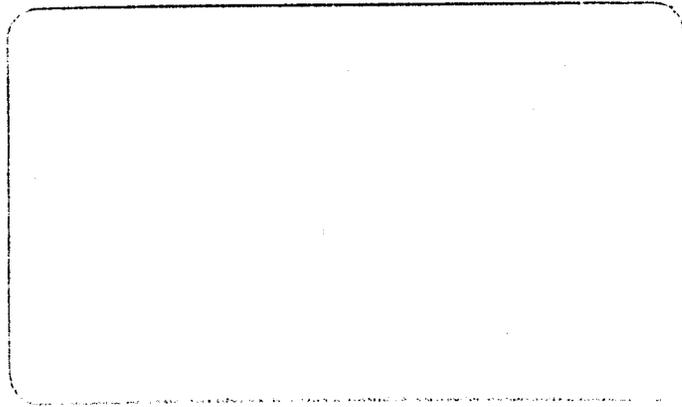


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World Vision Relief & Development, Inc.

WORLD VISION RELIEF AND DEVELOPMENT

**FINAL EVALUATION REPORT
LOITOKITOK CHILD SURVIVAL PROJECT
KENYA**

**Beginning Date: October 1, 1988
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Submitted to:

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WORLD VISION RELIEF & DEVELOPMENT INC.

**PART I
KNOWLEDGE-PRACTICE SURVEY
LOITOKITOK CHILD SURVIVAL PROJECT**

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KNOWLEDGE-PRACTICE SURVEY

INTRODUCTION

Over a period of three weeks, a survey was conducted in the "catchment" area of the Loitokitok Child Survival Project to assess the status of the "outcome" variables of activities implemented by the project at the end of the fourth year.

The data indicate that much achievement has been made in improving the health and nutritional aspects in the community. For example, the full immunization coverage is well above 78 percent and has been maintained at the level since the Midterm Evaluation. In actual fact, less than 5 percent of the households indicated that they had a case of measles the year before.

Compared to the results at the Midterm Evaluation, more mothers know how to prepare and use ORS. Seventy-one percent of mothers had used ORS to treat their children during the last episode of diarrhea. This is beyond the targeted level of 50 percent. The clinic attendance for antenatal services came to about 80 percent, and 58 percent of the mothers (compared to 50 percent targeted) had received at least two doses of tetanus toxoid vaccine before the last delivery.

The attendance rate of children at growth monitoring sessions has been increasing steadily since the inception of the project. At the time of the survey, 35 percent of the children were attending at least one sessions every second month compared to 15 percent during the Midterm Evaluation (MTE). The proportion of children whose weight was below 60 percent (weight-for-age standard) of the median National Council Health Services (NCHS) was 2.3 percent.

The use of modern methods of family planning is still at 10 percent; however, many more women expressed the desire to use contraceptives. The desire for more children and lack of awareness about the existing methods of contraception were the reasons given for not practicing contraception.

The use of trained Traditional Birth Attendants and Community Health Workers was much lower than expected. The survey was also not able to collect reliable results on important vital statistics.

It has been concluded that there is still a potential for achieving better health status in the community. More emphasis should be put in developing mechanisms that can be used to sustain the project's activities and achievements. Continuous community involvement and participation of both the local leaders and government agencies working in the area are key elements in sustaining project activities in the future.

OBJECTIVES OF THE SURVEY

- A. To assess current health, nutritional, and socio-demographic aspects of the target population.
- B. To compare the objective indicators collected during the baseline survey, the MTE, and the final evaluation and evaluate the accomplishments against set objectives.

SURVEY IMPLEMENTATION

- A. **Survey Terminology**—Before we explain the survey methodology, we want to define a few terms:
 - 1. **"Enkang,"** and also **"Manyatta,"** is a fenced compound in which a Maasai family lives together with their animals. The head of the "enkang" is the eldest man who, in most cases, lives with his wife (or wives) and children. Some of his male children may be married and staying in the same "enkang." The number of huts in the "enkang" may be as few as 3 or as many as 48. On the average, there are 12 huts in an "enkang" in the project area.
 - 2. **Household** is a family unit in which the mother of the under-five is a member. The head is normally the eldest woman unless she is the first wife, in which case the husband is the head. This is to avoid duplication for the husband in polygamous households.
- B. **Sampling Methodology**—The survey was conducted in all the centers where the project operates the mobile clinic activities. The number of households in this area is at 7,500, with 45,000 people.

Although it would be preferable to identify the survey population by simple random sampling throughout the project area, this method was not followed because of the demographic and geographic characteristics and practices peculiar to this area. For one, the population density is rather sparse in that there are, on average, 12 persons per sqkm. compared to 33.3 per sqkm. for the whole of Kenya. The only major population aggregation is among the agricultural non-Maasai and around the few trading centers (i.e., Namelok, Kimana, etc.). The majority of the population live in "manyattas/enkangs," the fenced compounds with as few as 3 or as many as 48 huts.

This makes it extremely time-consuming as well as costly to search for, identify, and aggregate the required minimal sample size. Secondly, in addition to the difficulty of ensuring a relatively unbiased sample of the population, a quite large proportion of eligible women are away from their homes collecting firewood or water and children are away all day herding goats and calves, only to return at dusk, and are therefore unavailable at any given point in time.

Therefore, the TEAM¹ agreed on a simple Stratified Sampling Method, whereby every second "manyatta/enkang" was selected for the survey and information collected in half the households in the "enkang." However, given the above "background," this method of sampling clearly carries the risk of self-selection, i.e., predominantly getting those who stay at home, while excluding the active respondents that are often working away from their homes.

If the households were not clustered in a "manyatta/enkang," the interviewers would group the households in the area in sets of 12 (the average number of households in a "manyatta") and use the sets as the unit of sampling.

The number of households in the centers varies. In order to give all households in the area the same opportunity for selection, a proportionate sample size was estimated for each center. A constant proportion of 25 percent was applied to the selection of 1,500 households (20 percent of total households in the project area) which was felt to be adequate for statistical precision and representativeness in measuring the effectiveness of the project's activities.

- C. **Survey Implementation and Flow**—On July 10, 1991, a TEAM made up of WV personnel working in the LCSP met for the final planning of the survey. After discussing the sample frame and its practicality, they "standardized" themselves on key terms and interpretation of questions in the interview schedule.

The questionnaire consisted of four modules: (1) household census forms in which information was collected for each individual in the house; (2) a module on Maternal and Child Care; (3) a module on Nutrition; and (4) a module on family planning. The weights of the children were also measured. These were taken to the nearest 100 gms. using a "SALTER" spring scale. The ages of the children were recorded from the Growth Monitoring Cards (issued by the LCSP or other agencies working in the area). If the age was not known, it was estimated using a "historical/main event calendar" (sometimes known as a "Maasai Calendar").

On July 11, they pretested the survey instruments, including the questionnaire, in some parts of Namelok area. Each set of two visited at least three households and everyone had the opportunity to administer the whole questionnaire. A few problems came up; though prior to the survey the project's CMs had visited the specific survey sites and explained to the community members the purpose, objectives, and procedures of the survey, it was still felt that there was a need for more intense awareness in the community. This resulted in many "target" respondents not being available in their homes.

The investigators discussed ways and means of addressing the problem, such as getting to the sites early enough before respondents and/or their children had left home.

¹ A TEAM of 19 WV personnel was trained as enumerators for the survey. They were all known and trusted by the respondents which obviously facilitated the interviews and reduced the cost of the evaluation. The major disadvantage is that respondents may be biased because they often associate the interviewers with the project and respond to questions in favor of the project activities.

Problems regarding the questionnaire were also discussed and modifications were made where it was felt necessary.

During the actual survey (July 12-30), the enumerators went in pairs to interview the respondents and fill out the questionnaires. All the questions were administered in the local language (mainly Kimaasai) but were recorded in English.

- D. Data Processing and Analysis**—At the end of each day, the enumerators presented their questionnaires to the Evaluation/Monitoring Coordinator who screened them for completeness and consistency. Corrections were made where possible. Once the entire survey was completed, the data was coded by the TEAM and sent to Nairobi where it was computerized using DBase III plus for the data file preparation and entry. Subsequently, after consistency checks, the collected information was analyzed using SPSS V.2.0+ and EPI Info 5, on a MICROTECH 900 personal computer.

E. Results

- 1. Population and Project Area**—The questionnaire was administered in 1,451 households with a population of 7,220, which is approximately 19 percent of the estimated population in the project area. Twenty-nine percent of the population are children below five years of age and 57.4 percent below 15 years, while 21.6 percent of women were of child-bearing age. The mean number of members in a household is 6 with a range of 3-11 persons.

The main ethnic group in the project area are the Maasai (94 percent), while other tribes comprise only 6 percent of the study population. More than 84 percent of the households could be termed as permanent residents in the area and the others are temporary (i.e., move from place to place).

Eighty-one percent of the survey population depend on livestock as the main income sources. Other sources include: crops by 31.9 percent, employment and business by 4.4 percent and 8.8 percent, respectively. Except for 29 percent of the interviewed households, the remaining respondents depend on only one source of income. For example, 59 percent solely depend on livestock as the only means of livelihood. Only 31.2 percent of the respondents grow some kind of cash crop. The main cash crops are tomatoes by 16.8 percent of the population, and onions by 15.0 percent; 13.2 percent were growing both crops. Food crops like maize, beans, and bananas are grown by 33.6 percent, 31.3 percent, and 7.7 percent of the population, respectively. Thirty percent grow both maize and beans, while only 3.9 percent grow vegetables. (See Table 1)

The mean age of mothers in the project area is 27.6 years (+/- 5.6) with a range of 12-51 years. The distribution of the number of individuals within each of the surveyed age group is shown in Table 2. The ratio of males to females was 1:1.

Fifty-five percent of the population (above 6 years of age) are illiterate or without formal education. Those who have gone to school have attained only a

primary school education. In fact, more than 85 percent of the women of child-bearing age are illiterate.

