; breastfeed immediately after birth; breastfeed exclusively (don't use bottles) and resume breastfeeding combined was 2.6%. The majority of the mothers interviewed reported ingesting more liquids.

When questioned about knowledge with respect to weaning, the mothers interviewed stated the following: 46.5% reported that between 4 and 6 months is the proper time to begin introducing weaning foods other than breastmilk, 30% stated before 4 months of age was the proper time to wean, 13% stated after 6 months, and 10% did not know.

Growth Monitoring

70% of the 230 mothers have their child's health card, 8.7% said that they had lost it, and 21% do not have it.

Of the 161 children that had their card, 37.8% had been weighed in the three months prior to the survey (26.5% of the entire sample).

From the 8 communities visited more frequently, we have the following data:

93.3% of the 230 mothers had the child's health card, 5% had lost it and only 1% did not have it, while 48.2% had been weighed in the three months prior to the survey.

Immunizations

To determine the immunization coverage rates the information from the child health cards was used calculating coverage rates for the age groups of 12 to 23 months.

60.3% have their BCG vaccine, 70.6% their first dose of Polio (Polio1), 63.3% their second dose of Polio (Polio2), 54.1% their third dose of Polio (Polio3), 69.7% their first dose of DPT (DPT1), 62.4% their second dose of DPT (DPT2), 54.1% their third dose of DPT (DPT3), 46.8% their Measles vaccination. In the subsample in the 12 to 23 month age group 85.7% have their BCG vaccination, 85.7% Polio1, 82.1% Polio2, 63.9% Polio3, 82.1% DPT1, 78.6% DPT2, 67.9% DPT3, and 60.7% have received their measles vaccines.

80.4% of the 230 mothers interviewed reported that their children had been vaccinated at least once; and this figure was 100% in the subsample of communities visited most frequently by the project.

Of the 109 children 12 to 23 months of age 41.3% have a complete immunization scheme of BCG, DPT3, Polio3, and Measles.

With relation to knowledge about immunizations, of the 230 mothers sampled the following was reported:

20.9% of the mothers know that the measles vaccine should be applied to children at 9 months of age.

29.1% know that Tetanus Toxoid is applied to pregnant women to protect both the mother and the child; 36.5% to protect only the child, 33% do not know, and 1% believe that it only protects the mother.

45.7% of the 230 mothers interviewed reported that a pregnant woman should receive more than two applications of tetanus toxoid, 25.7% stated two applications, 5.7% said one dose, and 22.2% did not know.

Diarrhea

Of the 230 children included in the survey, 101 (43.9%) had diarrhea in the 2 weeks prior to the survey. (Diarrhea was defined as 3 or more liquid stools in a one day period.)

16.8% of the 101 mothers of these children responded that they were breastfeeding more than usual during the diarrheal episode, 31 (35.6%) reported that they breastfed the same as usual, 9.9% breastfed less than usual, 5% stopped completely, and 32.7% of the children that had diarrhea were no longer breastfeeding.

With respect to the administering of liquids to children experiencing diarrheal episodes, of the 101 children with diarrhea in the two weeks preceding the survey, 19 mothers (18.8%) administered more liquids than usual, 42 (41.6%) administered the same amount, 14 (13.9%) gave less liquids than usual, and 22 mothers (21.8%) only gave breastmilk.

With respect to feeding practices during diarrheal episodes, 6 (5.9%) of the 101 mothers of children with diarrhea fed their children more than usual, 42 (41.6%) fed their children the same as they usually do, 15 (14.9%) fed less than usual, 8 (7.9%) stopped giving food completely, and only 19 mothers (18.8%) were only giving breastmilk.

Treatments given to children with diarrhea: 51 (49.8%) of the 101 mothers of children with diarrhea gave ORS, or home mixed salt/sugar solution, or gave waters and herbal teas, 65 mothers (64.3%) gave antidiarrheals or antibiotics.

63 (62.4%) of the 101 mothers reported that they had sought help for the diarrheal episode of their child. 21 mothers (33.3%) of the 63 that reported seeking help went to health centers, 10 (15.9%) sought help from a private doctor, the majority of the mothers reported seeking help from friends or relatives 25 (39.7%), 7 (11.1%) reported seeking help from traditional healers, an equal percentage sought help from the pharmacy and 3.2% from the health volunteer.

Actions taken by the 101 mothers interviewed whose children suffered from diarrheal disease in the two weeks preceding the survey include the following: 38 (37.6%) of the mothers began giving fluids immediately; 33 (32.7%) gave children more liquids than usual, 21 (20.8%) took their children to a health center or private doctor, 8 (7.9%) fed their children more frequently, 2 (2%) gave them more food during their recuperation period, 22 (21.8%) took other actions including: giving medications, traditional healing remedies, and other treatments.

Knowledge of the 230 mothers interviewed about diarrhea with respect to symptoms of danger that would cause the mother to seek help for the diarrhea of her child, 66 (28.6%) recognized fever as a danger sign, 64 (27.8%) prolonged diarrhea that lasts for more than 3 days, 18 (7.8%) dehydration (dry mouth, sunken eyes, crying without tears, etc.), 59 (25.6%) reported when the child was despondent/listless, 60 (26.1%) did not recognize any of the danger signals of diarrhea. In the subsample analysis of the 8 communities most frequently visited by the project, 18.3% recognized dehydration as a danger signal, and 38.3% recognized prolonged diarrhea.

With respect to general knowledge about the actions that should be taken when a child has diarrhea the 230 mothers interviewed expressed the following during survey interviewing: 71 (30.9%) stated that liquids should be initiated immediately, 61 (26.5%) stated that ORS or home mixed salt/sugar solution should be initiated, 108 (47%) stated that the child should be taken to a health unit or to a private doctor, 16 (7.9%) stated that food should be given more frequently, 19 (8.3%) did not know what action to take, between 16.5% and 21.1% of the mothers reported that other actions should be taken: including giving medicines, giving remedies, taking the child to traditional healer, and others.

Maternal Health

Of the 230 mothers interviewed 69 (30%) had their maternal health card, 39 (17%) reported having lost it.

The percentage of immunizations with tetanus toxoid, was calculated using the information recorded in the maternal and women's health card, thus 52 (75.4%) of the 69 mothers with health cards had two or more doses of TT. These 52 mothers of the 230 interviewed represent a coverage rate of 22.6%.

With respect to childspacing, 116 (50.4%) of the 230 mothers interviewed stated that two or more years should occur between a birth and a new pregnancy, 71 (30.9%) stated less than two years, and 43 (18.7%) do not know how much time should occur before becoming pregnant again.

Of the 230 mothers interviewed, 22 (9.9%) were currently pregnant, 6 (2.6%) reported not knowing if they were pregnant.

Of the 208 mothers that were not pregnant or did not know if they were pregnant, 44 (21.2%) answered that they wanted to have another child in the next two years, 152 (73.1%) answered no, and 12 (5.8%) did not know.

Of the 164 women that said they did not want a child in the next two years or were unsure if they wanted a child in the next two years, 57 (34.8%) are using a family planning method to avoid pregnancy. The contraceptive methods used by the largest percentage of women were: oral contraceptives (38.6%), Inter Uterine Device (IUD) (26.3%), and female or male sterilization (22.8%).

With respect to prenatal care, 146 of the 230 women interviewed (63.5%) know that prenatal care should be sought in the first trimester of pregnancy. 36 women (15.7%) said that care should be sought at 4 to 6 months, 36 (3.9%) from 7 to 9 months, 3.5% stated that prenatal care was unnecessary, and 31 (13.5%) do not know when they should receive prenatal care.

With respect to danger signals during pregnancy the survey results found the following: 73 (31.7%) of the mothers interviewed recognize bleeding as a danger signal, 49 (21.3%) uterine contractions, 36 (15.7%) headaches, 20 (8.7%) fever, 19 (8.3%) fainting, 12 (5.2%) vomiting, 11 (4.8%) vaginal secretions, 80 (34.8%) do not know the danger signals during pregnancy, and 41 (17.8%) reported other signals, the most frequently reported was abortions (this term in Spanish also denotes non-induced miscarriages).

Of the 230 mothers 174 (75.7%) reported having received prenatal care during their pregnancy, 134 (77%) of the mothers interviewed received prenatal care in a health facility, 38 (21.8%) from private physicians or clinics, 26 (14.9%) from traditional birth attendants or midwives.

With reference to nutrition during pregnancy of the 230 mothers: 79 (34.3%) ate more than usual when pregnant, 95 (41.3%) an equal amount in comparison with what they usually consume, and 52 (22.6%) ate less.

Of the 230 mothers interviewed, only 92 (39.6%) received post natal care in a health facility or from health professionals.

Of the 230 mothers interviewed 108 (47%) stated that their child's umbilical cord was cut by health personnel, 97 (42.2%) reported that the midwife had cut the umbilical cord, and 22 (9.6%) reported that a member of the family had cut the child's umbilical cord.

B. AZUAY

General Data about Mothers and Children

The average age of the mothers interviewed is 27.49 years. The youngest mother was 16 years old and the oldest mother was 48 years old. Of the 237 mothers interviewed 4 (1.7%) are less than 18 years of age; 205 mothers (86.5%) are between 18 and 35 years; 28 mothers (11.8%) are between 36 and 48 years of age.

The average age of the children included in the survey was 11.29 months. 52.3% are between 0 and 11 months and 47.7% are between 12 and 23 months.

Of the 237 mothers interviewed, 181 (76.4%) can read, 41 (17.3%) cannot read, 15 (6.3%) of the mothers have a secondary school education or higher.

Occupation

Of the 237 mothers interviewed the vast majority, 116 (63%) make folk art, textiles, and Panama hats, 85 (46.2%) work in agriculture and raise small animals, 53 (22.4%) do not realize any income generating activity.

Child Care

When the mother is away from her home, of the 237 women interviewed 153 (64.6%) bring their child with them, 60 (25.3%) of the children remain under the care of a relative other than a another child or spouse, 58 (24.5%) of the children are left under the care of older siblings, and 14 (5.9%) remain in day care centers.

Breastfeeding and Nutrition

167 (70.5%) of the 237 mothers answered that they were breastfeeding their child when the survey was implemented and 70 (29.5%) are not currently breastfeeding.

68 (97.1%) of the 70 mothers who reported that they were not breastfeeding when the survey was realized, had previously breastfed at least once, therefore only 2 (2.9%) had never breastfed their child.

Of the 235 mothers that had breastfed, 113 (48.1%) began breastfeeding more than 8 hours after birth, 63 (26.8%) within the first 8 hours after birth, and 49 (20.9%) within the first hour after birth.

With respect to nutrition, of the 33 infants between 0 and 3 months of age, no more than 48.5% receive exclusive breastfeeding, and 17 (51.5%) of the mothers are giving them herbal teas and waters. No solid foods are being given to infants

in this age group.

With respect to nutrition, of the 34 children from 4 to 6 months of age it was found that 15 (44.1%) consume purees; 14 (41.2%) fruits and juices; 10 (29.4%) carrots, squashes, and papayas; 6 (17.6%) meat or fish; 9 (26.5%) beans, peanuts or lentils; 17 (50%) eggs, cheeses, other dairy; 29 (70.6%) of the mothers are adding sugar, a sugar cane derivative, or honey to their child's food; 21 (61.8%) iodized salt, and 10 (29.4%) of the children in this age group are consuming liquids from a bottle.

Children between the ages of 12 and 23 months receive all of the aforementioned foods. 91.5% receive purees and coladas, while the smallest number 76 (71.7%) consume carrots, squashes, and papaya.

With respect to mothers knowledge about what they should do during the first four months for successful lactation, 2 (0.8%) of the mothers reported that breastfeeding should begin immediately after birth; 4 (1.7%) of the mothers reported that frequent breastfeeding should be practiced; the same percentage reported that breasts and nipples should be taken care of; 96 (40.5%) stated that lactating mothers should ingest more liquids than usual; 90 (38.0%) stated that they should eat more; and 67 (28.3%) stated that they should eat a variety of foods; while 59 (24.9%) did not know what to do.

With respect to knowledge about when foods should be introduced to children, 98 (41.4%) mothers stated that food should be introduced to children between 4 and 6 months, 72 (30.4%) stated after 6 months, 55 (23.2%) stated that before 4 months, and 12 (5.1%) do not know.

Growth Monitoring

Of the 237 mothers interviewed, 181 (76.4%) have their children's health card, 15 (6.3%) lost their card, and 41 (17.3%) do not have it.

Of the 181 mothers that had their child's card, 39 (21.5%) have weighed their child in the 3 months preceding the survey.

Immunizations

Of the 237 mothers with children less than 2 years of age, 226 (95.4%) reported that their children had been vaccinated at least once.

Of the 237 mothers, 56 (23.6%) knew that the child should receive the measles vaccine at 9 months of age.

Of the 237 mothers surveyed, 23 (9.7%) responded that Tetanus Toxoid vaccine protects the mother and child against tetanus, 119 (50.2%) responded that only the child is protected by the

vaccine, and 80 (33.8%) do not know.

The child health card was used to calculate immunization coverage. The denominator was all children surveyed in the age group of 12 to 23 months of age.

Of the 113 children between the ages of 12 and 23 months, 82 (72.6%) have Polio1, 80 (70.8%) have Polio2, and 72 (63.7%) have Polio3.

Of 113 children, 83 (73.5%) have DPT1, 81 (71.7%) have DPT2, and 73 (64.6%) have DPT3.

Of the 113 children, 84 (74.3%) have a BCG vaccine, while 66 (58.4%) have a measles vaccine.

63 (55.8%) children between the ages of 12 and 23 months have a complete vaccination scheme (BCG, Polio3, DPT3, and Measles).

Diarrhea

Of the 237 mothers surveyed, 87 (36.7%) reported that their children had diarrhea in the two weeks preceding the survey. The definition of diarrhea was 3 or more liquid stools in one day.

Of the 87 mothers whose child had diarrhea, 8 (9.2%) breastfed more than usual, 42 (48.3%) breastfed the same as usual, 13 (14.9%) breastfed less than usual, and 1 (1.1%) stopped breastfeeding completely.

Of the 87 children with diarrhea, 32 (36.8%) received more liquids than usual, 23 (26.4%) the same as usual, 5 (5.7%) less than usual, and 24 (27.6%) received only breastmilk.

Of the 87 children with diarrhea, 4 (4.6%) received soft foods or purees more than usual, 21 (24.1%) the same as usual, 24 (27.6%) less than usual, 9 (10.3%) stopped receiving food completely, and 20 (23.0%) received only breastmilk.

With respect to the treatment that the 87 mothers interviewed gave to their children when they had diarrhea: 6 (6.9%) gave their child ORS, 3 (3.4%) home mixed salt/sugar solution, 41 (47.1%) waters and herbal teas, 27 (31.0%) antidiarrheal medicines, and 19 (21.8%) did not give their child anything.

Of the 87 mothers whose children had diarrhea, 34 (39.1%) sought help. Of those 34, 11 (32.4%) went to a hospital, 10 (29.4%) sought help from a doctor or private clinic, 8 (23.5%) from relatives or friends, and 1 (2.9%) from health volunteers.

Actions taken by the 87 mothers whose children had diarrhea include the following: give the child more food when the child is recuperating from diarrhea 1 (1.1%), take the child to a private doctor 7 (8%), and give more liquids than usual 8 (9.2%).

With respect to the problems that would worry a mother and cause her to seek help for the diarrhea of her child, of the 237 mothers surveyed, 72 (30.4%) do not know, 59 (24.9%) consider prolonged diarrhea (more than 3 days) as a danger sign, 38 (16%) fever, weakness, and despondency/listlessness, 32 (13.5%) vomiting, 29 (12.2%) loss of appetite, only 21 (8.9%) of the mothers identify the signs of dehydration as problems that would worry them and cause them to seek help.

The 237 mothers interviewed have the following knowledge about important actions that a mother should take if her child has diarrhea: 102 (43%) would take their child to the hospital, 68 (28.7%) would give their child ORS, 59 (24.9%) would initiate liquids and only 2 (0.8%) know that they should give more food to the child while he is recuperating from diarrhea.

Maternal Health

Of the 237 mothers surveyed 31 (13.1%) have the maternal health card or the woman's health card, 12 (5.1%) stated that they had lost it, 194 (81.9%) do not have it.

15 (48.4%) of the 31 mothers that have their card have received two or more applications of Tetanus Toxoid. This represents a Tetanus Toxoid coverage rate of 6.3%.

Of the 237 mothers interviewed, 125 (52.7%) believe that two or more years should pass between a birth and a new pregnancy, 87 (36.7%) do not know.

Of the 237 mothers that participated in this study, 24 (10.1%) were pregnant, 204 (86.1%) were not and 9 (3.8%) do not know.

Of the 213 mothers interviewed who stated that they were not pregnant or did not know, 13 (6.1%) answered that they wanted to have a child in the next two years. Of the 200 mothers that stated that they did not want or did not know if they wanted to have another child in the next two years 36 (18%) are using a contraceptive method to prevent pregnancy.

Of the 36 (18%) mothers that are using contraceptive methods, 10 (27.8%) have had female or male sterilization, 7 (19.4%) use the rhythm method, 6 (16.7%) use the IUD, and 2 (5.6%) are using exclusive breastfeeding.

133 (56.1%) of the 237 mothers interviewed, stated that a pregnant woman should seek prenatal care during the first trimester, 27 (11.4%) stated in the second trimester, and 64 (27%) stated that they did not know.

With respect to the signs of danger during pregnancy: of the 237 mothers interviewed, 97 (40.9%) did not recognize any danger signs, 4 (1.7%) stated edema, 17 (7.2%) bleeding, 1 (0.4%) fever,

and 5 (5.3%) identified abortion (can denote both spontaneous and induced).

162 (68.6%) of the 237 mothers stated that they had sought prenatal care during pregnancy.

Of the 162 mothers that responded that they had prenatal care, 97 (59.9%) went to a hospital, health center or subcenter, 51 (31.5%) went to a private clinic or doctor, and 24 (14.8%) saw a midwife or traditional birth attendant.

Of the 237 mothers questioned about the quantity of food a woman should eat when she's pregnant, 43 (18.1%) responded that they should eat more than usual, 112 (47.3%) stated equal amounts, 81 (34.2%) stated less than usual, and 1 (0.4%) answered that they did not know.

45 of the 237 mothers in the survey said that they had post-partum care in a hospital or health center, and 192 (81%) did not receive any care.

Of the 237 mothers interviewed, 109 (46%) were attended at birth by health staff, 94 (39.7%) by a midwife and 31 (13.1%) by a family member.

V. DISCUSSION AND RECOMMENDATIONS

INTRODUCTION

Of the 30 communities selected for inclusion in the study in both Manabi and Azuay, less than half were visited five times or more. This is due to the disperse population distribution and the geographic inaccessibility of many communities with very few inhabitants. (In Manabi, of the 30 communities, 8 had been visited five or more times therefore representing 26.6% of the sample. A sub-sample analysis was conducted on the data for these 8 communities.)

Different methodologies were used in the CS-V project's baseline and this final evaluation survey. For this reason it is not possible to contrast the two sets of findings, as the data is not comparable. The primary differences appear in questions used on the respective survey instruments and in the dissimilar populations addressed by the studies. In some instances we have contrasted the survey findings to the baseline.

A. MANABI

General Data About Mothers and Children

The survey results suggest that 23.9% of the mothers interviewed do not know how to read, which is a higher illiteracy rate than the rural average for Manabi given by the Ecuadoran Institute of Statistics and Census of 18%. A majority of mothers interviewed

attended primary school and reported literacy skills. However, the public education provided in the rural areas is not equal in quality to education in urban areas, therefore, for both the group of mothers that is illiterate and the group that reported literacy and/or school attendance, the project has and will continue to develop special educational materials. These materials should be practical containing simple, clear, and focused messages that are pictorial. Dynamic and participatory educational methodologies have been employed to more effectively transmit health education messages to groups with little or no formal education experience in the CSV project and will continue to be utilized in CS VIII.

Most mothers interviewed in the survey (58%) have no income generating activities, dedicating themselves entirely to unpaid household activities and childcare. The implication is that the majority of mothers will often be found in their homes and therefore home visiting and group talk strategies in the community are appropriate. The project has relied upon a group talk and home visiting strategy and will continue to use this in the extension CS project. The results also suggest that older children and other relatives should be incorporated into health education strategies as they care for children when mothers have activities outside of the home. According to the data 48.3% are cared for by relatives and 26.1% by older children. In the past project little emphasis was placed upon educating family members. The new project will implement more strategies focusing on family members.

Breastfeeding and Nutrition

97.8% of the children in the study received breastmilk, but the practice of exclusive breastfeeding, is problematic due to the early introduction of water, herbal teas, and other foods. The highest percentage of children less than 4 months of age that receive exclusive breastfeeding is 24.4%. Mothers demonstrate good knowledge about weaning age (introduction of foods other than breastmilk); 46.5% said that introduction of foods should occur between 4 and 6 months of age, yet the highest percentage of children less than 4 months of age that receive exclusive breastfeeding is 24.4%. A great discrepancy between knowledge and practice is evident. Bridging this gap through better understanding of mothers' attitudes to create more effective program strategies, will continue to be a challenge for project staff.

More than 50% of the children began breastfeeding in the first hour after birth which indicates that the project may have had success with transmitting this message. However, the project must continue to focus its efforts on the 26.8% of the mothers that did not begin breastfeeding until 8 hours after birth.

Mothers knowledge about successful breastfeeding practices: A majority of mothers reported that they should ingest more fluids

(77.8%), eat more (38.7%), and eat a variety of foods (24.8%), for successful lactation. The messages that are the least reported are: frequent lactation, proper care of nipples and breasts, resume breastfeeding if one has stopped, initiate breastfeeding immediately after birth, and exclusive breastfeeding. Project messages need to be revised to focus on key messages, especially frequent lactation.

50% of the children older than 4 months of age receive a balanced diet. In the subsample analysis 57.2% of this same age group received a balanced diet.

Therefore, nutrition continues to be an important health problem. Qualitative research techniques need to be employed to better understand the feeding practices that influence the nutritional status of mothers and children. More quantitative information is also needed with respect to quantity, frequency, and nutritional management of children during and after illnesses.

Growth Monitoring

70% of children had their health cards, 8.7% reported losing their card, and 21.3% did not have a card. In the subsample analysis 93.3% had their card, 5% had lost it, and only 1% did not have it. In the communities where the project has worked more intensively, more mothers have their card.

38.7% of the children that participated in the study, were weighed in the three months prior to the survey; in the subsample analysis, 48.2% had been weighed. According to the project HIS, 43% of the children that had been weighed by the project had received two or more growth monitoring sessions; the average number of weighings per child was 3.3. Growth monitoring is a tool to monitor children's development, and to counsel and provide mothers with individualized nutrition education. Although the MOH norms recommend monthly weighing, especially for underweight children, in health facilities, many times the weight is merely recorded in the clinic record, missing the opportunity to include the mother in the process of growth monitoring and most significantly, losing the chance to educate and counsel the mother about nutritional management of their child. The project will address this problem with MOH clinic personnel through training and supervision.

Immunizations

80.4% of the 230 children in the sample, had received at least one vaccination. In the subsample 100% of the children were vaccinated at least once; in relation to what was found in the general survey, this percentage is significantly higher. In these communities the project has been providing education about the importance of vaccination and during home visits they have detected and referred children that were not vaccinated or with incomplete schemes.

The vaccination coverage rates were established using the child health card for the total age group of children 12 to 23 months of age included in the survey. These coverage rates were compared with data from Manabi Provincial Health, Department of Statistics coverage rates. The survey reported 64.2% of the children had BCG, while MOH records reported 78.9% coverage. In the subsample analysis 85.7% of the children in the 12 to 23 month age group had BCG.

Many children do not complete their full scheme of DPT and Polio immunizations. Survey data indicates that 54.1% of children completed DPT3, while MOH data reports 56.5%. In the subsample analysis DPT3 is 67.9%. Similar figures were found for Polio3.

Measles vaccination coverage rates were 46.8% in the survey, 48.6% from the MOH records, and 60.7% in the subsample analysis.

All of the immunization coverage rates in the 30 clusters are lower than that of previous years. This can be attributed to a lack of antigens at the clinic level and the absence of health personnel in the health sub-centers due to work stoppages, strikes, and lack of motivation. During the time the DIP was developed, the project staff, at the request of the MOH, decided that immunization activities would only include promotion, education, and referral rather than direct application of vaccines. Despite this, project staff have on occasion applied vaccinations, especially Tetanus Toxoid.

Diarrhea

With respect to diarrheal diseases, 43.9% of the children in the study had diarrhea in the two weeks preceding the survey. This figure is relatively high considering that the survey was not conducted in winter, which generally is the season with the highest incidence of diarrheal diseases.

Of the children that had diarrhea, 63.7% were receiving breast milk. 52.5% of the mothers were breastfeeding more or the same amount, 60.4% were giving more or equal quantities of liquids during the diarrheal episode, and many were replacing liquids lost by administering ORS, sugar/salt solution, or other liquids during the child's diarrhea. However, many did not, suggesting that the project should continue to design their health education messages emphasizing ORT and nutritional management of the child during diarrheal diseases episodes. The subsample analysis indicated a higher rate of appropriate nutritional management than the larger sample.

62.4% sought help for the diarrhea of their child, the majority of whom utilized MOH or private clinics. At the same time, 67.3% of the mothers reported administering antibiotics or antidiarrheals to their children during their illness. These results suggest that the project should institute training for

health professionals to improve the management and treatment of diarrheal cases. Further project efforts should concentrate on teaching mothers to recognize the signs and symptoms of danger when their children have diarrhea and to seek appropriate health care. In the subsample analysis, 75% of the mothers recognized at least one of the signs of danger during diarrhea.

The baseline survey found that 8.8% of the population used ORT (ORS and/or home mixed sugar/salt solution) while 26.4% used ORS in the evaluation survey. This apparent increase is corroborated anecdotally by the MOH staff who have noted that children presenting at health centers with diarrhea have often been given ORT beforehand.

Maternal Health

Although it is a MOH norm that the mother's and women's health card should be given to all pregnant women and women of fertile age respectively, few women actually have it. 30% of the mothers interviewed had one of these two cards. The tetanus toxoid (TT) coverage rates were measured using these cards. 22.6% of the women in the sample had two applications of TT. This figure was 19% according to statistics from the MOH Manabi Provincial Health Office. In the subsample analysis of the 8 communities we found the following: 40% of the women had their maternal health card and TT2 coverage was 87.5% among these women with cards. The baseline survey found 50.8% of women of fertile age with TT2, yet this figure was not verified by health cards, rather it was self-reported by interviewees.

50% of the women interviewed stated that they should wait two years or more between births, but of the 73% of the mothers that reported that they did not want another child in the next two years, only 34.8% are using a family planning method. In the subsample analysis 42.9% of these women are using methods. The most frequently used methods are: oral contraceptives, IUD, and female and male sterilization.

26% of the mothers interviewed are at high reproductive risk due to their age. 4% are less than 18 years of age while 22% are above 35 years. Generally, this suggests inadequate knowledge or access to permanent contraceptive methods as usually women over age 35 in Ecuador have reached their ideal family size. The project should therefore continue to collaborate with APROFE and the MOH to educate women about a wide mix of contraceptive methods and to continue to refer women seeking these methods.

Mothers knowledge about danger signals during pregnancy: 34.8% did not identify any danger signal. Among the women that could identify danger signals during pregnancy the most frequently mentioned were: bleeding, headaches, and uterine contractions. Many women reported that abortion (the word in Spanish "aborto" includes both spontaneous and induced abortion) is a danger sign of pregnancy. The project should therefore work with community

women to identify other danger signals that occur during pregnancy to prevent miscarriages. As this was a question added to the survey by the project staff, perhaps this outcome was the result of the way the question was worded or understood by survey participants. The question should therefore be modified appropriately to see if it may be more easily understood.

39.6% of the mothers received post-partum care in a hospital, center or health post. In the subsample this figure was 50%. Both of these figures are 11.5% higher than that reported in MOH records. This difference may be explained by the fact that the MOH statistics do not capture private health care utilization.

The following data was observed for attendance at birth: 47% of the births were attended by health professionals and 42.2% were attended by midwives. In the subsample analysis, 60% of the births were attended by health professionals, while 38.3% were attended by midwives. The MOH reports that 28% of the births in the region occur in hospitals, clinics, or other health institutions, while our survey data results found a higher percentage. With respect to births attended by midwives, the figures found in the survey are less than the provincial data (48%). It appears that an increasing number of births are occurring in health institutions and/or are attended by health professionals. Perhaps this is due to increasing referral of high risk births by trained midwives.