Of the 1,451 households (7,220 individuals), 31.6 percent of the women had at least one live birth during the previous year. A total of 473 births were recorded, giving a crude birth rate of approximately 65.5 per 1,000 population. The crude death rate is 10.5 per 1,000 (see Table 3), making a population increase of 5.5 percent per annum. Although the enumerators expected underreporting of both the birth and death figures in this community, this is unlikely to have happened.

TABLE 1. Selected Characteristics of Surveyed Population		
Characteristic	Number (N)	Percentage
- Total Households Surveyed	1,451	
- Household Size (mean)	5.8	
- Permanently settled HH	1,217	83.9
- Age distribution (%)		
< 5 years	2,061	28.6
< 15 years	4,136	57.3
- Main Water Sources (%)		
Well/Borehole	420	28.9
River/Spring	539	37.1
Tap/	354	24.4
Others	380	26.9
- Main Source of Income (%)		
Livestock	1,798	80.7
Cash crops	465	32.0
Salary/wages	67	4.6
Others +	229	15.8
- Religion		
Protestant	429	29.3
Catholic	196	13.5
Others*	830	57.2

** *Some households had more than one source of income and hence percentages not totalling to 100.*

+ *Others—Not specified.*

* *Others —Muslims, Traditionalists, and atheists.*

TABLE 2. Age Distribution of Survey Population						
Age (Years)	Males		Females		All	
	No.	%	No.	%	No.	%
< 5	1,062	29.3	999	27.8	2,061	28.6
5-14	1,084	29.9	991	27.6	2,075	28.8
15-45	1,144	31.6	1,561	43.4	2,705	37.5
> 45	331	9.1	45	1.3	376	5.2

TABLE 3. Age Specific Death Rates in Project Area		
Age	Deaths	Death Rates X 1,000
Infants	27	62.9 (Include Peri-natal)
< 5	40	19.4
> 15	36	6.8
All	76	10.5

2. **Water and Sanitation**—For 29 percent of the households, the main water source is wells or bores; however, the majority of the respondents used water from the river or springs. Another 27 percent of the households collect their domestic water from taps (drawing points along the water pipeline). As few as 5.1 percent of the homes had more than one source of water. The survey revealed that the average duration required to collect water for domestic use was 35 minutes (range of 3-120). Close to 19 percent used less than 10 minutes, while 23 percent used more than two hours. On average, 69.6 litres (with a range of 2 to 100 litres) were used in the homes the day prior to the survey. This is however skewed to the right.

When asked whether they boiled their drinking water, 84 percent of the respondents answered in the affirmative. However, only less than half of them had boiled drinking water available in the house on the day of the survey. Only 11.4 percent of the households have their own latrine, and 2 percent of them are not using their toilets.

3. **Morbidity**—When respondents were asked if the children (below five years) had suffered from any illness the previous month, symptoms of fever (or malaria) were the most commonly reported among 41 percent of the children, diarrhea/vomiting for 33 percent, and respiratory diseases among 28 percent of the children (see Table 4).

Within the last year prior to the survey, 5.4 percent of the children had experienced an episode of measles.

**TABLE 4. Illnesses Experienced By Children A Month Prior to the Survey
(As Reported By the Mother)**

Symptoms	Number	% +
Fever/Malaria	849	41.3
Diarrhea/Vomiting	671	32.7
Respiratory Problems*	583	28.4
Eye Infections	384	18.7
Skin Problems	163	7.9
Others**	148	7.2

+ *Percentage is calculated from the total number of children below five years of age, i.e., 2,055. Multiple illnesses were reported among some of the children (hence percentages not adding to 100).*

* *These include cough, whooping cough, and tuberculosis.*

** *Others include headache, worm infestation, convulsions.*

Only 2.4 percent of the respondents had used the mobile clinic for curative purposes during the previous illness of their child. 939 out of 1,713 (or 54.8 percent) reported episodes among children were taken to the health facility. These are mainly to seek treatment for malaria (or its symptoms) (22.3 percent), and diarrhea/vomiting (10.1 percent). On the other hand, 9.9 percent bought tablets (drugs) from shops for the treatment of malaria/fever (5.6 percent) and cough/running nose (1.6 percent). Rarely did respondents indicate a visit to a traditional healer (less than 3 percent); however, 5 percent of the respondents visited a private clinic, of whom the majority live in (or close to) the trading centers.

The two-week diarrhea prevalence was 33.2 percent. The highest prevalence was among the 12-24 months age group. When asked what they perceived as the cause of diarrhea, 43.9 percent said teething (solitary or with other reasons), 35 percent said diseases (infections), and 58.7 percent said dirt and/or contaminated foods or water. Other reasons cited include flies (6.7 percent), poor weather and nature/God (1 percent), poorly cooked foods (12.5 percent), and worms (2.5 percent). Whenever a child got diarrhea, they were in most cases given ORS/SSS (78.2 percent) and/or herbs (41.8 percent) or taken to health facility (34.7 percent) (see Table 5). In many cases, the mother will try herbs and SSS or ORS; if they fail to remedy the diarrhea, the child is then taken to the health facility. Thirteen percent (12.7 percent) of the mothers denoted the use of the three approaches. In only 26.1 percent of the cases did the mothers give ORS alone.

TABLE 5. Causes and Treatment of Diarrhea		
	Number	%
- Causes of Diarrhea		
Dirt	407	28.0
Contaminated Foods/Water	445	30.7
Disease	516	35.6
Teething	637	43.9
-Treatment of Diarrhea		
ORS	1,135	78.2
Hospital	504	34.7
Herbs	606	41.8

4. **Maternal and Child Health Care**—According to the Third Annual Report, 157 CHWs and 106 TBAs were trained in 1990. For the purpose of identifying the intensity of activities of the trained CHWs and TBAs, the mothers were asked whether CHWs or TBAs had ever visited their homes. Only 10.2 percent of the mothers indicated that they had been visited by CHWs and the mean duration (among those who had been visited at least once) between the survey and the last visit was six months (range 2-24). Of those receiving services from the CHWs, the common services provided included health/nutrition education and counseling (8.8 percent) and environmental sanitation (1.1 percent) of the households. Table 6 summarizes this information.

When mothers were asked where they had delivered the youngest child, 87 percent said in the homes, while 10.3 percent said at a health facility. Of the mothers who delivered at home, 76 percent had been assisted by TBAs, of which 10 percent were trained and 66 percent were untrained (see Table 6).

TABLE 6. Distribution of Households Receiving Services From CHWs and TBAs		
	Number	%
- Households visited by CHWs	148	10.2
- Services provide by CHWs:		
Health/Nutrition	117	8.8
Environmental Sanitation	16	1.1
- Women helped to deliver by TBAs	1,103	76.1
Train TBAS	143	9.9
Untrained TBAS	960	66.2

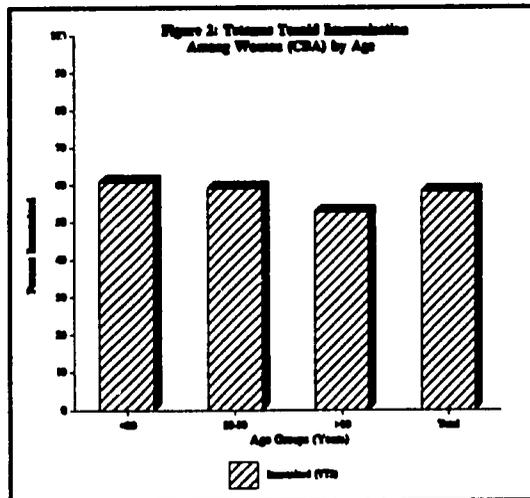
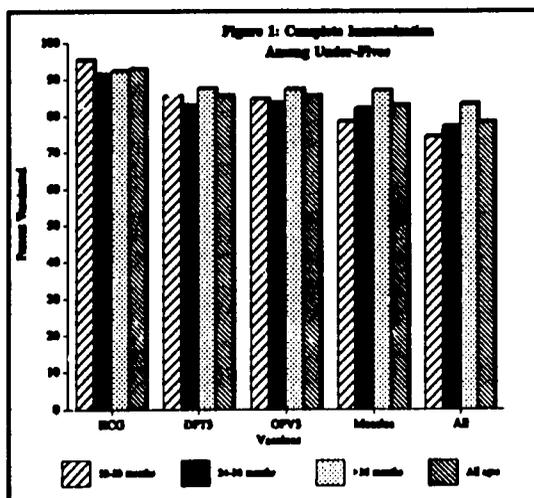
To assess the correct use of ORT in the management of childhood diarrhea, mothers were asked whether they knew what ORT was and whether they know how to prepare and administer ORS solution. Table 7 provides the overview of

women's knowledge and correct use of ORS. Eighty-six percent indicated they knew about ORS, and 70.6 percent (62 percent of the respondents) explained correctly how to prepare either the SSS or the ORS sachet. The larger number of women (65 percent) had learned to prepare the solution from the LCS mobile clinic, while 21 percent had learned how to prepare it from health facilities either in the locality or elsewhere.

TABLE 7. Mothers Knowledge, Preparation, & Use of ORS		
	Number	%
- Know ORT	1,251	86.2
- Know to prepare ORS	900	62.0
- Where taught to prepare ORS		
Clinic (Mobile)	945	65.0
Health Facility	317	21.8
CHWs/TBAs	33	2.3
	1,037	71.5

The overall full immunization coverage rate among the under-fives (but more than 12 months) in the community is 78 percent. Following disaggregation for the different age categories, the 12-23 age cohort was found to have an overall lower complete immunization coverage, as is shown in Figure 1 (or Appendix Table A2). Thus, while 83 percent of children above the age of 36 months show evidence of complete immunization of the four vaccines offered by the project and recommended by the Ministry of Health, 74 percent did so in the 12-23 age group. For those who were not completely immunized, 6.1 percent had completed three out of four recommended full schedules (i.e., BCG, Oral Polio3, DPT3, and Measles), 3.2 percent had for two, 5.0 percent for one, and 6.2 percent had not received (or completed) any of the vaccinations offered.