B. AZUAY

General Data about the Mothers and Children

The survey found that 17.3% of the mothers cannot read which is less than the official figure for the rural area in Azuay of 23%. 76.4% of the mothers have attended primary school and can read.

This suggests that an appropriate teaching/learning methodology was used and should continue to be employed (non-traditional education techniques with active participation, and the use of educational materials that are primarily graphic) to ensure that the message is understood, interpreted, and put into practice.

The activities performed by the mothers in addition to household chores and child care are the creation of folk crafts, fabrics, and Panama hats (63%) and agriculture and small animal raising (46.2%). These activities are mainly realized in the home, which suggests that future program strategies continue to include home visiting and group talks to deliver educational messages to community women.

The project has prioritized educational activities and promotion with mothers and community women. The final evaluation survey further suggests that in addition to educating mothers, the extension project should target older siblings and other family members as children are more often left under their care when the

mother leaves the home.

Breastfeeding and Nutrition

The survey found that 99.1% of the mothers breastfed at least once and almost half of the mothers began breastfeeding more than 8 hours after birth.

The highest percentage of children less than four months of age who receive exclusive breastfeeding is 48.5% due to the early introduction of liquids and other milks and the addition of sugars. One third of the mothers answered that foods should be introduced to infants before 4 months of age. 95% of the mothers do not know the most effective actions to take to assure successful breastfeeding during the first four months.

Therefore, the new CS project should focus on promoting exclusive breastfeeding during the first four months, steps to take for successful breastfeeding, early introduction of colostrum, and age appropriate weaning practices.

Nutritional practices with children 4 to 6 months of age need to be improved. The food items primarily consumed by these children are other milks, eggs, and cheeses (50%), purees and cereal beverages (44.1%) which are the foods most easily available to the mothers. The consumption of vegetables rich in Vitamin A is very low, and the consumption of animal and vegetable proteins is less than 70%. This suggests that increased emphasis should be placed on improving nutritional practices in the new CS project.

One can conclude that the target population has not internalized the messages to promote exclusive breastfeeding in the first four months, steps for successful breastfeeding, utilization of colostrum, nutritional management during weaning, and nutrition of the child less than two years of age. In addition to the project limitations in reaching mothers with nutritional messages, it is necessary to consider food availability during CS-VIII, to modify nutritional practices.

Growth Monitoring

The percentage of mothers who had their child's health card was high (76.4%). Despite the MOH's norm - to weigh children less than one year of age monthly - only 21.5% of the children that had their health card were weighed in the 3 months preceding the survey.

According to the data collected by the project's HIS, 48% of the children weighed by the project received two or more growth monitoring sessions; the average number of weighings of children entered in the growth monitoring HIS is 2.68. Growth Monitoring serves as a means of following children's nutritional development. This has been accomplished through registering data in the card and through individual nutritional education for each

mother.

The new CS project should work to ensure that children under two years of age receive one growth monitoring session every three months. This session should include proper technical weighing procedure, appropriate recording of weight in child health cards, and nutritional counseling and education.

Diarrhea

It was expected that the percentage of children with diarrhea would be less than the 36.7% found in the survey, in the months preceding the survey, a large campaign against cholera was implemented that would lower the incidence of many diarrheal diseases. This percentage is similar to the 37% found in the Demographic Maternal and Child Health survey of 1989 for the Sierran region, and greater than that found in the Project Base Line Survey (22.9%), perhaps because this figure corresponds to information for children between 0 and 59 months old.

73.6% of the children that had diarrhea were still receiving breastmilk. This is probably due to the fact that a large percentage of these children do not receive exclusive breastfeeding and are receiving other foods and the bottle.

Almost half of the mothers, (48.3%) whose children had diarrhea breastfed the same as they usually do when their child is not ill. 53.2% of the mothers gave more or equal quantities of liquids which is greater than that found in the Project Base Line Survey of 23%. 37.9% gave less or stopped feeding purees and soft foods altogether.

As proper diarrheal disease management includes the provision of fluids early, one could say that no more than 57.4% are managing diarrheal disease properly. Only 6.9% and 3.4% of the mothers whose children had diarrhea reported using ORS or home mixed salt/sugar solution respectively.

Only (39.1%) of the mothers reported that they sought help when their child had diarrhea.

It is worth noting that 32% of the mothers sought help from a hospital while 29% sought help from a doctor or private clinic. 31% of the 27 mothers of children with diarrhea, administered antidiarrheal and antibiotic medications. This means that the new project should focus efforts on retraining health personnel in proper management of diarrhea.

Only 3.9% of the mothers recognize the signs of danger for dehydration. This figure does not reflect the significant effort and dedication that the project staff has exhibited in transmitting these messages to the community. Perhaps the question needs to be modified to better capture the community women's knowledge in this area. Otherwise the message is not

getting through and therefore further qualitative study should explore the obstacles that exist to design improved health education strategies. Group talks and home visits with community mothers should focus on these themes in the CS VIII project.

Immunizations

95.4% of the mothers reported that their children were immunized at least once.

The immunization coverage rates were calculated for children between 12 and 23 months as this is the international standard for immunization evaluation. The numerator was calculated by viewing the child's health card for specific vaccines. The immunization coverage rates found in the survey were compared with the rates for rural Sierran regions in the Demographic Maternal and Child Health Survey ENDEMAIN, 1989, with those presented by the Provincial MOH in the Department of Azuay in the document "Development and Strengthening of Health Areas" (SILOS.- Azuay 1992) and with that reported in the Baseline Survey Results of CS-V.

The survey found slightly lower immunization coverage rates than those reported in ENDEMAIN 1989 for Polio and DPT, which confirms the reliability of the data.

The BCG coverage rate found was 74.3%, 18 percentage points less than that reported in ENDEMAIN for the rural area of the Sierra. This difference may be caused by the fact that the data from the final survey was verified by the child health card. The low coverage rate found is notable as this vaccine is a requirement for including the child in the civil register. The base line survey found that 100% of the children had BCG. This data was self-reported by the interviewees, rather than collected and verified from the health cards. This may explain the discrepancy.

The vaccination coverage rate for measles is low at 58.4%, which is comparable to the MOH provincial data for Azuay of 1990 (59.6% for children less than one year old and 14.3% for children between 1 and 4 years old). The baseline survey found a 67.1% coverage rate.

All of the vaccination coverage rates are lower than those found in previous surveys which may be due to the fact that many health units encounter antigen shortages and perhaps also due to strikes, work stoppages, and poor motivation that oftentimes leave health units without health personnel. It is important to remember that at the request of the MOH, (during the period when the DIP was being developed), the project decided to limit immunization activities to promotion, education, and referral, although oftentimes the project staff has directly immunized especially with Tetanus Toxoid vaccine.

Mothers' knowledge of immunization is limited, i.e. only 23.6% of the mothers know the age at which the measles vaccine should be applied. Only 9.7% of the mothers know that tetanus toxoid protects the mother and the newborn. These results do not reflect the efforts implemented by the project on this topic.

Maternal Health

13.1% of the mother interviewed had their maternal health card or woman's health card. This low percentage may be due to the fact that health staff do not value this card and it is often not available and therefore seldom used.

The maternal health card and the woman's health card were the only verification source used for TT in the survey. With this method, TT2 coverage was found to be 6.3% which is almost as low as the coverage found in Azuay in 1990 (4.2%). ((Development and Strengthening of the Health Areas (SILOS.-Azuay 1992)).

In spite of the fact that 200 of the mothers (93.9%) indicated that they did not want or did not know if they wanted to have another child in the next two years, only 18% are using family planning methods which is significantly higher than that reported by the MOH in 1990 (2.1%), but only slightly higher than that found in the baseline survey of 17.8%).

Of the 36 women 22 (61.9%) are using modern methods. 6 (16.7%) are using IUDs, 3 (8.3%) are using condoms, 3 (8.3%) are using oral contraceptives, and 10 (27.8%) have had female or male sterilization. 11 mothers (30.6%) are using natural methods with the exception of exclusive breastfeeding. Of these 19.4% are using the rhythm method, 5.6% abstinence, and 5.6% coitus interruptus. Practice with respect to contraceptives has changed from reliance on natural methods to increasing use of modern methods. This is probably due to the diffusion of contraceptive information although the church still has great influence in this region and advocates use of the rhythm method.

With respect to high risk pregnancy, 13.5% of the mothers interviewed knew that the ages of high reproductive risk are less than 18 years of age and more than 35 years of age (1.7% and 11.8% respectively).

52.7% of the mothers know that births should be spaced at least two years apart.

56.1% of the mothers interviewed know that prenatal care visits should happen in the first trimester of pregnancy; 68.6% stated that they had received prenatal care. An increase in women receiving prenatal care is observed from the data. According to the survey results, 59.9% of the mothers receive prenatal care in MOH facilities, while the Statistics Department reports a 38.2% coverage in 1990, and the baseline survey found 57.4%.

The mothers interviewed place less importance on post-partum care. According to the survey, only 19% of the mothers have received post partum care. The MOH in 1990 reported a 15.7% coverage rate. The data for this year, may reflect improvements due to an expansion in coverage.

While the MOH reports a birth rate of 29.7% occurring at health facilities, the survey reported 46% of all births were attended by a health professional. The difference may be due to the fact that the former figure does not include those women who have given birth in private institutions. 39.7% of the births were attended by midwives, which suggests that the strategy of training traditional birth attendants be continued in the new CS project.

APPENDIX 1
QUESTIONNAIRE

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4. ¿Qué tipo de trabajo realiza a más de los quehaceres domésticos?

(puede marcar más de una respuesta)

- a. artesanías, tejidos, sombreros, etc ¿ALGO
- b. en la agricultura, crianza de animales MAS?
- c. vendiendo productos agrícolas
- d. venta de comidas o alimentos preparados
- e. empleada doméstica/otros servicios (domésticos)
- f. tienda/almacén
- g. vendedor ambulante
- h. trabajador asalariado
- i. otros (especifique) _____
- j. ninguno

5. ¿Quién cuida de (nombre del niño) mientras trabaja o está fuera de casa?

(puede marcar más de una respuesta)

- a. el niño va con la mamá ¿ALGO
- b. el esposo/compañero MAS?
- c. hermanos mayores (del niño)
- d. parientes
- e. vecinos/amigos
- f. la empleada
- g. guardería
- h. el niño queda solo

Ahora vamos a hablar de otro asunto importante, de todo lo que está relacionado con la lactancia materna y la nutrición del niño

Lactancia materna/nutrición

6. ¿Está dando de mamar a (nombre del niño)?

- 1. si ---> PASE A LA 8
- 2. no

7. ¿Le ha dado alguna vez de mamar a (nombre del niño)?

- 1. si
- 2. no ---> PASE A LA 9

8. Después del parto, ¿cuándo le dio de mamar por primera vez a (nombre del niño)?

- 1. durante la primera hora después del parto
- 2. durante las primeras 8 horas después del parto
- 3. más de 8 horas después del parto
- 4. no se acuerda

9. a. ¿Le está dando agua (aguitas, gloriados) a (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []
- b. ¿Le está dando otras leches a (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []
- c. ¿Le está dando purés, coladas a (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []
- d. ¿Le está dando frutas o jugos a (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []
- e. ¿Le está dando zanahorias, zapallo o papaya a (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []
- f. ¿Le está dando carne o pescado a (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []
- g. ¿Le está dando (granos secos), fréjol, lentejas, maní o arveja a (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []
- h. ¿Le está dando huevos, queso, cuajada, suero blanco a (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []
- i. ¿Le está añadiendo azúcar, panela (raspadura) o miel a los alimentos de (nombre del niño)?
- 1. si []
 - 2. no []
 - 3. no sabe []

18. Durante la diarrea de (**nombre del niño**), ¿le dio alimentos blandos o purés,?
(lea las opciones a la madre)
- | | |
|---------------------------------|-----|
| 1. más de lo acostumbrado? | [] |
| 2. igual a lo acostumbrado? | [] |
| 3. menos de lo acostumbrado? | [] |
| 4. dejó de darle completamente? | [] |
| 5. solo seno | [] |
| 6. todavía no le da | [] |
19. Cuando (**nombre del niño**) tuvo diarrea, ¿que tratamientos le dio?
(puede marcar más de una respuesta)
- | | | |
|--|-----|-------|
| a. nada | [] | ¿ALGO |
| b. suero oral | [] | MAS? |
| c. suero casero | [] | |
| d. líquidos, aguitas y gloriados o cocimientos caseros como suero de arroz | [] | |
| e. medicinas anti-diarréicas o antibióticos | [] | |
| f. otro (especifique) _____ | [] | |
20. Cuando (**nombre del niño**) tuvo diarrea, ¿buscó ayuda o consejo?
- | | |
|-------|---------------------|
| 1. si | [] |
| 2. no | [] —> PASE A LA 22 |
21. ¿Dónde o a quién buscó ayuda o consejo cuando (**nombre del niño**) tuvo diarrea?
(puede marcar más de una respuesta)
- | | | |
|--------------------------------------|-----|-------|
| a. hospital | [] | ¿ALGO |
| b. centro o subcentro de salud | [] | MAS? |
| c. médico/clínica particular | [] | |
| d. farmacia | [] | |
| e. voluntario de salud (URO) | [] | |
| f. curandero | [] | |
| g. partera/comadrona | [] | |
| h. parientes y amigos | [] | |
| i. otro (especifique) _____ | [] | |
22. ¿Que acciones importantes hizo Ud. cuando (**nombre del niño**) tuvo diarrea?.
(puede marcar más de una respuesta)
- | | | |
|--|-----|-------|
| a. iniciar líquidos | [] | ¿ALGO |
| b. darle al niño más líquidos de lo usual | [] | MAS? |
| c. darle suero oral o suero casero | [] | |
| d. darle al niño pequeñas cantidades de comida más frecuentemente | [] | |
| e. llevar el niño al hospital general o centro de salud (seguro o MSP) | [] | |
| f. dar más comida al niño cuando está recuperado de diarrea | [] | |
| g. médico particular | [] | |
| h. otro (especifique) _____ | [] | |
| i. no sabe | [] | |

23. ¿Cuáles son las señales (síntomas) de peligro que le harían buscar ayuda para la diarrea de (nombre del niño)?.

(puede marcar más de una respuesta)

- a. no sabe [] ¿ALGO
- b. vómito [] MAS?
- c. fiebre []
- d. boca seca, ojos hundidos, mollera hundida, orina poco (deshidratación) []
- e. diarrea prolongada (más de 3 días) []
- f. sangre en las heces []
- g. pérdida del apetito []
- h. débil, desganado o decaído []
- i. otros (especifique) _____ []

24. ¿Qué acciones importantes debe hacer una madre si su niño tiene diarrea?

(puede marcar más de una respuesta)

- a. iniciar líquidos [] ¿ALGO
- b. darle al niño más líquidos de lo usual [] MAS?
- c. darle suero oral o suero casero []
- d. darle al niño pequeñas cantidades de comida más frecuentemente []
- e. llevar el niño al hospital general o centro de salud (seguro o MSP) []
- g. médico particular []
- h. dar más comida al niño cuando está recuperado de diarrea []
- i. otro (especifique) _____ []
- j. no sabe []

Queremos hablar también de las Infecciones Respiratorias

Infecciones Respiratorias Agudas

25. ¿Ha estado (nombre del niño) enfermo con tos, catarro (moquera, resfrío) o problemas respiratorios en las dos últimas semanas?

- 1. si []
- 2. no []---> PASE A LA 29

26. ¿Ha estado (nombre del niño) con dificultad para respirar, o respiraba como cansado (agitado), cuando enfermó?

- 1. si []
- 2. no []---> PASE A LA 29
- 3. no sabe []---> PASE A LA 29

27. ¿Ha buscado Ud. consejo o ayuda para (nombre del niño) cuando estuvo enfermo con tos y tenía dificultad para respirar?

- 1. si []
- 2. no []---> PASE A LA 29

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39. ¿Está Ud. (o su marido) ahora usando algún método para no embarazarse o retrasar el próximo embarazo?
1. si
 2. no —> **PASE A LA 41**
40. ¿Cuál es el método principal, que Ud. o su marido, está ahora usando para que no salga embarazada?
1. ligadura de trompas/vasectomía (esterilización)
 2. Norplant
 3. pastillas anticonceptivas (píldora, microgynom, o femenal)
 4. dispositivo intra-uterino (T de cobre, espiral, 7 de cobre o multilock)
 5. condones/preservativos
 6. espumas, jaleas, óvulos
 7. lactancia materna exclusiva
 8. método del ritmo (calendario/tabla)
 9. abstinencia (no tener relaciones sexuales)
 10. coito interrumpido (acabar afuera)
 11. otros (especifique) _____
41. ¿A los cuántos meses una embarazada debe recibir control?
1. al primer trimestre, 1-3 meses
 2. a la mitad del embarazo, 4-6 meses
 3. al último trimestre, 7-9 meses
 4. no necesita ir
 5. no sabe
42. ¿Cuáles son las señales de peligro que puede presentar una mujer embarazada?
(puede marcar más que una respuesta)
1. edema (hinchazón)
 2. dolores de cabeza
 3. sangrados ¿ALGO MAS?
 4. desmayos
 5. fiebre
 6. convulsiones (ataques)
 7. orina espesa
 8. dolor al orinar
 9. expulsión de líquidos o secreciones por la vagina
 10. contracciones del útero (dolor de caderas o vientre)
 11. otro (especifique) _____
 12. no sabe
43. Durante el embarazo de (nombre del niño), ¿tuvo controles prenatales?
1. si
 2. no ---> **PASA A LA 45**

10. ¿Qué debe hacer una madre, durante los primeros 4 meses, para tener una lactancia materna exitosa?
(puede marcar más de una respuesta)
- | | | |
|---|--------------------------|------------|
| a. dar de mamar inmediatamente después del parto | <input type="checkbox"/> | ¿ALGO MAS? |
| b. lactar frecuentemente para estimular la producción de leche | <input type="checkbox"/> | |
| c. cuidado de los senos y pezones | <input type="checkbox"/> | |
| d. dar exclusivamente de lactar, durante los cuatro primeros meses | <input type="checkbox"/> | |
| e. no dar leche en biberón | <input type="checkbox"/> | |
| f. re-amamantar (la madre puede volver a la lactancia exclusiva si la había dejado) | <input type="checkbox"/> | |
| g. tomar más líquidos | <input type="checkbox"/> | |
| h. comer variado (de todo) | <input type="checkbox"/> | |
| i. comer más | <input type="checkbox"/> | |
| j. otros (especifique) _____ | <input type="checkbox"/> | |
| k. no sabe | <input type="checkbox"/> | |
11. ¿A qué edad debería empezar la madre a dar otros alimentos además de su seno?
- | | |
|-----------------------------------|--------------------------|
| 1. empezar antes de los 4 meses | <input type="checkbox"/> |
| 2. empezar de los 4 a 6 meses | <input type="checkbox"/> |
| 3. empezar después de los 6 meses | <input type="checkbox"/> |
| 4. no sabe | <input type="checkbox"/> |

Control del Crecimiento

12. ¿Tiene (nombre del niño) su carnet infantil (o gráfica) para el control del peso y la vacunación?
- | | | |
|---------------------|--------------------------|---------------------------|
| 1. si | <input type="checkbox"/> | (pida que se lo muestre!) |
| 2. perdió el carnet | <input type="checkbox"/> | → PASE A LA 15 |
| 3. no | <input type="checkbox"/> | → PASE A LA 15 |
13. _____
- Mire la gráfica del niño y registre la siguiente información: ¿ha sido pesado el niño en los últimos 3 meses?
- | | |
|-------|--------------------------|
| 1. si | <input type="checkbox"/> |
| 2. no | <input type="checkbox"/> |
- _____

28. ¿De quien recibió consejo o ayuda para la tos y dificultad respiratoria de (nombre del niño)?
(puede marcar más de una respuesta)
- | | | |
|--------------------------------|-----|-------|
| a. hospital | [] | ¿ALGO |
| b. centro o subcentro de salud | [] | MAS? |
| c. médico/clínica particular | [] | |
| d. farmacia | [] | |
| e. voluntario de salud | [] | |
| f. curandero | [] | |
| g. partera | [] | |
| h. parientes y amigos | [] | |
| i. otro (especifique) _____ | [] | |
29. ¿Cuáles son las señales (síntomas) de peligro que le harían buscar ayuda para la enfermedad respiratoria de (nombre del niño)?
(puede marcar más de una respuesta)
- | | | |
|---------------------------------|-----|-------|
| a. no sabe | [] | ¿ALGO |
| b. respiración rápida y agitada | [] | MAS? |
| c. retracciones inter-costales | [] | |
| d. pérdida de apetito | [] | |
| e. fiebre | [] | |
| f. tos | [] | |
| g. otro (especifique) _____ | [] | |

Ahora queremos hablar sobre las vacunas

Inmunizaciones

30. ¿(Nombre del niño) ha sido vacunado alguna vez?
- | | |
|------------|-----|
| 1. si | [] |
| 2. no | [] |
| 3. no sabe | [] |
31. ¿A qué edad (nombre del niño) debería recibir la vacuna contra el sarampión?
- | | |
|-------------------------|--------------|
| 1. especifique en meses | [__/__] |
| 2. no sabe | [__-__] (99) |
32. ¿Cuál es la razón principal porque una mujer embarazada debe ser vacunada contra el tétanos ?
- | | |
|---|-----|
| 1. para proteger madre y niño contra el tétanos | [] |
| 2. para proteger <u>solo</u> a la mujer contra el tétanos | [] |
| 3. para proteger <u>solo</u> al niño contra el tétanos | [] |
| 4. otro o no sabe | [] |

33. ¿Cuántas vacunas contra el tétanos debe recibir una mujer embarazada, para proteger al recién nacido?
- 1. una []
 - 2. dos []
 - 3. más de dos []
 - 4. ninguna []
 - 5. no sabe []
-

Sra. Hablemos sobre su salud

Salud materna

34. ¿Tiene Ud. carnet materno o carnet de salud de la mujer?
- 1. si [] (pida que se lo muestre)
 - 2. perdió el carnet [] —> PASE A LA 36
 - 3. no [] —> PASE A LA 36

35.

Mire el carnet de salud/vacunación materna y registre el número de vacunas TT en el espacio correspondiente:

- 1. una []
 - 2. dos o mas []
 - 3. ninguna []
-

36. ¿Qué tiempo cree Ud. debe pasar entre un parto y un nuevo embarazo?
- 1. menos de 2 años []
 - 2. dos años o más []
 - 3. no sabe []

37. ¿Está Ud. ahora embarazada?

- 1. si [] —> PASE A LA 41
- 2. no []
- 3. no sabe []

38. ¿Quiere Ud. tener otro hijo en los próximos dos años?

- 1. si [] —> PASE A LA 41
- 2. no []
- 3. no sabe []

- Las madres de los 87 niños que tuvieron diarrea en las dos últimas semanas manifestaron haber continuado dando seno durante la diarrea de la siguiente forma: 8 (9.2%) más de lo acostumbrado; 42 (48.3%) igual a lo acostumbrado; 13 (14.9%) menos de lo acostumbrado y 1 (1.1%) lo suspendió completamente.
- De los 87 niños con diarrea 32 (36.8%) han recibido líquidos más de lo acostumbrado; 23 (26.4%) igual a lo acostumbrado; 5 (5.7%) menos de los acostumbrado y 24 (27.6%) solo seno.
- De los 87 niños con diarrea 4 (4.6%) recibieron durante la diarrea alimentos blandos o pures más de lo acostumbrado; 21 (24.1%) igual a lo acostumbrado; 24 (27.6%) menos de lo acostumbrado 9 (10.3%) dejó de darle completamente y 20 (23.0%) recibieron solo seno.
- Respecto al tratamiento que las 87 madres encuestadas dieron cuando sus niños estaban con diarrea en las dos últimas semanas previas a la encuesta, 6 (6.9%) dieron al niño suero oral; 3 (3.4%) suero casero; 41 (47.1%) líquidos y aguitas; 27 (31.0%) medicinas antidiarréicas y 19 (21.8%) no han dado nada.
- Respecto a si las 87 madres de niños buscaron ayuda cuando éstos estuvieron con diarrea 34 (39.1%) si lo hicieron. Del 100% de madres que buscaron ayuda 11 (32.4%) lo hicieron en un hospital; 10 (29.4%) acudieron a un médico o clínica particular ;8 (23.5) donde parientes y amigos y 1 (2.9%) donde el voluntario de salud.
- Las acciones que tomaron las 87 madres de niños que tuvieron diarrea en las dos últimas semanas fueron las siguientes: dar al niño más comida cuando se recupera de la diarrea 1 (1.1%); llevarlo al médico particular 7 (8.0%); y dar más líquidos de lo normal 8 (9.2%).
- Respecto a los problemas que les preocuparían y les harían buscar ayuda cuando el niño tiene diarrea, de las 237 madres encuestadas 72 (30.4%) no saben; 59 (24.9%) consideran la diarrea prolongada (más de tres días) como señal importante; luego fiebre, débil y desganado 38 (16.0%); vómito 32 (13.5%); perdida de apetito 29 (12.2%); solo 21 (8.9%) de las madres identificaron los signos de deshidratación como problemas que le preocuparían y les harían buscar ayuda.

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APPENDIX 2

TRANSLATION OF QUESTIONNAIRE

5. Who takes care of (name of child) while you work or are away from home?
 - a. the child accompanies the mother
 - b. husband/partner
 - c. older siblings(of child)
 - d. relatives
 - e. neighbors/friends
 - f. the domestic worker
 - g. day care center
 - h. the child stays alone

Now we are going to talk about another important matter. Everything that has to do with breastfeeding and the child's nutrition.

Breastfeeding/Nutrition

6. Are you breastfeeding (name of child)?
 1. yes-Skip to question #8
 2. no
7. Have you ever breastfed (name of child)?
 1. yes
 2. no-Skip to question #9
8. After birth, when did you breastfeed (name of child) for the first time?
 1. during the first hour after birth
 2. during the first 8 hours after birth
 3. more than 8 hours after birth
 4. do not remember
- 9.a. Are you giving water (herbal teas) to (name of child)?
 1. yes
 2. no
 3. don't know
- b. Are you giving other milks to (name of child)?
 1. yes
 2. no
 3. don't know
- c. Are you giving purees, or cereal drinks to (name of child)?
 1. yes
 2. no
 3. don't know

- d. Are you giving fruits or juices to (name of child)?
1. yes
 2. no
 3. don't know
- e. Are you giving carrots, local squash, or papaya to (name of child)?
1. yes
 2. no
 3. don't know
- f. Are you giving meat or fish to (name of child)?
1. yes
 2. no
 3. don't know
- g. Are you giving (dried beans), pintos, lentils, peanuts or beans to (name of child)?
1. yes
 2. no
 3. don't know
- h. Are you giving eggs, cheese, liquid local cheese to (name of child)?
1. yes
 2. no
 3. don't know
- i. Are you adding sugar, sugar cane product, or honey to the food of (name of child)?
1. yes
 2. no
 3. don't know
10. What should a mother do during the first 4 months to breastfeed successfully?
(you can mark more than one answer)
- a. breastfeed immediately after birth
 - b. breastfeed frequently to stimulate milk production
 - c. care of breasts and nipples
 - d. exclusive breastfeeding during the first four months
 - e. don't give milk in a bottle
 - f. start breastfeeding again (the mother can resume breastfeeding after she has stopped)
 - g. ingest more liquids
 - h. eat a varied diet

- i. eat more
 - j. other (specify)
 - k. don't know
11. At what age should the mother begin to give other foods in addition to the breast?
- 1. begin before 4 months
 - 2. begin from 4 to 6 months
 - 3. begin after 6 months
 - 4. don't know

Growth Monitoring

12. Does (name of child) have their health card (or growth chart) for growth monitoring and vaccination?
- 1. yes---(ask them to show it to you)
 - 2. lost the card--Skip to question 15
 - 3. no---Skip to question 15
13. Look at the child's health card and record the following information: Has the child been weighed in the last 3 months?
14. Look at the vaccination card and record the dates of the immunizations in the corresponding spaces