The pattern of lower immunization status in women (of child-bearing age) with age is not evident as it was among children (see Figure 2 or Appendix Table A3).



Interestingly, women less than 20 years old had the highest immunization rate. Overall, 80 percent of the women attended antenatal clinic (at least once) during the last pregnancy and 99 percent of them (78.8 percent of the respondents) have remembered receiving the tetanus toxoid vaccine. 74 percent (73.6 percent) of those receiving TT (58.1 percent of the respondents) had received at least two doses of TT.

Among those who did not attend the antenatal clinics, more than half said it was because the clinic was too far (or they could not find one). Very few said it was because they did not want to go (2.4 percent).

Table 8 shows an overview of the amount of money the respondent was willing to pay per visit in case the health services provided by WV were charged. 46 percent of the respondents indicated that they would be willing to pay up to KShs. 25 per visit. In fact, more than 90 percent of the respondents were willing to pay KShs. 10. Only 7.9 percent were not ready (or were unable) to pay for the services if they were charged.

Amount	Number	%
None 1-9	115	7.9
10-24	523	36.0
25-50	672	46.4
> 50	92	6.3
	50	3.4

- Nutritional Aspects**—When mothers were asked if they averted any foods during pregnancy, 52 percent said they did so. The foods commonly avoided were meat and milk (24.8 percent), maize and maize products (12.3 percent), and spoiled (fermented) foods (6.0 percent). The main reasons for avoiding the foods are related to nausea. Specifically, meat and milk are avoided during pregnancy (by 16.6 percent of the respondents) because they believe the foods can cause the baby to grow too big and consequently cause problems during childbirth (may be due to enlarged pelvis).

Some mothers also withhold certain foods from young children (especially infants). 23 percent of the mothers withhold foods made from maize and maize products, while 3.1 percent withhold beans. Mothers think that certain foods are not suitable for young children, either because the perceived foods were associated with childhood illnesses (i.e., stomach problems, vomiting, or diarrhea or even enlargement of the bile) (see Table 9). For instance, tea is not given to young children (less than two months) because it would cause them not to feed well.

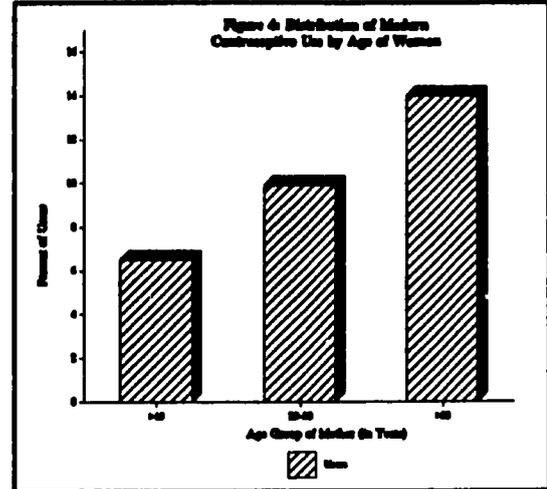
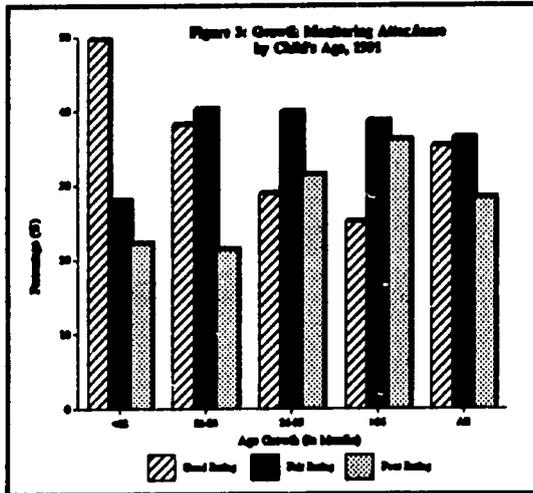
TABLE 9. Foods Averted by Pregnant Women or Withheld from Infants		
Who/Foods	Mothers	
	Number	% (Of Respondents)
From Pregnant Women		
Meat and Milk	360	24.8
Maize Products	178	12.3
Spoiled/Fermented Products	87	6.0
From Infants		
Maize Products	329	22.9
Beans	54	3.7
Tea	42	2.9

Normally, children are fed using the top of a milk gourd which serves as a cup. Of the respondents, 49 percent indicated the use of a cup and spoon, while mothers use their hands to feed their children solid foods.

The majority of women (98 percent) start to breastfeed their children immediately, unless they delivered in health facilities where they would wait for some hours (3-6 hours) before the child is brought to them.

Maasai children are introduced to animal ghee/fat within the first two days of life. On average, other foods are introduced in the third month (with a range of 1 to 9 months). The first foods are cow milk (57.4 percent), mashed "ugali" (6.4 percent), and rice, normally mixed with milk or stew (21.8 percent). However, mothers continue breastfeeding for an average duration of 19.9 (+/-11) months. 20 percent of the children are breastfed for more than 24 months. Normally, a mother stops breastfeeding abruptly (87 percent) after discovering that she is pregnant (52.6 percent) or because she thinks that the child is old enough to be weaned (27.3 percent). Relatively, in fewer cases does the mother stop breastfeeding either because the child (1.8 percent) or the mother (5.8 percent) is sick.

The 80 percent of the National Center of Health Statistics (NCHS) weight-for-age median was used as a (age-independent) reference for the assessment of the nutritional situation of the under-fives in the project area. There was no statistically significant difference in the nutritional status (as measured by W/A) between genders, allowing further analysis to be done by age group only, irrespective of gender. As indicated in Figure 3 (or Appendix Table A5), for severe underweight (or risk of wasting), i.e., below 60 percent, the infants are worse off; however, they had substantially lower proportion of mild underweight/malnourished (below 80 percent W/A) children, whereas the 12-23 and 36-plus months category have substantially higher proportions of both severely and mild underweight individuals (35 percent and 35.8 percent, respectively). Only 64 (or 3.1 percent) of the children were recorded as having oedema.



As it can be seen from Figure 4 (and Appendix A6), there is a decline in growth monitoring attendance with increase in age. Whereas among the less than 12 month olds, 49.6 percent are rated as good (i.e., attending at least ones after every other months) and 27.9 percent are rated as fairly so (attending at least ones every other four months), this reduced to 28.8 percent and 39.9 percent respectively for the 24 to 35 month olds, 25.1 percent and 38.7 percent respectively for the more than 36 month olds.

6. **Family Planning**—Only 9.8 percent of the women respondents (CBA) are using modern contraceptive methods. The source of the contraceptive supplies was said to be from the fixed health facilities (4.0 percent) and rarely did they get the supplies from the Mobile Clinic (by less that 0.2 percent). According to the 1988/1993 District Development Plan, ten percent of women in the District are said to be family planning acceptors. Surprisingly, there are more older women who are using modern contraceptives in this community (Figure 5). The youngest two children were spaced by an average of 20 month intervals. Forty-six percent were spaced by more than 24 months.

Of the 1,308 (or 90.2 percent) non-users, 360 (or 27.5 percent) do not object using modern contraceptive, however, they have not been using because their spouse had refused (11.3 percent) or they were not aware of them (12.2 percent) of them still wanted more children (57.2 percent).

TABLE 10. Why Mothers Are Not Using Modern Methods of Family Planning		
Reason	Number	%
Not Allowed By Spouse	121	11.3
Wants More Children	615	57.2
Fears Side Affects	84	7.6
Not Aware of Them	131	12.2
Others	96	9.4

The non-users who are not interested in FP methods. This is due to the fact that they want more children (42.4%), they fear the side effects (6.8 percent), or they are not allowed by their spouse (8.3 percent).

TABLE 11. Reasons Why Mothers Don't Want to Use Modern Methods of Family Planning		
Reason	Number	%
Not Allowed By Spouse	149	8.3
Wants More Children	640	42.4
Fears Side Affects	98	6.8
Religious/Cultural	35	2.4
Others	108	7.4

- Comparative Analysis**—At the onset, it needs to be repeated that we had done the survey only within the "catchment" areas of the project. The objective was to describe the existing health and nutrition conditions in the project area based on the Child Survival Health interventions and overall primary health care. In this process, however, one cannot but review the project's own objectives and assess to what extent and through which means these have been or are being achieved.

Table 12 below summarizes data from the Baseline Survey, the Midterm and Final Evaluations, and are compared to the targeted levels for each of the objectives as stated after the midterm evaluation.

TABLE 12. Comparison of Some of the Results From the Baseline, Midterm, and Final Evaluations				
Variable	Baseline	Midterm Level	Final Level	Targeted Level
Immunization				
BCG	39	94	95.5	90
DPT3	32	80	85.4	90
OPV3	33	79	84.7	90
Measles	28	87	78.5	90
All	< 10	74	74.4	80
TT2	(6)	20	58.1 (5,647)	50
Prevalence of Diarrhea	54	36.5	33.2	15
Mothers Know to Prepare ORS	35	73.5	62.0	90
Used ORS Last Diarrhea Episode	Not	Docu- mented	71.0	50
Malnutrition** Among 0-5 year olds	25	2.8	2.3	10
Children 0-5 year olds weighed every 2 months	0	15	35.3	50
Women Using Modern Contraceptives	5	17 (11.5)	9.8	50
Children Spaced = <24 months apart	74	Not Docu- mented	61.0	?
Trained CHWs	5	85	129 (157)	100
Trained TBAs	--	22	110 (106)	80

The results show that the interventions the LCSP initiated in the locality has improved most health indicators in the area. Major achievements are in:

1. Sustaining the high full immunization coverage, for children 12-60 months of age, at over 78 percent. Since the last survey, the proportion of children vaccinated with BCG, DPT3, and OPV3 has increased.
2. More mothers have received at least two doses of Tetanus Toxoid before delivery. This has increased from below 20 percent before the Midterm Evaluation to 58 percent during the Final Evaluation.
3. The proportion of children treated with ORS during the last episode of diarrhea is even beyond the targeted level.
4. The prevalence of malnutrition (below 60 percent of weight-for-age of the NCHS standards) has reduced, on the same note, the proportion of

children weighed at least once every two months has been increasing since the inception of the project in the area.