BCG
 Polio
 DPT
 Measles

Diarrheal Diseases

Now we will talk about diarrhea

15. Has (name of child) had diarrhea in the last two weeks?
- 1. yes
 - 2. no--Skip to question 23
 - 3. Don't know--Skip to question 23
16. During the diarrhea of (name of child), Did you breastfeed...
 (Read the options to the mother)
- 1. more than usual
 - 2. same as usual
 - 3. less than usual
 - 4. stopped completely
 - 5. no longer receives breastfeeding

17. During the diarrhea of (name of child), did you give other liquids...
(read the options to the mother)
1. more than usual
 2. same as usual
 3. less than usual
 4. stopped completely
 5. only breastmilk
 6. only breast and solids
18. During the diarrhea of (name of child), did you give soft foods or purees...
(read the options to the mother)
1. more than usual
 2. same as usual
 3. less than usual
 4. stopped giving completely
 5. only breastfed
 6. Doesn't receive yet
19. When (name of child) had diarrhea, what treatments did you give
(you can mark more than one answer)
- a. nothing
 - b. oral solution
 - c. home solution
 - d. liquids, herbal teas or home remedies like rice solution
 - e. antidiarrheal medicines or antibiotics
 - f. other (specify)
20. When (name of child) had diarrhea, did you seek help or advice?
1. yes
 2. no---Skip to question 22
21. Where or from whom did you seek help or advice when (name of child) had diarrhea?
(you can mark more than one answer)
- a. hospital
 - b. health center or post
 - c. doctor/private clinic
 - d. pharmacy
 - e. health volunteer
 - f. traditional healer
 - g. traditional birth attendant/midwife
 - h. relatives and friends
 - i. other (specify)

22. What important actions did you take when (name of child) had diarrhea? (you can mark more than one answer)

- a. initiate liquids
- b. give the child more liquids than usual
- c. give ORS or home mix
- d. give the child small quantities of food more frequently
- e. take the child to the general hospital or the health center (social security or MOH)
- f. give the child more food when he is recuperating from diarrhea
- g. private doctor
- h. other (specify)
- i. don't know

23. What are the signals (symptoms) of danger that would cause you to seek help for the diarrhea of (name of child)? (you can mark more than one answer)

- a. don't know
- b. vomiting
- c. fever
- d. dry mouth, sunken eyes, sunken fontanelle, urinates little (dehydration)
- e. prolonged diarrhea (more than 3 days)
- f. blood in the stools
- g. loss of appetite
- h. weak, listless or despondent
- i. other (specify)

24. What important actions should a mother take if her child has diarrhea? (you can mark more than one answer)

- a. initiate liquids
- b. give the child more liquids than usual
- c. give the child ORS or home mix
- d. give the child small quantities of food more frequently
- e. take the child to a general hospital or health center (social security or MOH)
- f. private doctor
- g. give more food to the child when he is recuperating from diarrhea
- h. other (specify)
- i. don't know

We would also like to speak about respiratory infections

Acute Respiratory Infections

25. Has (name of child) been ill with a cough, cold or respiratory problems in the last two weeks?
1. yes
 2. no---Skip to question 29
26. Has (name of child) had difficulty breathing or did he breathe as if he were tired (agitated) when he was ill?
1. yes
 2. no---Skip to question 29
 3. don't know---Skip to question 29
27. Have you sought advice or help for (name of child) when he was ill with a cold and had difficulty breathing?
1. yes
 2. no---Skip to question 29
28. From whom did you receive advice or help for the cough and respiratory difficulty of (name of child)?
(you may mark more than one answer)
- a. hospital
 - b. health center or post
 - c. doctor/private clinic
 - d. pharmacy
 - e. health volunteer
 - f. traditional healer
 - g. midwife
 - h. relatives and friends
 - i. other (specify)
29. What are the signs or symptoms of danger that would cause you to seek help for the respiratory illness of (name of child)?
(you may mark more than one answer)
- a. don't know
 - b. rapid and agitated breathing
 - c. inter-costal retractions
 - d. loss of appetite
 - e. fever
 - f. cough
 - g. other (specify)

Now we will talk about vaccines

Immunizations

30. Has (name of child) been vaccinated at least once?
1. yes
 2. no
 3. don't know
31. At what age should (name of child) receive the vaccination against measles?
1. specify in months
 2. don't know
32. What is the primary reason that a pregnant woman should receive the immunization against tetanus?
1. to protect mother and child against tetanus
 2. to protect only the mother against tetanus
 3. to protect only the child against tetanus
 4. other or don't know
33. How many vaccines against tetanus should a pregnant woman receive to protect the new born?
1. one
 2. two
 3. more than two
 4. none
 5. don't know

Senora, now we will talk about your health

Maternal Health

34. Do you have a maternal health card or a woman's health card?
1. yes--(ask her to show it to you)
 2. she lost the card--Skip to question 36
 3. no---Skip to question 36
35. Look at the health card/maternal vaccination and record the number of TT vaccines in the corresponding space:
1. one
 2. two or more
 3. none
36. How much time do you believe should pass between a birth and a new pregnancy?
1. less than 2 years
 2. two years or more
 3. don't know

37. Are you pregnant now?
1. yes---Skip to question 41
 2. no
 3. don't know
38. Do you want to have another child in the next two years?
1. yes
 2. no
 3. don't know
39. Are you (or your husband) using any method to avoid pregnancy or to postpone the next pregnancy?
1. yes
 2. no---Skip to question 41
40. What is the primary method that you or your husband is no using to avoid pregnancy?
1. female/male sterilization
 2. Norplant
 3. oral contraceptives (the pill)
 4. Intrauterine Device (IUD)
 5. condoms
 6. foam, jellies, vaginal suppositories
 7. exclusive breastfeeding
 8. rhythm method (calender)
 9. abstinence (avoid sexual relations)
 10. coitus interruptus (finish outside)
 11. other (specify)
41. At how many months should a pregnant women receive medical care?
1. during the first trimester, 1-3 months
 2. at the middle of the pregnancy, 4-6 months
 3. at the last trimester, 7-9 months
 4. doesn't need to receive it
 5. don't know
42. What are the danger signals that a pregnant woman may experience? (you may mark more than one answer)
1. edema (swelling)
 2. headaches
 3. bleeding
 4. fainting
 6. convulsions (attacks)
 7. thick urine
 8. pain when urinating
 9. vaginal secretions

10. uterine contractions (pain in the side or abdomen)
 11. other (specify)
 12. don't know
-
43. During the pregnancy of (name of child), did you receive prenatal care?
1. yes
 2. no---Skip to question 45

APPENDIX 3

DIFFERENCES - QUESTIONNAIRE AZUAY

**CAMBIO DE LA ENCUESTA APLICADA EN EL AZUAY
EN RELACION A LA DE MANABI**

PREGUNTA 4. Las alternativas son las siguientes:

- a. ninguno
- b. artesanías, tejidos, sombreros, costuras, zapatos
- c. en la agricultura, crianza de animales
- d. vendiendo productos agrícolas
- e. venta de comidas o alimentos preparados
- f. empleada doméstica/otros servicios (domésticos)
- g. tienda/almacén
- h. vendedor ambulante
- desaparece: Trabajador asalariado
- i. otro especifique _____

PREGUNTA 9. queda así:

- a. ¿Le está dando agua (aguitas aromáticas) a (nombre del niño)?
desaparece gloriados
- b. ¿Le está dando purés, coladas a (nombre del niño)?
- c. ¿Le está dando frutas o jugos a (nombre del niño)?
- d. ¿Le está dando zanahorias, zapallo o papaya a (nombre del niño)?
- e. ¿Le está dando carne o pescado a (nombre del niño)?
- f. ¿Le está dando (granos secos) frejol, lentejas, arveja, papa de zambo a (nombre del niño)? desaparece maní.
- g. ¿Le está dando leche, huevos, queso, quesillo a (nombre del niño)? se añade leche
- h. ¿Le está añadiendo azúcar, panela (raspadura) o miel a los alimentos de (nombre del niño)?
- i. ¿Le está dando teta a (nombre del niño)? se añade ésta.
- j. ¿Le está añadiendo sal refinada (yodada) a los alimentos de (nombre del niño)? se añade ésta.

PREGUNTA 10.

cambia la opción: a. no sabe antes era opción k.

PREGUNTA 11.

cambia la opción: i. no sabe antes era 4

PREGUNTA 19

d. líquidos, aguitas y cocimientos caseros como suero de arroz (desaparece gloriados)

PREGUNTA 21

Opciones quedan así:

- a. hospital, centro o subcentro de salud (seguro, MSP)
- b. médico/clínica particular
- c. farmacia
- d. voluntario de salud (UROCS)
- e. curandero
- f. partera/comadrona
- g. parientes y amigos
- h. otro especifique _____

PREGUNTA 22

la pregunta queda así:

¿Qué cosas importantes hizo ud. cuando (nombre del niño) tuvo diarrea? (se cambia acciones por cosas)
opción a. no sabe antes era 1.

PREGUNTA 23

la pregunta queda así:

¿Cuáles son los problemas que le preocuparían y le harían buscar ayuda cuando (nombre del niño) tiene diarrea?

PREGUNTA 24

¿Qué cosas importantes debe hacer una diarrea? se cambia acciones por cosas

- a. no sabe
- b. iniciar líquidos
- c. darle al niño más líquidos de lo usual
- d. darle suero oral o suero casero
- e. darle al niño pequeñas cantidades de comida más frecuentemente
- f. llevar al niño al hospital general o centro de salud (seguro o MSP)
- g. médico particular
- h. dar más comida al niño cuando está recuperado de diarrea
- i. otro específico _____

PREGUNTA 25

Opciones quedan así:

- a. hospital, centro o subcentro de salud (seguro, MSP)
- b. médico/clínica particular
- c. farmacia
- d. voluntario de salud (UROCS)
- e. curandero
- f. partera
- g. parientes y amigos
- h. otro específico _____

PREGUNTA 29

la pregunta queda así:

¿Cuáles son los problemas (síntomas) que le preocuparían y le harían buscar ayuda para la enfermedad respiratoria de (nombre del niño)

PREGUNTA 32

la pregunta queda así:

¿A quién protege la vacuna contra el tétanos que se aplica a las embarazadas?

PREGUNTA 33

opción 1. no sabe antes era 5.

PREGUNTA 39

la pregunta queda así:

¿Esta ud. (o su marido) ahora usando algún método para no embarazarse? desaparece "o retrasar el próximo embarazo"

PREGUNTA 41

opción 1. no sabe antes era 5.

PREGUNTA 43

la pregunta queda así:

¿Qué molestias ponen en peligro el embarazo?

las opciones quedan así:

- a. no sabe
- b. edema (hinchazón)
- d. sandrados
- e. demmayos
- f. fiebre
- g. convulsiones (ataques)
- h. orina espesa
- i. dolor al orinar
- j. salida de líquidos o secreciones por la vagina
- k. Contracciones del útero (dolor de caderas o vientre)
- l. vómito frecuente
- m. otro especifique _____

PREGUNTA 44

Opción a. hospital, centro o subcentro de salud (seguro, MSP) de
año (seguro, MSP)

PREGUNTA 47

Opción 1. no sabe antes era 6.

**CHANGES TO THE QUESTIONNAIRE USED IN AZUAY IN RELATION TO THE
MANABI QUESTIONNAIRE**

QUESTION 4. The alternatives are the following:

- a. none
- b. folk art, weavings, hats, sewn goods, shoes
- c. in agriculture, small animal raising
- d. selling agricultural products
- e. selling food or prepared foods
- f. domestic worker/other services (domestic)
- g. store/market
- h. street vendor
- salaried worker disappears**
- i. other (specify)

QUESTION 9. AS FOLLOWS:

- a. Are you giving water (aromatic waters) to (name of child)? **the word gloriados disappears**
- b. Are you giving pures, cereal beverages to (name of child)?
- c. Are you giving fruits or juices to (name of child)?
- d. Are you giving carrots, squash, or papaya to (name of child)?
- e. Are you giving meat or fish to (name of child)?
- f. Are you giving (dried beans) beans, lentils, beans, seeds, to (name of child)? **peanuts disappears.**
- g. Are you giving milk, eggs, cheese, little cheeses to (name of child)? **milk was added**
- h. Are you adding sugar, sugar cane derivative, or honey to the food of (name of child)?
- i. Are you giving the bottle to (name of child)? **this was added.**
- j. Are you adding refined salt (iodized) to the foods of (name of child)? **this was added.**

QUESTION 10.

the options were changed. a. don't know before it was option k.

QUESTION 11.

change the option: 1. don't know before it was 4

QUESTION 19.

d. liquids, waters and home preparations such as rice water (herbal teas {gloriados} disappears)

QUESTION 21

The options are:

- a. hospital, health center or post (social security, MOH)
- b. doctor/private clinic
- c. pharmacy
- d. health volunteer (UROCS)
- e. traditional healer
- f. midwife/traditional birth attendant
- g. relatives and friends
- h. other (specify)

QUESTION 22

the question is as follows:

What important things did you do when (name of child) had diarrhea? (the word actions was replaced by things)
change the option a. don't know before it was i.

QUESTION 23

the question is:

What were the problems that would worry you and would make you seek help when (name of child) had diarrhea?

QUESTION 24

What important things should a mother do if her child has diarrhea? the word actions was replaced by the word things.

- a. don't know
- b. begin fluids
- c. give the child more liquids than usual
- d. give ORS or home mix salt/sugar
- e. give the child small quantities of food more frequently
- f. take the child to the general hospital or health center (social security or MOH).
- g. private doctor
- h. give the child extra meals when he is recuperating from diarrhea
- i. other (specify)

QUESTION 28

the options are:

- a. hospital, health center or post (social security, MOH)
- b. doctor/private clinic
- c. pharmacy
- d. health volunteer (UROCS)
- e. traditional healer
- f. midwife
- g. relatives and friends
- h. other (specify)

QUESTION 29

the question is:

What are the problems (symptoms) that would worry you and would cause you to seek help for the respiratory illness of (name of child)?

QUESTION 32

the question is:

Who does the vaccination against tetanus that is given to pregnant women protect?

QUESTION 33

option 1. don't know before it was 5.

QUESTION 39

the question is as follows:

Are you (or your husband) now using any method to avoid becoming

pregnant? "or to delay the next pregnancy

QUESTION 41

Option 1. don't know before it was 5.

QUESTION 42

the question is:

What problems put a pregnancy in danger?