5. The proportion of children born with a spacing of more than 24 months was found to be more than 60 percent.
6. More than the targeted number of CHWs and TBAs have been recruited and trained by the project.

DISCUSSION

Based on available data and information, the LCSP has done an excellent job in achieving its principal objectives. The results clearly show that LCSP has a significant impact on the health status of the most vulnerable segments of the population: preschool children and women of reproductive age.

- A. Immunization**—The immunization coverage is well above 90 percent. In fact, only six percent of the children have not received at least one dose of the vaccines in the KEPI protocol. This coverage is far beyond that which existed before the initiation of the project. In addition, a complete coverage rate of 74 percent has been maintained for the last four years. This is a big achievement in a nomadic community and even more because of the difficulty in transportation and communication. In actual fact, the coverage is far beyond that of Kajiado District (58 percent) and the country as a whole (51 percent).

An interesting trend is, however, seen in the Final Evaluation data. Contrary to what is expected (and experienced) the full coverage increases with the age of the child. Some plausible explanations have been given, one, due to increased mobility in the community, children have become less accessible. This has been as a result of consecutive shortage of rainfall in the area in the past two years. The consequent drought has brought about a lot of movement as herdsmen search for suitable grazing areas and water. The National plan to demarcate the Maasai lands has compounded the problem (people moving to higher productive areas and areas with services) obviously, the team has had a difficult time tracking the defaulters. Secondly, the coverage may be increasing with age, i.e., children are not able to receive the full recommended schedule until they are old enough.

Whether this is due to the difficulty of the "project" being unable to provide the level of services to attain their objectives or the constraints brought about by the community or some other reasons, is open to speculation.

Overall, 80 percent of the mothers in the project area attended the antenatal clinic during the previous pregnancy compared to 64 percent recorded during the midterm evaluation (MTE). This is higher than the average figure of 73 percent for the District (1988/93 District Development Plan). Approximately 58 percent of mothers in the project area did get the Tetanus Toxoid vaccine antenatal compared to less than 30 percent before the MTE and 53 percent for the District. One may argue that the

project has not done much compared to the average district levels for these activities. However, the variance in the District should be expected to be very large. Some areas in the District have very low coverage rates, i.e., the inland and isolated areas, while others, the more productive areas mostly occupied by non-Maasai and with better access, the rates are very high. In this connection, the project has managed to reduce the gap (increase equity) in health care between the persons living in more productive parts of the District and those living in geographically marginalized zones.

The proportion of mothers who know of ORT has increased from 83 percent during the MTE to 86 percent during the Final Evaluation (FE). However, the proportion of those who correctly know how to prepare and use the ORS (or SSS) has reduced from 74 percent to 62 percent. For communities with such high illiterate levels (especially among women), training in new technologies require continual emphasis and repetition. The reduction in the proportion of mothers who could correctly describe how ORS/SSS is prepared could be because of reduced continual contact between the mothers and the Mobile Clinic as a result of increased mobility in the community caused by the recent drought in the area.

This was coupled by the change of the government's policy for the public to use ORS sachets instead of SSS for the management of diarrhea. The mothers has to relearn the preparation and use of ORS rather than SSS which the project had been emphasizing before 1989.

The high figures for diarrheal cases treated with ORS/SSS, Growth Monitoring rates, and even immunization are not surprising considering that the project places special emphasis on these activities during the home visits by the CMs. This is a strategy other projects working with nomadic tribes in Kenya need to "copy" if they are to achieve such a success.

- B. Family Planning**—As to the enrollment of women in using modern methods of family planning, the values are on an average low compared to the objectives. This might partly be explained by the fact that mothers are still bound by the traditions that generate strong desires for many children. This is supported by the fact that young women who, though they did not refuse family planning methods as such, nevertheless, were not using them because they desired to have more children. On the other hand, older women may easily accept contraceptives since they already had the number of children they wanted to have.

The current acceptance rate of 10 percent compares favorably with the ten percent for the Kajiado District. These values are far less than the 17 percent reported in the MTE or even the 50 percent set as the objective by the end of the project life span. The success of the project should be seen in the increased desire of many women to use modern methods of family planning. LCSP should take the opportunity of this. It will apparently need intensive project inputs (in terms of staff manhours, education strategies, etc.) and technical assistance.

However, our feeling is that an objective of 50 percent of the mothers as acceptors is very ambitious. For one, the acceptance rate in Kenya is reported as 22-24 percent, and second, the highest documented rural acceptance rate in the country is 43-48 percent in Chogoria of Meru District, a community with a literacy rate three times higher than that of the LCSP "catchment population," a much higher social-economic status and with a very intensive FP program running in the area. The project implementers should, therefore, re-examine this objective.

- C. Maternal/Child Health**—As mentioned earlier in this report, malaria, diarrhea, and respiratory diseases still present the major health problems, despite intensive community education on environmental sanitation and malaria prophylaxis. The prevalence of diarrhea has changed from 37 percent to 33 percent within the two years. In actual fact, it has reduced from 54 percent from the inception of the project. This is a great achievement and there is still more potential of reduction. However, it would need more than the three years for the extension for it to reduce to the 15 percent reported in the objectives. It is important to note that in an area where water can be scarce, maintenance of personal hygiene can pose a problem. On the other hand, the traditional living conditions undoubtedly promote infections, such as tinea, scabies, diarrhea, and respiratory disease.

Measurement of mortality impact of health interventions is not simple. There are always some methodological problems associated with it. For example, in the case of the Maasai, we were expecting under-reporting of both the birth and death data. There are existing cultural taboos that discourage talking or even mentioning of the dead, and this, therefore can result in inaccurate data, if children who die soon after birth are not reported as either born or even dead.

On the other hand, the Maasai count of years is said to be based on seasons rather than the normal calendar. As such, the interpretation of the available data require care and precaution. Collection of more accurate data in the future will require longitudinal data collection, either through existing community (local) machineries or one implemented with the help of the project.

It was interesting to note, despite the fact that more CHWs and TBAs have been trained than initially targeted, very few community members receive services from this cadre of health workers. There might be reasons to the low coverage by the community workers. For example, they may be too few to cover the whole population. One hundred and fifty seven CHWs to attend to 7,500 households in the project's "catchment area" would mean each CHW is expected to cover 62 households. Though the number of homes a CHW is responsible for varies depending on the areas covered, on average every home should be able to receive services from a CHW at four to five times a year. A coverage of 10.2 percent is quite low.

- D. Food and Nutrition**—From what we observed, the diets of adult individuals in this community are uniformly simple. Posho (maize meal), milk, tea, meat, beans, and maize (grain) are items usually mentioned in their diets. However, observation indicates that the consumption of the two traditional foods (meat and milk) might not

be as large as assumed by the respondents. Neither vegetables nor fruits are common among the Maasai.

The transition from traditional milk and blood diet, may have consequences. Although the introduction of other foods in the diet (i.e., maize and beans) is a good idea, also for a calorie/protein amino acid point of view, both of these foods are unfortunately grown by only a third of the households in the area. "Imported" foods from other areas would be expensive, and since a large proportion have no consistent source of income, cow's milk might remain the main source of protein for the community unless the Maasai (women) are willing to take up agriculture. However, agriculture would almost certainly include irrigation, at least in most areas. It would also require storage and simple (and appropriate) processing of the produce.

As to the nutritional status of the pre-schoolers in the area, it was not different from that of most parts in Kenya. The value of 22 percent of children with a Weight-for-Age below 60 percent (of the NHS), which was reported during the Midterm Evaluation, is obviously an exaggeration. The average proportion of children in the same category in the District was reported as 4.5 percent by a community survey (National Nutrition Survey 1987-unpublished) and 25 percent by a health facility reports (District Development Plan 1988-93). In any case, the inherent assumption is that if the project has scored so well in the variables mentioned above, child survival and development chances will be better than if the project had not been implemented.

RECOMMENDATIONS

- A. Considering the overall low health facility attendance (either for birth, ante/post-natal services), providing services through a mobile clinic, seems a most appropriate intervention, especially as it goes along, as in this case, with systematic efforts to educate the community the benefits of preventive health care and community-based development.
- B. One way to promote family planning is, maybe, including it as one of the major components of the mobile clinic and the home visits by the community motivators. This not only includes arranging to counsel the mothers during the outreaches and/or home visits but also providing the acceptors with the supplies.
- C. Currently, health services are being provided through the mother (and adult community), most of who are illiterate and difficult to "change" their attitudes and (sometimes) customs in child care. The project might, in consultation with the relevant resource agencies, assist in exploration of other methods of health care delivery. Use of "Primary School" children as promoters of community health, especially in the realm of environmental sanitation and growth monitoring (i.e., interpretation of growth monitoring cards for the mothers) which are part of the primary school curriculum in Kenya.
- D. A short survey should be done to investigate the performance of the CHWs. Specifically, the quality of their training (i.e., is it "competence training?" have they

themselves implemented what they have learned? etc.), the quality of supervision, the difficult circumstances under which they have to work, means of enumeration, better individuals already in the community who would make more effective CHWs (i.e., "Kiosk" owners).

- E. Lastly, a "quick" study (using the Rapid Assessment Process) should be conducted to investigate the presence of indigenous fruits, vegetables, berries, etc., and their potential for cultivation and utilization (by concerned population). Such an investigation is merited because their diet is, for one, deficient in source of Vitamin C and secondly, since the community will undoubtedly continue to become more "agricultural," crops suitable for the kind of climatic and environmental conditions will need to be promoted. The study should also include examination of simple and appropriate storage and food processing systems.

The project might also assist in the exploration to find, and where applicable, introduce other sources of food, to the area to supplement the currently meager (and scarce) diet. Among such alternative sources might be small livestock, e.g., rabbits, chickens, or introduce nuts (groundnuts), etc. Obviously, relevant department of the Ministry of Agriculture and the community would have to give advice in this matter.

SUMMARY

In our view, the project should continue to operate in the area. Currently, the Government is facing a multitude of constraints that it is unable to provide health services as effectively to such communities. Some of these constraints include: inadequate transport, they have no vehicles coupled with the poor roads; the health facilities are scarce in the area; there is shortage of manpower, and therefore problems with management of the few health facilities in the area.

The activities of the program, especially the mobile clinic, are an important first step in "accustoming the population to modern medicine and may encourage visits to the local dispensary once confidence has been established." This survey indicates that this has been achieved and demand is dependent on accessibility. The next few years of the project operation should be used to create demand of health care from existing health facilities.

For World Vision to be able to continue maintaining such excellent outputs/outcomes, a few issues need to be enforced.

- A. Maintaining a highly motivated staff in the area, through in-service training, good terms of service, and supervision.
- B. Creating machinery necessary for sustainable primary health Care, i.e., by increasing the communities capacity to implement the projects, and collaboration with other existing agencies and institutions working in the area.

WORLD VISION RELIEF & DEVELOPMENT, INC.

PART II
Sustainability Assessment Report
Loitokitok Child Survival Project

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PROJECT SUSTAINABILITY ASSESSMENT

A. SUSTAINABILITY STATUS

- A1. The original date of completion of World Vision's Loitokitok Child Survival Project (CSP) was scheduled for September 30, 1991, but the project was later extended for an additional three years through PVO Co-Financing funds from the local USAID Mission to Kenya. World Vision (WV) will, therefore, phase out strategically during the second phase of the project.**
- A2. The phasing in of major project activities and control has been initiated, although the process is not yet complete. Within the next three years, it is expected that all such activities, e.g., renovation of dispensaries, training of MOH staff and community volunteers will be systematically carried out.**

Many of the primary project interventions (including immunization, growth monitoring, health education, and the provision of basic curative, preventive, and promotive health services) are presently being carried out collaboratively by the World Vision CSP, the MOH, and other NGOs in the division, namely the Catholic and the Pentecostal Missions. Within the next three years, five of the nine government dispensaries will be renovated and equipped with cold chain systems (three in FY92, and two more in FY93). In addition, in the course of these 3 years, the 20 mobile clinics currently being operated by WV CSP will become part of the renovated static service units.

Strengthening this new initiative will be ongoing WV-facilitated training of the MOH and NGO staff, including training of MOH staff as trainers. (Ten MOH staff and 10 NGO staff will be trained in FY92, 15 MOH and 5 NGO staff in FY93, and refresher training in FY94.) Such training will include: CBHC, TOT, monitoring of high-risk groups, disease control interventions, HIS, family planning (FP) service delivery, and ante-and post-natal care. This training will allow the staff to effectively provide ongoing primary health care (PHC) services and training to the community after WV phases out its activities.

Another major project responsibility is the training of community leaders, community motivators (CMs), community health workers (CHWs), and traditional birth attendants (TBAs) to do the following: impart knowledge and skills in the use of ORT; nutrition through growth monitoring and education regarding improved breastfeeding and weaning practices; promote improved food production through the initiation of kitchen gardens; promote better environmental and personal hygiene and sanitation. Furthermore, within the next three years of the extension period, efforts will be made to strengthen awareness in the prevention and control of HIV/AIDS and to encourage behavioral changes among the members of the community to prevent the transmission of AIDS and HIV infection.

Presently, these activities are being carried out within the community by trained community workers (CWs) and other volunteers. WV collaborates with the Catholic Mission in the training of CHWs and TBAs, and MAP International has assisted in the training of CMs. In the next three years, 50 additional community leaders will be trained, 20 of whom will be trained as trainers (ten each in 1993 and 1994), and an additional 30 CHWs and TBAs will be trained as trainers in 1991. These trainers together with the MOH staff trained as trainers will then be responsible for training (with WV support) new CHWs and TBAs.

Furthermore, in 1991 a council made up of representatives from various women's groups is to be formed. The MOH, in conjunction with the Ministry of Agriculture (MOA) and WV Kenya, will assist this council in training community women on health awareness, ORT, kitchen gardens, nutritional crops, food processing, and initiation of income-generation activities (IGAs).

B. SUSTAINABILITY PLAN

- B1.** The project's strategies for sustainability as laid out in the initial DIP and in the second phase extension proposal are based largely on community participation, ownership, and involvement. The community is to play a significant role in the design, implementation, and management of the project activities. Specifically, the plan for sustainability calls for community members to contribute cash, labor, land, and other resources for development activities. The plan also focuses on imparting knowledge and skills at the grass-roots level. Thus, it depends on the training of volunteer CHWs and VHC members, TBAs and CMs, and on their subsequent education of and provision of health services to community members.

The sustainability strategy also involves strong collaboration between WV, the MOH, and other NGOs in providing community-based health care. It calls for enhancing the existing health services and for building up the MOH institutional capacity. It is also designed to increase the management and training skills of the MOH and its staff to enable them to be in the position to eventually assume full responsibility for all project activities. Finally, the strategy includes plans for encouraging various IGAs, such as farming as a method of resource regeneration. This particular activity has already become operational. Many members of the community are currently benefiting from agriculture-oriented IGAs, e.g., growing onions, tomatoes, chillis, beans, and maize.

- B2.** The community's involvement in the project activities, their contributions to the project, and their willingness to utilize the services provided for them have all been very impressive (see C1 and C5 for further references).

The fact that the CMs have been hired from the communities of which they are a part has improved the effectiveness of their work and ensured some sustainability in the effects of the training they have received. A shift in the original emphasis on training volunteer CHWs to equipping already present TBAs with CHW skills occurred because it became evident that it was difficult to expect volunteers to be trained and to carry on extensive health education and other services without reimbursement. Imparting

additional CHW skills to already trained and active TBAs was subsequently emphasized as it was seen to be a more sustainable strategy due to the presence of TBAs in the communities. The existing cultural practice for remunerating TBAs and for procuring additional ones, both of which result in a generally higher motivation level and lower dropout rate as compared to those of CHWs, will be encouraged.

Collaboration between WV, the community, the MOH, and other NGOs has been consistent and mutually beneficial (see D1). This collaboration will strengthen the involvement of other organizations to sustain project benefits. Finally, there are widespread efforts to promote IGAs among various members of the community (see Section G).

- B3. Although no financial commitments to sustain project benefits were made by any counterpart institutions, other linkages with such organizations (as described in D1) have been established. These all strengthen the sustainability prospects of the CSP.

During the extension phase of the project, the cost of renovating of the five MOH dispensaries will be met by the local community. The community has already collected about Ksh. 80,000/= (US\$3,200). Also, the MOH has pledged contributions for the construction of two additional staff houses to be built at the Namelok dispensary site.

- B4. The involvement of the Ministry of Health and other counterpart institutions (Catholic Mission, Pentecostal Mission, and other health sector NGOs) from the inception of the CSP in planning and design, implementation, and monitoring of activities is the reason for keeping its commitment to the sustainability of the project.

C. COMMUNITY PARTICIPATION AND PERCEPTION OF PROJECT EFFECTIVENESS

- C1. The community's participation in both the design and the implementation of health services has been extensive from the very first stages of project planning. The initial step of the project was a Look, Listen, and Learn Survey wherein members of the community shared their perceptions of the community's desire for such a project. Subsequently, a series of community Participatory Evaluation Process (PEP) meetings were held to strategize the process of dialogue and to prioritize the needs. Finally, a more formal baseline survey was conducted as a final step in the process of designing and implementing the project.

A Central Administrative and Management Committee and several sub-location/ village health committees (VHCs) were established to oversee the day-to-day management and administrative activities of the project in collaboration with project staff. The Central Management Committee (CMC) conducts an annual review of project performance and accomplishments, and develops a plan of action for the subsequent year, including an operational budget. The VHCs are a channel through which the community is represented during the design, management, and evaluation stages/processes of the project. Through these committees, the community is able to

relate needs pertaining to their health and development, and to help plan project components to meet these needs.

The community has participated in the implementation of the project through the involvement of the VHCs, CMs, CHWs, and TBAs in providing health and nutrition education and counseling for the prevention and control of HIV/AIDS. Other major involvement of community volunteers is in immunization, encouragement of mothers to bring children to the immunization centers, improvement of environmental and personal hygiene (including improving shelters, digging pit latrines, using clotheslines, constructing racks for drying dishes, etc.), and assisting the mobile clinic with growth monitoring and maintaining immunization records.

Other community volunteers including pastors, evangelists, other religious leaders, teachers, women's group leaders, chiefs, and assistant chiefs are being used to relay appropriate health and development messages, especially those pertaining to HIV/AIDS and FP. School children have also been instructed and are in turn involved in educating others concerning personal and environmental hygiene. They also assist illiterate TBAs in reporting their delivery activities. Finally, a focus group, "Champion CBHC Mothers," have been identified and are to be used as an alternative means of strengthening the skills already imparted to CHWs. As a result, these mothers will be involved in TOT training activities.

Finally, other community members participate in the project activities and promote sustainability by being involved in the following activities: immunization, health education, growth monitoring, counseling, ante-natal and basic curative services.

Several community groups and individuals have initiated IGAs such as "kitchen gardens," farming of cash crops, selling handcrafts, opening stores, etc. The community as a whole has shown a remarkable willingness to make a variety of attempts to improve their standard of living. They are actively engaged in food production in order to improve their health and nutritional standards. A major effort will be made to ensure the sustainability of these activities: the formation of women's groups and other groups for health education of the communities, encouragement of IGAs, etc.