- a. don't know
- b. edema (swelling)
- d. bleeding
- e. fainting
- f. fever
- g. convulsions (attacks)
- h. thick urine
- i. pain when urinating
- j. liquids or vaginal secretions
- k. uterine contractions (pains in the side or abdomen)
- l. frequent vomiting
- m. other (specify)

QUESTION 44

Option a. hospital, health center or post the following is added:
(social security, MOH)

QUESTION 47

Option 1. don't know before was 6.

APPENDIX 4

POPULATION DATA USED FOR SAMPLING

LISTADO DE COMUNIDADES Y SUS POBLACIONES ESTIMADAS DE
LOS CANTONES BOLIVAR, JUNIN, MONTECRISTI, PICHINGHA

El Promedio de Ocupantes
por Vivienda es de 3
personas

	Nombre de la Comunidad	Cantón-Parroquia	# de Viviendas	Pobl. Estimada	Pobl. Acumulada
1	1. Los Mates (Venturita)	Bolívar-Calaceta	74	370	370
2	2. Cabello	Bolívar-Calaceta	94	470	840
3	3. Mocal Adentro	Bolívar-Calaceta	90	450	1,290
4	4. Bejucal	Bolívar-Calaceta	55	275	1,565
5	5. Arrastradero	Bolívar-Calaceta	99	495	2,060
6	6. Figueroa	Bolívar-Calaceta	92	460	2,520
7	7. Casa Vieja	Bolívar-Calaceta	92	460	2,980
8	8. Los Baucos	Bolívar-Calaceta	112	560	3,540
9	9. Las Delicias	Bolívar-Calaceta	132	660	4,200
10	10. El Corozo	Bolívar-Calaceta	92	460	4,660
11	11. Mocochoal	Bolívar-Calaceta	82	410	5,070
12	12. Mocochoal	Bolívar-Calaceta	128	640	5,710
13	13. Matapalo	Bolívar-Calaceta	105	525	6,235
14	14. Patón	Bolívar-Calaceta	61	305	6,540
15	15. Platanos	Bolívar-Calaceta	68	340	6,880
16	16. Loma Seca	Bolívar-Calaceta	74	370	7,250
17	17. Sarampión	Bolívar-Calaceta	99	495	7,745
18	18. La Chorrera	Bolívar-Calaceta	56	280	8,025
19	19. Trueno Chico (Pechichal)	Bolívar-Calaceta	82	410	8,435
20	20. La Mina	Bolívar-Calaceta	86	430	8,865
21	21. La Concha	Bolívar-Calaceta	47	235	9,100
22	22. Caña Grande	Bolívar-Calaceta	91	455	9,555
23	23. Caña Grande	Bolívar-Calaceta	65	325	9,880
24	24. El Zapote	Bolívar-Calaceta	93	465	10,345
25	25. La Palmita	Bolívar-Calaceta	89	445	10,790
26	26. La Majagua	Bolívar-Calaceta	113	565	11,355
27	27. Los Mulatos	Bolívar-Calaceta	92	460	11,815
28	28. Las Culebras	Bolívar-Calaceta	59	290	12,105
29	29. La Lechería	Bolívar-Calaceta	81	405	12,510
30	30. Tablada del Tigre	Bolívar-Calaceta	107	535	13,045
31	31. Balsas	Bolívar-Calaceta	83	415	13,460
32	32. Río Chico	Bolívar-Calaceta	73	365	13,825
33	33. San Pablo	Bolívar-Calaceta	95	475	14,300
34	34. Manta Blanca	Bolívar-Calaceta	85	425	14,725
35	35. Las Delicias	Bolívar-Calaceta	51	255	14,980
36	36. Las Delicias (El Noventa)	Bolívar-Calaceta	90	450	15,430
37	37. Río Chico	Bolívar-Calaceta	104	520	15,950
38	38. Progreso	Bolívar-Calaceta	95	475	16,425
39	1. La Mina	Bolívar-Membrillo	71	355	16,780
40	2. La Caraca	Bolívar-Membrillo	88	440	17,220
41	3. Chapulí	Bolívar-Membrillo	80	400	17,620
42	4. Tigrecito	Bolívar-Membrillo	55	275	17,895
43	5. El Cañote	Bolívar-Membrillo	59	295	18,190
44	6. El Aji Afuera	Bolívar-Membrillo	60	300	18,490
45	7. Los Mulatos	Bolívar-Membrillo	41	205	18,695
46	8. Cañales	Bolívar-Membrillo	90	450	19,145
47	9. Mata de Plátano	Bolívar-Membrillo	90	450	19,595
48	10. Guayacán	Bolívar-Membrillo	88	440	20,035
49	1. La Esperanza	Bolívar-Quiroga	76	380	20,415
50	2. La Pavita	Bolívar-Quiroga	110	550	20,965
51	3. Tablada de Pereira	Bolívar-Quiroga	53	265	21,230

(67)

LISTADO DE COMUNIDADES Y SUS POBLACIONES ESTIMADAS DE
LOS CANTONES BOLIVAR, JUNIN, MONTECRISTI, PICHINCHA

El Promedio de Ocupantes
por Vivienda es de 5
personas

	Nombre de la Comunidad	Cantón-Parroquia	# de Viviendas	Pobl. Estimada	Pobl. Acumulada
52	4. Bajo Grande	Bolivar-Guiroga	102	510	21,740
53	5. Julián	Bolivar-Guiroga	61	305	22,045
54	1. Guasno	Junin	118	590	22,635
55	2. Camaron Macho	Junin	110	550	23,185
56	3. Santo Domingo	Junin	73	365	23,550 **
57	4. Pechichal Adentro	Junin	91	455	24,005
58	5. Soledad	Junin	54	270	24,275
59	6. Maranjito	Junin	96	480	24,755
60	7. Indoctán	Junin	103	515	25,270
61	8. Florida	Junin	57	285	25,555
62	9. Andarileles	Junin	70	350	25,905
63	10. Mendoza	Junin	121	605	26,510 **
64	11. Las Piedras	Junin	72	360	26,870
65	12. El Toro	Junin	103	515	27,385
66	13. El Palmar	Junin	122	610	27,995
67	14. Pechichal Afuera	Junin	59	295	28,290
68	15. Los Casados	Junin	79	395	28,685 **
69	16. Rio Frio	Junin	93	465	29,150
70	17. Cieneguita Afuera	Junin	71	355	29,505
71	18. Las Cañitas	Junin	101	505	30,010
72	19. Rio Frio	Junin	110	550	30,560
73	20. Pita Grande Adentro	Junin	35	175	30,735
74	21. El Algodón	Junin	58	290	31,025
75	22. La Pindigua	Junin	115	575	31,600 **
76	23. Caña	Junin	128	640	32,240
77	24. El Tigrillo	Junin	64	320	32,560
78	25. Punta del Medio	Junin	59	295	32,855
79	26. Guayabales	Junin	80	400	33,255
80	1. Jaramajo	Montecristi-Jaramaj	33	165	33,420
81	1. Los Corrales	Montecristi-Montecr	123	615	34,035 **
82	2. El Chorrillo	Montecristi-Montecr	111	555	34,590
83	3. Colorado	Montecristi-Montecr	436	2,180	36,770 **
84	4. Monterrey	Montecristi-Montecr	142	710	37,480
85	5. Pozo de la Sabana	Montecristi-Montecr	90	450	37,930
86	6. El Arroyo	Montecristi-Montecr	191	955	38,885
87	7. La Sequita Zona # 1	Montecristi-Montecr	206	1,030	39,915 **
88	7. Papa de Huso Zona # 2	Montecristi-Montecr	192	960	40,875
89	8. Rio de Oro	Montecristi-Montecr	90	450	41,325
90	9. Estancia de las Palmas	Montecristi-Montecr	116	580	41,905
91	10. Estancia de las Palmas	Montecristi-Montecr	110	550	42,455 **
92	11. Cerro Guayabal	Montecristi-Montecr	115	575	43,030
93	12. La Pila	Montecristi-Montecr	224	1,120	44,150
94	13. Comuna Eloy Alfaro Zona #	Montecristi-Montecr	146	700	44,850 **
95	13. Comuna Simón Bolívar Zona	Montecristi-Montecr	92	460	45,310
96	14. Bajo de Afuera Zona 2	Montecristi-Montecr	344	1,720	47,030
97	14. Bajo del Pechiche Zona 1	Montecristi-Montecr	274	1,370	48,400 **
98	15. Bajo de la Palma	Montecristi-Montecr	320	1,600	50,000 **
99	16. Tgalla Grande	Montecristi-Montecr	84	420	50,420
100	17. Las Lagunas	Montecristi-Montecr	92	460	50,880
101	18. Rio de Manta	Montecristi-Montecr	33	165	51,045
102	19. Camarones	Montecristi-Montecr	57	285	51,330

LISTADO DE COMUNIDADES Y SUS POBLACIONES ESTIMADAS DE
LOS CANTONES BOLIVAR, JUNIN, MONTECRISTI, PICHINCHA

El Promedio de Ocupantes
por Vivienda es de 5
personas

	Nombre de la Comunidad	Cantón-Parroquia	# de Viviendas	Pobl.Estimada	Pobl.Acumulada
103	20. Las Pampas	Montecristi-Montecr	146	730	52,060
104	21. Las Pampas	Montecristi-Montecr	30	130	52,210
105	22. La Solita	Montecristi-Montecr	68	340	52,550
106	23. Recinto Piles	Montecristi-Montecr	78	390	52,940
107	24. Recinto Piles	Montecristi-Montecr	88	440	53,380
108	25. Recinto Unión Patria	Montecristi-Montecr	82	410	53,790
109	26. Río Caño	Montecristi-Montecr	202	1,010	54,800
110	27. Río Bravo	Montecristi-Montecr	93	465	55,265
111	28. Manantiales	Montecristi-Montecr	94	470	55,735
112	Cab. Parroquial	Pichincha-Barragane	160	800	56,535
113	1. 12 de Octubre	Pichincha-Barragane	61	305	56,840
114	2. Los Laureles	Pichincha-Barragane	107	535	57,375
115	3. Valle Grande	Pichincha-Barragane	86	430	57,805
116	4. El Maíz	Pichincha-Barragane	74	370	58,175
117	5. El Guayabo	Pichincha-Barragane	60	300	58,475
118	6. La Unión	Pichincha-Barragane	62	310	58,785
119	7. La Tortuga	Pichincha-Barragane	71	355	59,140
120	8. Barraganete	Pichincha-Barragane	69	345	59,485
121	9. Los Chisparros	Pichincha-Barragane	41	205	59,690
122	10. Toro Grande	Pichincha-Barragane	65	325	60,015
123	11. La Esperanza	Pichincha-Barragane	59	295	60,310
124	12. El Toro	Pichincha-Barragane	83	415	60,725
125	13. Salazar	Pichincha-Barragane	99	495	61,220
126	14. Salazar	Pichincha-Barragane	57	285	61,505
127	15. La Aurora	Pichincha-Barragane	86	430	61,935
128	16. Cabecera de la Mina	Pichincha-Barragane	40	200	62,135
129	17. La Buena Esperanza	Pichincha-Barragane	75	375	62,510
130	18. Recinto La Hona	Pichincha-Barragane	59	295	62,805
131	19. Recinto Negro Grande	Pichincha-Barragane	71	355	63,160
132	20. Salazar	Pichincha-Barragane	101	505	63,665
133	21. Cañales Chico	Pichincha-Barragane	85	425	64,090
134	1. Piedra de Plata	Pichincha-Pichincha	106	530	64,620
135	2. El Ajo	Pichincha-Pichincha	58	290	64,910
136	3. Moño de Paja	Pichincha-Pichincha	104	520	65,430
137	4. Recinto Santa Lucia	Pichincha-Pichincha	49	245	65,675

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LISTADO DE COMUNIDADES Y SUS POBLACIONES ESTIMADAS DE
LOS CANTONES BOLIVAR, JUNIN, MONTECRISTI, PICHINCHA

El Promedio de Ocupantes
por Vivienda es de 5
personas

	Nombre de la Comunidad	Cantón-Parroquia	# de Viviendas	Pobl. Estimada	Pobl. Acumulada
154	21. Recinto Cañales	Pichincha-Pichincha	88	440	70,675
155	22. Come y Paga de Arriba	Pichincha-Pichincha	102	510	71,185
156	23. Las Lozas Arriba	Pichincha-Pichincha	63	315	71,500 **
157	24. Batano (El Aji)	Pichincha-Pichincha	83	415	71,915
158	25. Puente de Solanillo	Pichincha-Pichincha	99	495	72,410
159	26. Come y Paga de Entrada	Pichincha-Pichincha	69	345	72,755
160	27. Bijaqual	Pichincha-Pichincha	106	530	73,285
161	28. Recinto Las Damas	Pichincha-Pichincha	66	330	73,615
162	29. Solanillo	Pichincha-Pichincha	101	505	74,120 **
163	30. Puente Solanillo	Pichincha-Pichincha	71	355	74,475
164	31. Recinto Chupacaldo	Pichincha-Pichincha	96	480	74,955
165	32. Ojo de Agua	Pichincha-Pichincha	70	350	75,305
166	33. Agua Fria	Pichi.-Sn. Sebastian	80	400	75,705
167	1. El Frutal	Pichi.-Sn. Sebastian	39	195	75,900
168	2. Cañales	Pichi.-Sn. Sebastian	78	390	76,290
169	3. Azucena Alta	Pichi.-Sn. Sebastian	43	215	76,505
170	4. El Hobo	Pichi.-Sn. Sebastian	62	310	76,815 **
171	5. La Boda	Pichi.-Sn. Sebastian	88	440	77,255
172	6. Boca de Cañas	Pichi.-Sn. Sebastian	82	410	77,665
173	7. La Palmita	Pichi.-Sn. Sebastian	77	385	78,050
174	8. Recinto Piedra Fina	Pichi.-Sn. Sebastian	91	455	78,505
175	9. Tigre Grande	Pichi.-Sn. Sebastian	49	245	78,750
176	10. Las Flores	Pichi.-Sn. Sebastian	97	485	79,235 **
177	11. El Tigre	Pichi.-Sn. Sebastian	62	310	79,545
178	CAB. PARROQUIAL	Pichi.-Sn. Sebastian	82	410	79,955