- C2. Currently, there are 12 active Village Health and Development Committees in addition to a Central Administrative and Management Committee. The members are elected by the community at large. A sampling of the VHCs indicated that they have met six to 24 times in the past year while the CMC met five times.
- C3. One of the issues consistently dealt with in the VHC meetings has been the planning of the mobile clinic visits to sites in their area and planning for days on which other promotive and preventive health education and hygiene sessions will be held. The minutes are not taken during the majority of these meetings; therefore, issues discussed during past meetings were obtained from interviews with committee members. Some of the topics discussed and actions taken were reported as follows:

- One committee would like to build a primary school. Some children in the community are currently being taught under a tree while others are attending a distant government school and are unable to go during the rainy season as the road becomes impassable. The committee members have started collecting contributions for the construction of a permanent school and have discussed the progress of these collections at their meetings. Furthermore, the committee has sent members to talk to parents about the importance of sending their children to school.
- Another committee conducted a PEP session to discuss and prioritize community needs. Part of this process included building awareness for the upcoming final CSP survey and preparing for sustainability by encouraging community participation in project activities.
- This VHC was promised a grinding mill by WV to assist them with a proposed IGA. Plans were made to get a house in which to install this machine when it arrives.
- This VHC also discussed their problem of wild animals destroying the crops on their farms. It was decided that they would initiate fund-raising to help them construct an electric fence and that they would request WV to provide financial and technical assistance for this project.
- Another VHC met to identify the most needy families in their community to nominate them for the WV child sponsorship program and to request other assistance as appropriate from WV.
- Another issue raised was the need to identify farmers in need of assistance in the form of provision of seeds, fertilizers, technical expertise, etc., and to plan for such assistance.

C.4 All community leaders interviewed perceived the CS activities to be effective and were extremely grateful for the services provided. Most often mentioned was the effectiveness of the immunization campaign and the resultant decrease in under-five mortality from immunizable diseases. Most notable has been the decline in both morbidity and mortality from measles. One community leader noted further that the CSP has been meeting a need which previously was not being met due to the lack of dispensaries. "World Vision visits the farthest corners of our community and reaches people who would otherwise not have access to medical care," the leader noted. He termed the project "a golden chance" and said, "We never dreamed we would be able to get treatment in our own homes or in a very nearby place. We do not know what we can do to make the project continue."

It was generally agreed that health and nutrition activities were having an important impact on the health status of the communities. It was seen that the standard of hygiene had been improved and many community members were taking steps to implement improvements in their homes and surroundings, as well as making changes

resulting in improved personal cleanliness. One leader noted also that health workers have been better trained to do their work.

Many community leaders listed other WV-sponsored development activities that have also contributed to the improved health of their community members, such as provision of seeds and technical assistance in agriculture, a cattle dip, a pump for spraying crops, grinding mills, cattle, etc., construction of irrigation channels, and continued WV encouragement to the community as a whole.

Very few community leaders felt that there were any health needs which were not being adequately met through the CSP. The only problem cited was insufficient coverage of all areas by the dispensaries or mobile clinic team as a result of some communities being still too far away to utilize the services provided. One leader felt that certain areas needed permanent clinical staff or, alternatively, that the clinic should visit more frequently than just once a month since in some areas people relied entirely on the mobile clinic for all their health needs and often a month was too long a wait.

Other concerns raised include a need for the provision of clean and safe water since without availability of water, both development and health is impossible.

Composition of Community Leaders Interviewed

- Ngida Nkabori-VHC member, Shilishili Community-21/8/91
- Moses Kilowua-Senior Chief, Orok-Kiteng Location-21/8/91
- David Munyiei-Councilor, Orok-Kiteng Location-21/8/91
- Joseph Oloiparuni-VHC Secretary, Isinet Community-21/8/91
- Emanuel Sunte-Chairman, Mbirikani Group Ranch-21/8/91
- James Tipaai-Local Leader, Oltiasika Community-21/8/91
- Lesalon Ole Marinka-Central Management Committee Member, Olgulului Group Ranch-22/8/91
- Metui Lombaa-Central Management Committee-22/8/91
- Charles Dokolo-VHC member, Isinet Community-22/8/91
- Ndonge-Chairperson, Noonkajongak Women's Group-22/8/91
- Yiasi-Treasurer, Noonkajongak Women's Group-22/8/91
- Masarie Kima-VHC member, Kimana Community-22/8/91

- C5. The community has contributed significantly to the project from its inception, and these contributions have helped instill in the community a sense of ownership of the project. To an extent this ensures the continuation of project activities after donor funding phases out. This community's contributions have been in the form of cash, labor, and gifts-in-kind (GIK). For example, the community donated 20 acres of land for the construction of the dispensary and project staff houses. They further assisted in digging water-pipe trenches and installing the pipes and also in digging fence trenches and erecting the fence. They continue to contribute their time and labor as members of health and development committees and as CHWs and TBAs. Finally, they have made direct cash donations and donations of materials for the construction

of the dispensary and MOH staff housing and have hired a watchman for the security of the premises.

D. INSTITUTIONAL SUSTAINABILITY-STRENGTHENING LOCAL MANAGEMENT

D1. The provision of health services to the Loitokitok Division has been a cooperative venture between WV, the community, the MOH, and other NGOs (although none of the linkages established have involved direct financial exchanges). In order to ensure that the division adequately benefits from primary health care services, it has been divided into zones with coverage responsibility divided between WV, the MOH, and other health-sector NGOs in the division. Moreover, the MOH is supplying vaccines, drugs, contraceptives, and equipment. Other links between the CSP and the MOH include the following:

- District and Divisional MOH staff have been involved in planning, implementing, and evaluating CSP activities.
- The District Health Management team supervised the design, construction, and equipping of the Namelok dispensary.
- The MOH has assigned personnel to manage and staff the Namelok and other dispensaries providing health services to the community within the overall PHC context.
- The National AIDS Control Program of the MOH assisted WV in designing and implementing an HIV/AIDS prevention project.
- The MOH staff at district and divisional levels have participated in a variety of WV-sponsored seminars and workshops and have attended a series of meetings for exchange of experiences.
- The district MOH officer in-charge, Kajiado District, and the District Public Health Nurse participated in the design of the CSP extension proposal, including the selection of the five dispensaries to be renovated and equipped with cold chain systems.
- Under the leadership of the district MOH officer in-charge, a district forum for health-sector NGOs is conducted once every three months to share experiences and views.

Linkages that have been established between the CSP and other NGOs or local institutions include:

- The Catholic Mission collaborates with WV in the training of CHWs and TBAs, operates one health center, and is developing another at Lenkism.

- **The Pentecostal Mission assists in providing immunization coverage, ante-natal care, FP, etc.**
- **The Church of the Province of Kenya has recently proposed to develop a dispensary.**
- **WV has been collaborating with MAP International in training CMs and technical staff in general.**
- **Collaborative staff training in TOT, Community-Based Development, and Achieving Balanced Community Development (ABCD) training has taken place between WV and other NGOs, such as MAP International and Life Ministry.**
- **WV staff have attended workshops and seminars sponsored by other NGOs, many of whom send participants to WV-sponsored workshops and seminars.**
- **The Department of Human Health and Applied Nutrition at the University of Nairobi trained CS staff in designing nutrition surveys, and the Department of Community Health together with the Kenya Medical Research Institute (KEMRI) are involved in the survey data analysis.**
- **Collaboration has taken place with Manor House Agricultural Center in Kitale to introduce biointensive agricultural techniques for kitchen gardens and for the establishment of a fruit tree nursery. One graduate of the center is presently on site to establish it as a place for training community members.**
- **A proposal by WV for a water resource development project is likely to be funded by UNICEF and World Bank.**

Links between the CSP and other GOK Ministries include:

- **An extension worker from the MOA has been deployed to assist in the development of a demonstration garden at the project site, to assist community members with development of kitchen gardens and tree nurseries, and to promote improved agricultural practices.**
- **Extension officers for the Ministry of Livestock Development and the Ministry of Natural Resources have provided training to community members on improved livestock husbandry, afforestation, and agroforestry.**
- **The Ministry of Water Development has assisted WV in developing irrigation schemes, creating more accessible sites for potable water, and protecting water resources.**

D.2 WV has taken steps to strengthen the program management skills of staff in local institutes through a variety of means—most notably through formal training in TOT,

Community Balanced Development (CBD), ABCD, and training in other management-level skills and development activities as described in D1.

- D.3 The Medical Officer of Health, Dr. A. Nyamweya, Kajiado District, was very positive about the contribution of the CSP to the health status of the District. In particular, he praised the efforts of the project and its staff in the area of immunization, noting that since the project's initiation, the District was included for the first time in the National EPI coverage list. In addition to improving immunization coverage, the WVCSP has assisted the District MOH in conducting an EPI coverage survey by releasing funds for this purpose.
- D4. Because the MOH has been closely involved in the planning, design and implementation of CSP activities and all project activities are in line with the long-term plans of the MOH itself, their motivation and heightened attempt to sustain project activities beyond the funding period is already noticeable. Already, it is the MOH who are supplying vaccines, drugs, contraceptives and other equipment to the dispensaries and to the mobile clinic. Similarly, due in part to WV's efforts to strengthen program management skills, the human resources, management, and supervisory capabilities necessary for carrying out project activities after CS funding ends are viable.
- D5. The regular provision of mobile clinic services will be drastically reduced once CS funding ends, but as mentioned, after the renovation of five MOH dispensaries and with the cooperation of other NGOs, the services provided by this component of the project are to be adequately sustained by static PHC institutions. The development of the currently available health services indicate that the number of dispensaries will increase from the current 9 to 12 within the next 3 years.

The one project component that the MOH and local institutions may not be able to absorb once WV/USAID funding is terminated is the existing project staff. The reason for this is the substantial difference in the structure and/or of the remuneration packages between PVOs and those of the public service. Other than that, all other project components should by that time be completely integrated into the existing health service structure and/or absorbed by counterpart organizations. The good news is that WV is in the process of introducing Area-Based Development Programs (ADPs). ADPs are being designed in clusters—that is, they are to integrate such activities as water, agriculture, health, IGAs, and other sectoral development activities. This means that WV is not going to eventually phase out from the division, the staff are going to be absorbed and the majority of the current activities will be carried on even beyond the life span of the second phase.