Lista de la Población por Grupo Censal
Provincia del Azuay

C. REG.	C. (1990)	CANTON	PARROQUIA	COMUNIDAD	VIVIENDAS	POBLACION	PDB. ACUMU
10	1	Giron	Asuncion	Tuncay	52	213	213
	2	Giron	Asuncion	Pueblo Viejo	43	176	389
	3	Giron	Asuncion		81	332	721
	4	Giron	Asuncion		31	127	848
	5	Giron	Asuncion		86	353	1203
	6	Giron	Asuncion		95	390	1591
	7	Giron	Asuncion		62	254	1845
	8	Giron	Asuncion		100	410	2255
	9	Giron	Asuncion		84	344	2599
	10	Giron	Asuncion		75	308	2907
	11	Giron	Giron		67	275	3182
	12	Giron	Giron		28	115	3297
	13	Giron	Giron		80	328	3625
	14	Giron	Giron		74	305	4010
	15	Giron	Giron		76	312	4322
11	16	Giron	Giron		114	467	4789
	17	Giron	Giron		95	390	5179
	18	Giron	Giron		98	402	5581
	19	Giron	Giron		114	467	6048
	20	Giron	Giron		134	549	6597
	21	Giron	Giron		70	287	6884
	22	Giron	Giron		89	365	7249
	23	Giron	Giron		103	422	7671
	24	Giron	Giron		118	484	8155
	25	Giron	Giron		84	344	8499
12	26	Giron	Giron		79	324	8823
	27	Giron	Giron		95	390	9213
	28	Giron	Giron		45	185	9398
	29	Giron	Giron		49	201	9599
	30	Giron	Giron		26	107	9706
	31	Giron	Giron		38	156	9862
	32	Giron	Giron		32	131	9993
	33	Giron	Giron		80	328	10321
	34	Giron	Giron		24	98	10419
	35	Giron	Giron		56	230	10649
	36	Giron	Giron		88	361	11010
	37	Giron	Giron		49	201	11211
	38	Giron	Giron		90	369	11980
	39	Giron	Giron		25	103	11683
	40	Giron	San Gerardo		32	131	11814
	41	Giron	San Gerardo		32	131	11945
	42	Giron	San Gerardo		84	344	12289
	43	Giron	San Gerardo		98	402	12691
	44	Giron	San Gerardo		81	332	13023
	45	San Fernando	Chumblin		82	336	13359
	46	San Fernando	San Fernando		31	127	13486
	47	San Fernando	San Fernando		71	291	13777
	48	San Fernando	San Fernando		71	291	14068
	49	San Fernando	San Fernando		117	480	14548
	50	San Fernando	San Fernando		91	209	14757
13	51	San Fernando	San Fernando		119	488	15245

92	7	San Fernando	San Fernando	Cofradia	64	262	15507
93	8	San Fernando	San Fernando	Chapiro	94	389	19072
94	9	San Fernando	San Fernando	Pacay	93	381	16273
95	1	Quilacoo	Chordeleg	Cauhalao	60	236	16509
96	2	Quilacoo	Chordeleg	Ramos	114	449	16998
97	3	Quilacoo	Chordeleg	Capillapamba	73	288	17246
98	4	Quilacoo	Chordeleg	Shio	110	433	17679
99	5	Quilacoo	Chordeleg	Museum	97	362	18061
100	6	Quilacoo	Chordeleg	Cruz Lona	80	315	18376
101	7	Quilacoo	Chordeleg	Zhebalula	84	331	18707
102	8	Quilacoo	Chordeleg	Chuchil	79	311	19018
103	9	Quilacoo	Chordeleg	Turapalte	84	331	19349
104	10	Quilacoo	Chordeleg	La Union	80	315	19664
105	11	Quilacoo	Chordeleg	El Quinche	109	424	20090
106	12	Quilacoo	Chordeleg	Sondeleg	102	402	20492
107	13	Quilacoo	Chordeleg	Porcion	88	347	20839
108	14	Quilacoo	Chordeleg	Salapag	97	382	21221
109	15	Quilacoo	Chordeleg	Soransol	91	359	21580
110	16	Quilacoo	Chordeleg	Salunan	75	296	21876
111	17	Quilacoo	Chordeleg	Joyara	101	398	22274
112	18	Quilacoo	Chordeleg	Joyara	111	437	22711
113	19	Quilacoo	Chordeleg	Manzana Pamba	103	406	23117
114	20	Quilacoo	Chordeleg	Pushio	119	469	23586
115	21	Quilacoo	Chordeleg	Siuguin	96	378	23900
116	22	Quilacoo	Chordeleg	Delegsol	86	339	24200
117	23	Quilacoo	Chordeleg	Delegsol	84	331	24634
118	24	Quilacoo	Chordeleg	Chordeleg	96	378	25012
119	25	Quilacoo	Chordeleg	Chocar	95	374	25386
120	1	Quilacoo	Daniel Cordova	Papran	98	386	25772
121	2	Quilacoo	Daniel Cordova	Papran Grande	81	319	26091
122	3	Quilacoo	Daniel Cordova	Tauri	80	315	26406
123	4	Quilacoo	Daniel Cordova	Orno Lona	96	378	26784
124	5	Quilacoo	Daniel Cordova	Cachiguaso	80	315	27099
125	6	Quilacoo	Daniel Cordova	Sharban	90	355	27454
126	7	Quilacoo	Daniel Cordova	Granero	78	307	27761
127	8	Quilacoo	Daniel Cordova	Atucala	86	339	28100
128	9	Quilacoo	Daniel Cordova	Guzhajan Bajo	90	355	28455
129	10	Quilacoo	Daniel Cordova	Capzha	98	386	28841
130	11	Quilacoo	Daniel Cordova	San Francisco	98	386	29227
131	12	Quilacoo	Daniel Cordova	Legwan	107	422	29649
132	13	Quilacoo	Daniel Cordova	Angaguachana	58	229	29878
133	14	Quilacoo	Daniel Cordova	Palmas	71	280	30188
134	1	Quilacoo	Quilacoo	Chiticay	64	252	30480
135	2	Quilacoo	Quilacoo	Lugapamba	76	299	30769
136	3	Quilacoo	Quilacoo	San Pedro de Olivo	80	315	31024
137	4	Quilacoo	Quilacoo	Bullcay El Caran	64	252	31276
138	5	Quilacoo	Quilacoo	Bullcay Grande	82	323	31599
139	6	Quilacoo	Quilacoo	Bullcay	107	422	32021
140	7	Quilacoo	Quilacoo	Patul	121	477	32498
141	8	Quilacoo	Quilacoo	Buana	111	437	32935
142	9	Quilacoo	Quilacoo	Bulshun	112	441	33376
143	10	Quilacoo	Quilacoo	Chica Guña	88	347	33723
144	11	Quilacoo	Quilacoo	Parculoma	97	382	34105
145	12	Quilacoo	Quilacoo	Jampiran	55	217	34322
146	13	Quilacoo	Quilacoo	Rumilona	68	268	34590
147	14	Quilacoo	Quilacoo	Capashun Grande	80	315	34905

100	15	Gualaceo	Gualaceo	Turupamba	61	240	38145
109	16	Gualaceo	Gualaceo	Picay	92	362	35507
110	17	Gualaceo	Gualaceo	Quimishi	106	418	39925
111	18	Gualaceo	Gualaceo	Chiquintur Bajo	88	347	36272
112	19	Gualaceo	Gualaceo	Mallig	65	256	36529
113	20	Gualaceo	Gualaceo	Naripamba	96	378	36906
114	21	Gualaceo	Gualaceo	Batani	85	335	37241
115	22	Gualaceo	Gualaceo	Cristo Rey	106	418	37659
116	23	Gualaceo	Gualaceo	Arcadia	76	299	37958
117	24	Gualaceo	Gualaceo	Lluntig	99	390	38349
118	25	Gualaceo	Gualaceo	Saana	63	248	38996
119	1	Gualaceo	Mariano Moreno	Torrero Lopez	41	162	38990
120	2	Gualaceo	Mariano Moreno	Shorden	102	402	39169
121	3	Gualaceo	Mariano Moreno	Burin	49	193	39353
122	4	Gualaceo	Mariano Moreno	Shorden	106	418	39771
123	5	Gualaceo	Mariano Moreno	Chico Callesay	103	406	40177
124	6	Gualaceo	Mariano Moreno	Cochapamba	78	307	40484
125	7	Gualaceo	Mariano Moreno	Guapan	84	331	40819
126	8	Gualaceo	Mariano Moreno	Yuguin	78	307	41122
127	9	Gualaceo	Mariano Moreno	Molay	106	418	41940
128	10	Gualaceo	Mariano Moreno	Sondeley	63	248	41788
129	11	Gualaceo	Mariano Moreno	San Gerardo	114	449	42237
130	1	Gualaceo	Principal	Alca!	50	197	42434
131	2	Gualaceo	Principal	Coel	108	426	42860
132	3	Gualaceo	Principal	Huacacillo	77	303	43163
133	4	Gualaceo	Principal	Sausi	94	213	43376
134	1	Gualaceo	Romiglo Crespo Toral	Les Miuves	78	307	43683
135	2	Gualaceo	Romiglo Crespo Toral	Shiquil	81	319	44092
136	3	Gualaceo	Romiglo Crespo Toral	Mulzhan Bajo	56	221	44223
137	4	Gualaceo	Romiglo Crespo Toral	Mulzhan Alto	52	205	44428
138	5	Gualaceo	Romiglo Crespo Toral	Guay Centro	66	260	44688
139	6	Gualaceo	Romiglo Crespo Toral	Guay Grande	79	311	44999
140	7	Gualaceo	Romiglo Crespo Toral	Chaucha	27	106	45103
141	1	Gualaceo	San Juan	Shishio	90	335	45460
142	2	Gualaceo	San Juan	Tacan	61	240	45700
143	3	Gualaceo	San Juan	San Miguel	67	264	45964
144	4	Gualaceo	San Juan	Ushar	83	327	46291
145	5	Gualaceo	San Juan	San Luis de Yucuncay	82	323	46614
146	6	Gualaceo	San Juan	Bungla	61	240	46894
147	7	Gualaceo	San Juan	San Gabriel de Punquilon	86	339	47193
148	8	Gualaceo	San Juan	Pirca Grande	104	410	47603
149	9	Gualaceo	San Juan	Gullandei	113	445	48048
150	10	Gualaceo	San Juan	Bodejas	69	256	48304
151	11	Gualaceo	San Juan	Banzhan	83	327	48631
152	12	Gualaceo	San Juan	Parpar	92	362	48993
153	13	Gualaceo	San Juan	Pactente	77	300	49383
154	14	Gualaceo	San Juan	El Triunfo	91	339	49752
155	15	Gualaceo	San Juan	Bahenoi	96	378	50120
156	16	Gualaceo	San Juan	Saracter	117	461	50581
157	17	Gualaceo	San Juan	Serrag Nano	94	370	50931
158	18	Gualaceo	San Juan	Guinandei	83	327	51278
159	19	Gualaceo	San Juan	Bacpanoi	79	300	51668
160	20	Gualaceo	San Juan	Chuvain	47	185	51853
161	21	Gualaceo	San Juan	Tunsha	36	142	51993
162	22	Gualaceo	San Juan	Leon Tula	79	311	52306
163	23	Gualaceo	San Juan	Principal de San Judo	58	227	52335

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164	24	Quilaco	San Juan	Chenucari	83	327	52062
165	1	Pante	Bulan	Bonete	49	170	93032
166	2	Pante	Bulan	Pedre Urco	67	255	53283
167	3	Pante	Bulan	Tablaco	72	271	53556
168	4	Pante	Bulan	Bulan	92	347	53903
169	5	Pante	Bulan	Tambillo	81	305	54208
170	6	Pante	Bulan	Papashi	107	403	54611
171	7	Pante	Bulan	Suman	103	388	54999
172	8	Pante	Bulan	La Voluntad de Dios	88	332	55331
173	1	Pante	Chican	Naras	81	305	55636
174	2	Pante	Chican	Aguas Blancas	108	407	56043
175	3	Pante	Chican	Cobahal	94	354	56397
176	4	Pante	Chican	Cobahal	109	411	56808
177	5	Pante	Chican	Huacarruni	91	343	57151
178	6	Pante	Chican	Cristo del Consuelo	76	287	57438
179	7	Pante	Chican	Huacarruni	77	290	57728
180	8	Pante	Chican	Cacharruni	83	313	58041
181	9	Pante	Chican	Uzhapud	83	313	58354
182	10	Pante	Chican	Uzhapud	91	343	58697
183	1	Pante	Bug-Bug	Guapaldo	77	290	58987
184	2	Pante	Bug-Bug	Lazul	118	445	59432
185	3	Pante	Bug-Bug	Huachi	91	343	59775
186	4	Pante	Bug-Bug	Gonag	26	98	59873
187	5	Pante	Bug-Bug	Rodeo	85	320	60193
188	6	Pante	Bug-Bug	Sadarzal	82	309	60502
189	1	Pante	El Cabo	Chilcapogro	22	83	60883
190	2	Pante	El Cabo	Lunapamba	72	271	60836
191	3	Pante	El Cabo	Tecapamba	72	271	61127
192	4	Pante	El Cabo	Tecapamba	72	271	61398
193	5	Pante	El Cabo	Llapchun	93	351	61749
194	6	Pante	El Cabo	La Higuera	75	283	62032
195	7	Pante	El Cabo	El Cabo Alto	71	268	62300
196	8	Pante	El Cabo	Bellavista	83	313	62613
197	1	Pante	El Pan	Tabla Huayco	98	369	62982
198	2	Pante	El Pan	San Francisco	180	679	63661
199	3	Pante	El Pan	Quintal	93	351	64012
200	4	Pante	El Pan	Tulupa	99	373	64389
201	5	Pante	El Pan	Potrero	50	189	64974
202	6	Pante	El Pan	San Vicente	98	369	64943
203	7	Pante	El Pan	La Juina	104	392	65335
204	8	Pante	El Pan	Pan Grande Bajo	71	268	65603
205	9	Pante	El Pan	Pan Grande Alto	72	271	65874
206	10	Pante	El Pan	La Nube	75	283	66137
207	11	Pante	El Pan	La Bolorosa	78	294	66431
208	12	Pante	El Pan	La Merced	81	305	66786
209	13	Pante	El Pan	La Merced	84	317	67073
210	14	Pante	El Pan	La Merced	102	389	67488
211	15	Pante	El Pan	La Merced	76	287	67745
212	1	Pante	Guachapala	Don Julio	88	332	68077
213	2	Pante	Guachapala	Chaulle	104	392	68409
214	3	Pante	Guachapala	Sacre	74	279	68748
215	4	Pante	Guachapala	Bugan	64	241	68989
216	5	Pante	Guachapala	Guablla Este	67	253	69242
217	6	Pante	Guachapala	Asaol	71	268	69519
218	7	Pante	Guachapala	Huipongo	74	279	69789
219	8	Pante	Guachapala	Guasai	84	317	70101