E. MONITORING AND EVALUATION OF SUSTAINABILITY

- E1. The indicators which were used to monitor sustainability were:

a. *Community Participation and Contribution*

- Donations of cash and/or gifts-in-kind.
- Time given to/spent on project activities.
- Local material/land and goods (resources) donated.
- Labor contributed.
- Project management, supervision, and evaluation.
- Project ownership/collective responsibility through increased awareness and demand for health delivery services including attendance at health clinics.
- Efficient voluntary health services, education, and provision of counseling by VHCs, CHWs, TBAs, and CMS.
- Cost-sharing in community training.
- Community-initiated CBHC and other health-related activities.
- Solidarity between the community and WV in the perception of project goals and objectives.

To date, the overall contribution (when transferred into monetary value) is approximately US\$175,000.

b. *Government of Kenya/MOH Involvement*

- Technical planning and supervision by the District Health Management Team.
- Staff deployment and management of the dispensaries, including provision of supplies and equipment.
- Renovation, equipment, and effective management of static health facilities within the project area.
- Collaborative training of project and MOH staff in TOT, dispensary management, creation of AIDS awareness, prevention, and control.
- Involvement of field health educators and FP counselors.
- Contribution of pledged cash.
- Cooperation as indicated by letters of support and/or assistance.

c. *Involvement of Intersectoral Ministries*

- Development of technical extension offices in the project area.
- Pre-extension and extension training in improved agriculture and livestock husbandry.
- Training in afforestation and agroforestry.

- Collaboration in protection of water resources.
- Promotion of IGAs.
- Development of kitchen gardens.
- Formal and informal education, including adult literacy classes.

d. ***Other NGO Involvement***

- Other CBHC and/or immunization programs in the area.

E2. WV has documented the following changes concerning sustainability based on the indicators listed in E1:

a. ***Community Participation and Contribution***

- The community has contributed towards the construction of the dispensary and has employed a night watchman to guard it. The community had also earlier hired an additional watchman to guard a water pump and generator at the spring. Since then, a solar system has replaced this equipment and there is no longer a need for the community to employ this watchman. (He has, however, subsequently been redeployed as a salaried worker by the project.) Furthermore, the community has contributed 20 acres of land for the dispensary site.

The number of trained volunteers who have been actively involved in project activities includes 148 CHWs, 155 TBAs, and 137 Village Health and Management Committees members. These volunteers, on an average, contribute two hours per week. In addition to these volunteers, there are 50 religious leaders, 45 other community leaders, 29 women's group leaders (the groups are comprised of about 8,000 women in all), and 135 local school children trained and assisted in community health education.

- Community participation in project management, supervision, and evaluation is in the form of regular monitoring activities. The VHCs meet monthly and the CMC meets quarterly. Yearly community-wide meetings are conducted for evaluation of project activities and accomplishments. In addition to these activities, one of the express responsibilities of the VHC is to supervise the work of the CHWs and TBAs and to keep them active, motivated, and involved.
- Initially, community training was institutionalized and all training costs were borne by WVCSP. Presently, however, community training is done within the community at sites organized by the community members themselves, and costs are shared in a variety of ways. Members may contribute cash, food or labor—by bringing firewood, preparing food, etc. (undocumented).

- Since the inception of the project, a vast number of CBHC and other health-related activities have been initiated by the community, including the use of school children to assist illiterate TBAs by recording delivery activities. Women's groups have also been involved in encouraging members of the community by instructing the community at large on farming techniques, health-related matters, initiating kitchen gardens or farms, making household and environmental improvements, building schools, etc. Due to the nature of these activities and the fact that they are community-initiated, most remain undocumented. Several changes within households, which hopefully will result in improved health, have been documented. These include five percent of households in the division which have constructed and are using pit latrines, 30 percent of which have dug and are using garbage pits; 30 percent have made dish racks for drying dishes; and 30 percent have put up clothes lines. All of these are entirely new initiatives which have only begun since the project's inception.
- Only partly documented, but highly significant, is the community's commitment to the project and the degree to which it is investing in sustainability of project benefits. The community's pledge to continue to provide, as necessary, cash contributions and labor, and to make further donations of land for the construction of dispensaries for the expansion of the Namelok dispensary/staff housing scheme, etc., are some of the model examples of the community's endeavors to foster their own development.

b. GOK MOH Involvement

- The District Health Management Team is actively involved in supervising dispensary activities and observing project activities through periodic visits and has also been regularly involved in the annual evaluations of the project.
- A new dispensary has been built at Namelok since the initiation of the project, and is now fully equipped with a cold chain system and is supplied regularly with EPI vaccines. Other drugs and supplies are provided by the MOH. It is presently managed by MOH staff, including two enrolled nurses, a public health technician, and one attendant. The other dispensaries in the division are also staffed with and managed by MOH personnel and supplied by the MOH with drugs and medical supplies. The Namelok dispensary is the only one with a cold chain capacity or adequately equipped to carry out immunizations.
- Renovation and full equipment of the other dispensaries has not yet occurred although a physical assessment of the structural status, equipment available, and services provided have been carried out in preparation for the renovation and equipment to be done in the extension period.
- The District Commissioner, the Director of Medical Services, and the Ministry of Finance have facilitated duty and tax exemption on imported

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equipment. WV has also received letters supporting its efforts to continue implementing current CSP activities and to coordinate NGOs in the district.

Involvement of Intersectoral Ministries

- The Ministries of Agriculture, Livestock Development, Natural Resources, Water Development, and Culture and Social Services all have offices based in Loitokitok.
- The various Ministries' extension officers and assistant officers have become increasingly involved in promoting community development in a wide variety of sectors (in close collaboration with WV)
- Numerous IGAs have been initiated since the project began, many of which involve the farming of cash crops, significant due to the pastoralist tradition of the community members. The Ministry of Culture and Social Services has registered the formation of 22 women's groups, most of which are involved in IGAs, and WV has actively assisted nine of these with management training and/or financial assistance.

d. *Other NGO Involvement*

CBHC and/or immunization programs in the area by other NGOs (as described in Section D) have been sustained throughout the period of WV's CSP activities.

E3. The following are the in-country agencies who worked with WVK on the development and implementation of:

Midterm Evaluation:

- World Neighbors
- University of Nairobi

Final Evaluation:

- African Medical and Research Foundation (AMREF)
- UNICEF (Africa Region)
- University of Nairobi

F. CALCULATION OF RECURRENT COSTS (as of August 1991)

F1. DIP Planned expenditures versus Project End Actual Expenditures (A comparison).

It is important to note that the DIP planned expenditures on the project life span underwent necessary budget revisions during the course of project implementation as contained in the relevant annual operating budget plans (PIM). Despite overall project life span budget revision, some categories are still at variance with the budget.

These expense categories included: (1) Repairs and maintenance, building and equipment, Account 850; (2) Communications, Account 860; (3) Consultancy, Account 870; (4) Capital Expenditure, Account 880; and (5) Nutrition, Account 910.

These variations are attributed to: (1) the pro/CSP received extra special funding; (2) variation in costs of capital goods and services due to inflation; (3) the project has not secured communication equipment to date; however, plans are underway to procure radio communication equipment for the project; and (4) procurement of project vehicles has been delayed by bureaucratic protocol encountered during the process of securing duty, sales tax exemptions, and clearance from the government.

F2. N/A at the moment since the pro/CSP has secured extension funding for the next three fiscal years through 1994. The extension funding has been granted by USAID (Kenya), and matching funding by WVRD has been negotiated.

F3. CSP recurrent costs are calculated based on such fluctuating factors as:

- Repairs and maintenance costs of capital goods and services.
- Market value of labor and skilled human resources (local).
- Cost of living indicator.
- Insurance market values and rates of capital goods and human resource.
- Inflation and recession.
- Depreciation factors.

F4. During the three year CSP extension period, it is estimated that the project will need a minimum of US\$370,000 to cover recurrent costs. This amount is quite reasonable and probably on the lower side since it does not include contributions received in cash and kind from the beneficiary community, the government, and other collaborating NGOs. The CSP is located in one of the arid and semi-arid districts of Kenya covering more than 300 kilometers of difficult terrain. The area is at least developed in terms of the most basic social amenities and general development infrastructure. Furthermore, the project covers the entire Loitokitok division that spans over 5,276 kms, and a thriving population of about 80,000 people.

F5. Costs not likely to be sustainable include:

- Operational costs of mobile clinics in terms of field staff allowances, repairs, and maintenance of mobile unit vehicles.
- MCP/FP, i.e., EPI, ANC/FP, and curative services are provided free by the government/MOH unless privatized. However, the Loitokitok CSP is a Community-Based Health Care Program with strong support from the government and MOH.
- CSP overhead costs attributable to technical staff employed by the project.

G. COST-RECOVERY ATTEMPTS

G1. Cost reduction strategies to make the project more viable include:

- **Cost-sharing with the local beneficiary communities, government/MOH, sectoral ministries, and collaborating health sector NGOs in PHC delivery and general development.**
- **Utilization of local (natural) human resources.**
- **Technical supervision by government/MOH staff and other sectoral departments benefiting.**
- **Community volunteerism in ensuring community involvement, mobilization, and participation.**

G2. Arising from the above cost-reduction strategies, the following specific cost-recovery, sharing, and/or reduction mechanisms were implemented:

- **Community contributions in cash and GIK now exceeds US\$175,000. These are primarily in the form of land (>20 acres) for the dispensary site, labor/cash donations, management and supervision through a Central Health Committee, and 12 "volunteer staff," 148 trained CHWs, 155 trained TBAs, 137 trained VHC members, and 15 CMs and social workers.**

NB: The community's leadership and the public have expressed their readiness—in addition to willingness to contribute cash—to donate more land and labor as their contribution towards restoration and equipment of MOH dispensaries in the division.