220	9	Pante	Guachapala	Aglian	76	287	70393
221	10	Pante	Guachapala	San Pedro	76	287	70600
10 222	11	Pante	Guachapala	Parig	100	377	71037
223	12	Pante	Guachapala	Chigti	83	313	71370
224	13	Pante	Guachapala	Maras	100	377	71747
225	1	Pante	Palmas	El Jordan	77	290	72037
226	2	Pante	Palmas	Tuben	124	467	72304
227	3	Pante	Palmas	Osoyacu	85	320	72824
228	4	Pante	Palmas	Osoyacu	112	422	73246
229	5	Pante	Palmas	Chalacay	72	271	73317
230	6	Pante	Palmas	Chalacay	71	268	73785
231	7	Pante	Palmas	Cruz Pamba	77	290	74073
232	8	Pante	Palmas	Palmas Rural	70	264	74339
233	9	Pante	Palmas	Santa Rosa	84	317	74636
234	10	Pante	Palmas	Santa Rosa	83	313	74969
10 235	1	Pante	Pante	El Tejar	73	273	75244
236	2	Pante	Pante	Guayan Chico	76	287	75331
237	3	Pante	Pante	Guayan Grande	100	377	75908
238	4	Pante	Pante	Sacay	64	241	76149
239	5	Pante	Pante	Narcoloma	93	331	76300
240	6	Pante	Pante	El Calvario	38	143	76643
241	7	Pante	Pante	Pirincay Alto	41	155	76798
242	8	Pante	Pante	Ihuair	85	320	77118
243	9	Pante	Pante	Pucaloma	98	349	77487
244	10	Pante	Pante	Santa Chico	35	132	77619
245	11	Pante	Pante	Santa Grande	60	226	77845
246	12	Pante	Pante	Villafior	93	351	78196
247	13	Pante	Pante	Moraspuyno	88	332	78920
248	14	Pante	Pante	San Ignacio	74	279	79097
249	15	Pante	Pante	Ihuair	101	381	79188
10 250	1	Pante	San Cristobal	La Victoria	104	392	79380
251	2	Pante	San Cristobal	Huachun	75	283	79863
252	3	Pante	San Cristobal	Pastopamba	97	346	80229
253	4	Pante	San Cristobal	Toroloma	81	303	80334
254	5	Pante	San Cristobal	Ganguir	68	256	80790
255	6	Pante	San Cristobal	Kaipata	87	328	81118
256	7	Pante	San Cristobal	Sullay	44	166	81284
257	8	Pante	San Cristobal	La Josefina	71	268	81332
258	1	Pante	Sevilla de Oro	El Cimo	65	345	81897
259	2	Pante	Sevilla de Oro	Osoyacu	83	313	82210
260	3	Pante	Sevilla de Oro	La Union	97	346	82376
261	4	Pante	Sevilla de Oro	Panjon	100	377	82953
262	5	Pante	Sevilla de Oro	Bolan	70	264	83217
263	6	Pante	Sevilla de Oro	Chimui	90	339	83336
10 264	7	Pante	Sevilla de Oro	Hogelada	30	113	83669
265	8	Pante	Sevilla de Oro	Santa Teresita	86	324	83973
266	9	Pante	Sevilla de Oro	Santa Teresita	73	273	84268
267	10	Pante	Sevilla de Oro	Collay Grande	66	249	84317
268	1	Pante	Tocehuaba	Tuncay Grande	119	449	84966
269	2	Pante	Tocehuaba	Tocehuayco	75	283	85249
270	3	Pante	Tocehuaba	Naste	59	222	85471
271	4	Pante	Tocehuaba	Senticay	79	298	85769
272	5	Pante	Tocehuaba	Uzhur	61	230	85999
273	1	Siguig	Cutchil	Loma de Cuchil	68	339	86338
274	2	Siguig	Cutchil	Sitcay	71	246	86384
275	3	Siguig	Cutchil	Mascorral	114	394	86978

276	4	Signiq	Cutchil	Quimandel	129	446	87424
277	5	Signiq	Cutchil	Cutchil-Capilla	99	343	87767
278	6	Signiq	Cutchil	San A. de Jacarrer	101	349	88116
279	7	Signiq	Cutchil	Cobedillas	46	159	88273
280	8	Signiq	Cutchil	Mocon	77	266	88341
281	9	Signiq	Cutchil	Tablon	32	111	88632
282	1	Signiq	Guell	Cuchillano	119	412	89064
283	2	Signiq	Guell	Cachibuyco	111	384	89448
284	3	Signiq	Guell	Copdor Saana	106	367	89818
285	4	Signiq	Guell	Rodeo	108	374	90189
286	5	Signiq	Guell	Cachiguso	76	263	90452
287	6	Signiq	Guell	Minas	52	180	90632
288	1	Signiq	Ludo	Coop. Lucto	28	97	90729
289	2	Signiq	Ludo	Soran Puro	46	159	90888
290	3	Signiq	Ludo	Parcopamba	45	156	91044
291	4	Signiq	Ludo	Capishapa	52	180	91224
292	5	Signiq	Ludo	Loma Larga	64	221	91443
293	6	Signiq	Ludo	Wina Vista	62	215	91660
294	7	Signiq	Ludo	Rodeo Buenavista	47	163	91823
295	8	Signiq	Ludo	Sarar	58	201	92024
296	9	Signiq	Ludo	Hatabolo	80	277	92301
297	10	Signiq	Ludo	Iguilla	68	235	92336
298	11	Signiq	Ludo	Morocho Guinea	53	190	92726
299	12	Signiq	Ludo	La Victoria-Coshapagro	67	232	92938
300	13	Signiq	Ludo	La Esperanza	23	87	93043
301	14	Signiq	Ludo	Serrag	68	235	93280
302	15	Signiq	Ludo	Yarquina	43	149	93429
303	1	Signiq	San Bartolomé	24 de Mayo	78	270	93699
304	2	Signiq	San Bartolomé	Yanalipa	116	401	94180
305	3	Signiq	San Bartolomé	Guagnia	108	374	94474
306	4	Signiq	San Bartolomé	Signilleno	123	433	94987
307	5	Signiq	San Bartolomé	Charon	128	443	95338
308	6	Signiq	San Bartolomé	Delequei	135	467	95817
309	7	Signiq	San Bartolomé	Pomarchogrin	120	415	96232
310	8	Signiq	San Bartolomé	Arug	68	235	96447
311	9	Signiq	San Bartolomé	Ruicho	54	187	96634
312	10	Signiq	San Bartolomé	Ruicho	103	363	97017
313	11	Signiq	San Bartolomé	Tagaon	95	329	97344
314	12	Signiq	San Bartolomé	Inasari	77	266	97612
315	1	Signiq	San José de Reranga	La Esperanza	49	170	97782
316	2	Signiq	San José de Reranga	Morastoma	75	260	98042
317	3	Signiq	San José de Reranga	Sequir	55	190	98232
318	4	Signiq	San José de Reranga	Virgen de las Aguas	50	173	98463
319	5	Signiq	San José de Reranga	Chaguarpamba	43	149	98934
320	6	Signiq	San José de Reranga	La Esmeralda	94	325	103879
321	7	Signiq	San José de Reranga	Rucipaaba	91	313	106194
322	8	Signiq	San José de Reranga	Capillas	42	145	106339
323	9	Signiq	San José de Reranga	Bauri	99	343	106682
324	10	Signiq	San José de Reranga	Shitiquin	67	232	106914
325	11	Signiq	San José de Reranga	San Vicente de Oulashi	50	173	107687
326	1	Signiq	Signiq	Sarau	112	388	107473
327	2	Signiq	Signiq	Chagracashco	92	318	107793
328	3	Signiq	Signiq	Piruncay	75	260	108033
329	4	Signiq	Signiq	Siquei	62	213	108248
330	5	Signiq	Signiq	Chacopamba	93	322	108390
331	6	Signiq	Signiq	Zimbrug	109	377	108967

332	7	Sigsig	Sigsig	Utincey	115	378	109365
333	8	Sigsig	Sigsig	Shotar	82	284	109649
334	9	Sigsig	Sigsig	Shotar Alto	95	329	109978
335	10	Sigsig	Sigsig	Pachun Alto	111	384	110362
336	11	Sigsig	Sigsig	Curin	97	336	110698
337	12	Sigsig	Sigsig	Pachun Bajo	105	363	111061
338	13	Sigsig	Sigsig	Nariq	127	459	111300
339	14	Sigsig	Sigsig	Duinger	114	394	111894
340	15	Sigsig	Sigsig	Gutun	99	343	112237
341	16	Sigsig	Sigsig	Panaray	84	298	112535
342	17	Sigsig	Sigsig	Gutun	90	311	112846
343	18	Sigsig	Sigsig	Tullupamba	105	363	113209
344	19	Sigsig	Sigsig	Tasqui	72	249	113438
345	20	Sigsig	Sigsig	Tasqui	99	343	113601
346	21	Sigsig	Sigsig	Shusho	99	343	114144
347	22	Sigsig	Sigsig	Bate	49	170	114314
348	23	Sigsig	Sigsig	Callenay	77	266	114588
349	24	Sigsig	Sigsig	Pertui	74	256	114836
350	25	Sigsig	Sigsig	Infiernillos	34	118	114934
351	1	Santa Isabel	Abdon Calderon	Sualdeleg	78	336	115290
352	2	Santa Isabel	Abdon Calderon	Portovelo Chico	106	457	115747
353	3	Santa Isabel	Abdon Calderon	Suasapamba	43	185	115932
354	4	Santa Isabel	Abdon Calderon	Cerca Loma	136	596	116518
355	5	Santa Isabel	Abdon Calderon	Portovelo Grande	96	414	116932
356	6	Santa Isabel	Abdon Calderon	Almibar	65	280	117212
357	7	Santa Isabel	Abdon Calderon	Catavina	64	362	117574
358	8	Santa Isabel	Abdon Calderon	San Antonio	117	504	118078
359	9	Santa Isabel	Abdon Calderon	Naranjos	83	358	118436
360	10	Santa Isabel	Abdon Calderon	Sucupali Chico	37	159	118598
361	1	Santa Isabel	Santa Isabel	Huasipamba	73	315	118918
362	2	Santa Isabel	Santa Isabel	Huayra	73	318	119228
363	3	Santa Isabel	Santa Isabel	CaKaribamba	113	487	119712
364	4	Santa Isabel	Santa Isabel	Tortopali	44	190	119902
365	5	Santa Isabel	Santa Isabel	Salinas	127	547	120449
366	6	Santa Isabel	Santa Isabel	Tolera	102	440	120889
367	7	Santa Isabel	Santa Isabel	San Pedro	69	297	121184
368	8	Santa Isabel	Santa Isabel	San-San Pamba	74	319	121588
369	9	Santa Isabel	Santa Isabel	Lumduna	82	353	121838
370	10	Santa Isabel	Santa Isabel	Hochihuayco	80	345	122203
371	11	Santa Isabel	Santa Isabel	Hushopamba	109	470	122675
372	12	Santa Isabel	Santa Isabel	Pata-Pata	98	422	123098
373	13	Santa Isabel	Santa Isabel	Lacay	61	263	123388
374	14	Santa Isabel	Santa Isabel	Los Fayques	72	310	123648
375	15	Santa Isabel	Santa Isabel	Sulupali Grande	68	293	123961
376	16	Santa Isabel	Santa Isabel	Jubones	81	349	124318
377	17	Santa Isabel	Santa Isabel	Pirches	33	142	124492
378	18	Santa Isabel	Santa Isabel	Tugula	39	168	124638
379	19	Santa Isabel	Santa Isabel	Sanarin	26	112	124732
380	1	Santa Isabel	Shagli	Cebadas	69	297	125029
381	2	Santa Isabel	Shagli	Nasari	28	84	125119
382	3	Santa Isabel	Shagli	Puculcoy	67	289	125404
383	4	Santa Isabel	Shagli	San Carlos de Hornillas	47	203	125607
384	5	Santa Isabel	Shagli	Huertes	58	250	125887
385	6	Santa Isabel	Shagli	Chorrohuayco	48	207	126064
386	7	Santa Isabel	Shagli	Pedernales	78	336	126488
387	8	Santa Isabel	Shagli	Palnira	48	207	126687

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388	9	Santa Isabel	Shapli	Santa Rosa	38	164	126771
389	10	Santa Isabel	Shapli	Chajagsi	82	353	127124
390	11	Santa Isabel	Shapli	Aycaña	81	349	127473
391	12	Santa Isabel	Shapli	Sarasa Alto	65	280	127753
392	13	Santa Isabel	Shapli	Saramalona	62	267	128020
393	14	Santa Isabel	Shapli	La Libertad	32	138	128158
394	1	Pucará	Pucará	Rio Blanco	71	307	128465
395	2	Pucará	Pucará	Danta	46	199	128664
396	3	Pucará	Pucará	San Antonio de Negro	78	338	129002
397	4	Pucará	Pucará	Yagacorral	58	251	129293
398	5	Pucará	Pucará	San Antonio	66	286	129539
399	6	Pucará	Pucará	San Rafael de Sharo	118	511	130050
400	7	Pucará	Pucará	El Pindo	81	351	130401
401	8	Pucará	Pucará	Sarayunga	119	515	130916
402	9	Pucará	Pucará	Granalote	89	385	131301
403	10	Pucará	Pucará	Vivar	48	208	131509
404	11	Pucará	Pucará	Las Palmas	112	485	131994

23 COMUNIDADES SELECCIONADAS

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APPENDIX 5

SURVEY COST

Survey Costs

We have recorded the following baseline and evaluation survey expenses:

MANABI:	533.29	(Material)
	3,857.84	(Personnel expenses)
	<u>813.76</u>	(Transportation expenses)
	5,204.89	Total expenses

AZUAY:	260.96	(Material)
	5,280.29	(Personnel expenses)
	<u>642.53</u>	(Transportation expenses)
	6,723.78	Total expenses