- **The government/MOH and other health sector NGOs.**
- **The MOH staff manning the Namelok dispensary (two enrolled Community Nurses, one attendant, and one Public Health Technician).**
- **The MOH supplying vaccines, drugs, and equipment for the dispensary.**
- **The government/MOH has pledged cash and technical supervision towards the planned renovation and equipment with cold chain systems of five dispensaries. This includes construction of staff houses as well.**
- **The MOH sponsored MCH/FP/CS training for project staff and the community—the latter through Field Health Workers.**

NB: It is anticipated that by strengthening the MOH position through renovation and equipment with cold chain systems of five existing MOH dispensaries and relevant CBHC training for staff, the MOH will be able to assume 70 percent PHC service delivery in the Loitokitok division by phase out time.

- Health Sector NGOs—namely the Catholic Mission, the Pentecostal Mission, and the CPK Church are already involved in sharing the burden of PHC service delivery along with WV CSP in the division. A joint forum under the auspices of the district MOH in-charge, has been established to address PHC sustainability issues and appropriate Sustainability Action Plans have been drawn and are being implemented for long-term benefits to the community.
 - Government Technical Extension Officers from the Ministries of Agriculture, Livestock, and Water Development are actively involved in community extension training for food production, women's group IGAs, spring protection, and general environmental conservation.
- G3. Cost-sharing and/or recovery mechanisms were implemented and managed through the joint efforts of the Central Management Committee, Village Health and Development Committees, health staff, collaborating health sector NGOs, the government/MOH, and other sectoral ministries, most of these contributing in cash and kind. Opportunity costs (gains) and contributions in-kind were calculated and incorporated into the project budget as additional funding from the community, government, and collaborating NGOs. Where project health staff were involved in direct management and supervision of such initiatives, it cost the project time in terms of awareness creation, mobilization, and networking. Nonetheless, it was a worthwhile effort since collaboration and cooperation are some of the major building blocks of CSP sustainability and community ownership. This effort by health staff (mainly management and administrative) did not have any adverse effect in the routine community health services delivery as it is an integral part of it. Project ownership by the community and responsibility sharing between collaborating partners have greatly been enhanced.**
- G.4 Rather than the cost-recovery per sector, the above efforts contributed additional funds (over and above the funds received for the CSP life span from USAID and WVRD) to the tune of US\$141,212 or 19 percent of the total project budget. Indeed, enough extra funds in cash and kind were generated towards the CSP to justify the effort and funds used to implement the mechanisms.**
- G5. CSP cost-recover/sharing activities in general have experience unparalleled success among the nomadic people—the Maasai. This is more so since past CBHC activity and development efforts by health sector NGOs in the division have tended to be dole-out types with passive community recipients. A strong sense of project ownership and commitment to accountability and good stewardship has been generated within the community and among collaborating agencies. The Namelok CSP pilot area experienced some difficulties in persuading volunteer CHWs and TBAs to agree to cost-share towards the fees of their subsequent training. This was because in the beginning of the CSP program in 1987/1988, the project bore the full costs of such activities. However, through dialogue, this attitude has changed recently and the above volunteer trainees are sharing the costs of their training just as their colleagues from other parts of the division are.**

G6. No. The result has been a better understanding of roles and responsibilities between the pro/CSP versus the government MOH, the community, and health sector NGOs. The effort (cost-recovery/sharing activities) has created a significant positive image and impact in affirming project community ownership and shared responsibility in PHC service delivery between collaborating agencies.

H. INCOME GENERATION

H1. Yes, but a very limited degree. This was in farming, guest house, car hire (ambulance services), staff house pesticides, and sales of farm produce from the demonstration garden. From the project inception to date, income amounting to US\$2,799.12 has been realized.

H2. The above revenue has not been ploughed back into the cost of health activities because of the last four years of CSP implementation. Furthermore, they were piloting IGAs, notwithstanding the lack of a formal agreement between PVO/CSP with funding agencies (USAID and WVRD) to dedicate any funds to IGAs.

H3. Reasons given in H2 above explain the modest performance of project enhancing IGA.

H4. N/A. CSP has not levied any costs to PHC services delivered to beneficiaries since by government legislated policy, the current CSP service interventions are freely rendered to meet the "Health for All" strategy by the year 2,000.

WORLD VISION RELIEF & DEVELOPMENT

**PART III
END-OF-PROJECT PIPELINE ANALYSIS
LOITOKITOK CHILD SURVIVAL PROJECT**

September 1991

1991 ANNUAL REPORT FORM A: COUNTRY PROJECT PIPELINE ANALYSIS
W.V.R.D./KENYA LOITOKITOK CHILD SURVIVAL PROJECT
#OTR-0527-A-00-7216-00

FIELD	Actual Expenditures To Date (10/01/87 to 9/30/91)			Projected Expenditures Against Remaining Obligated Funds (10/01/87 to 9/30/91)			Total Agreement Budget (Columns 1 & 2) (10/01/87 to 9/30/91)		
	A.I.D.	W.V.R.D.	TOTAL	A.I.D.	W.V.R.D.	TOTAL	A.I.D.	W.V.R.D.	TOTAL
COST ELEMENTS									
I. PROCUREMENT									
A. Supplies	68,929	13,460	82,389	(54,929)	22,624	(32,305)	14,000	36,084	50,084
B. Equipment	23,358	279,902	303,260	38,715	(148,270)	(109,555)	62,073	131,632	193,705
C. Services/Consultants	30,360	1,189	31,548	33,642	36,790	70,432	64,002	37,978	101,980
SUB-TOTAL I	122,647	294,551	417,197	17,428	(68,857)	(71,429)	140,075	205,694	345,769
II. EVALUATION/SUB-TOTAL II	0	0	0	0	0	0	0	0	0
III. INDIRECT COSTS									
(%)	33,810	6,182	39,992	0	(6,182)	(6,182)	33,810	0	33,810
SUB-TOTAL III	33,810	6,182	39,992	0	(6,182)	(6,182)	33,810	0	33,810
IV. OTHER PROGRAM COSTS									
A. Personnel	148,953	74,782	223,735	846	696	1,542	149,799	75,478	225,277
B. Travel/Per diem	56,407	69,053	125,460	(14,326)	(19,053)	(33,379)	42,081	50,000	92,081
C. Other Direct Costs	47,653	41,588	89,241	(3,948)	27,412	23,464	43,705	69,000	112,705
SUB-TOTAL IV	253,013	185,423	438,436	(17,428)	9,055	(8,373)	235,585	194,478	430,063
TOTAL FIELD	409,470	486,156	895,625	0	(85,984)	(85,984)	409,470	400,172	809,642

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BASELINE SURVEY QUESTIONNAIRE

Household Ser. Number ----- Date -----
Name of Household Head ----- Sub. Location -----
Name of Interviewer ----- Village -----
Name of Head of household.-----

-----**
PART I: DEMOGRAPHIC DATA

2. Residence in the study area:
1=Permanent, 2=Temporary
3. Number of household members |__|__|
4. Ethnicity of Head of Household
1= Maasai
2= Other(specify): _____
5. Religion of Head of Household:-
1= Catholic
2= Protestant
3= Muslim
4= Traditionist
5= Other (specify): _____
6. Has there been any live births in this Household
in the last one year?
1= YES
2= NO
- How Many? |__|__|
7. Have you had any deaths in the household in the past one year?
1 = Yes 2= No |__|
- If YES: How many |__|__|
- (If no go to question 14)

8. Fill in the table below for all deaths in the household:-

Age group	Number of deaths LAST one YEAR.
At Birth	
Before one year.	
1-5	
6-15	
15+	

SOCIO-ECONOMIC STATUS

9. Number of Livestock, if any, owned by your Household:-
(Indicate the number)

- 1= Cattle |__|__|
- 2= Sheep |__|__|
- 3= Chicken |__|__|
- 4= Goats |__|__|
- 5= Donkeys |__|__|
- 6= Other (specify): ____|__|__|
- 7= None (tick) |__|

10. What type of food crops do you grow, if any ?
(Code: 1= Yes, 2= No)

- 1= Maize
- 2= Bananas
- 3= Beans
- 4= Vegetables
- 5= Potatoes
- 6= None
- 7= Other (specify): _____

11. What Cash crops do you grow, if any ?

- 1. _____
- 2. _____
- 3. _____
- 4. _____

12. What is your main source of income ?
(Code: 1= Yes, 2= No)

- 1= Livestock
- 2= Crops
- 3= Business
- 4= Salary
- 5= Other (specify): _____
- 6= None

PART II : WATER AND SANITATION

13. Where do you get your water for the household use ?
(Code: 1= Yes, 2= No)

- 1= River/Stream
- 2= Well/Borehole
- 3= Pond/Dam
- 4= Spring
- 5= Tap
- 6= roof catchment
- 7= Other (specify) _____

14. Do you boil your drinking water ?
(Code: 1= Yes, 2= No)

15. Do you have boiled water for drinking the house NOW?
(1= Yes 2= No)

16. Approximately how many debes of water did you use in
the house YESTERDAY? _____debes

17. Approximately how long does it take you to go and bring
water home? _____ Minutes.

18. Do you have a latrine for the Household?
(Interviewer, please observe)

- 1= Present and used
- 2= Present but not used
- 3= Absent

PART III: MORBIDITY FOR THE UNDERFIVES

19. Please find out for each child in the Household if he/she has contracted any of the listed diseases (table 3.1) for the last one month.
20. What action did you take to solve the problem? (please fill for three diseases which were experienced latest)

Disease	action taken
_____	_____
_____	_____
_____	_____

21. Did any child (less than 5 years) in this Household suffered from measles LAST YEAR?
(Code: 1= Yes, 2= No)

22. Has any of your children had diarrhoea in the past TWO weeks?
(Code: 1= YES, 2= NO)

23. What do you think causes diarrhoea ?

1. _____
2. _____
3. _____
4. _____

24. How do you normally treat diarrhoea ?

1. _____
2. _____
3. _____
4. _____

25. Do you know what Oral Rehydration is ?
(Code: 1= YES, 2= NO)

26. If yes, do you know how to prepare Oral Rehydration Solution ?
(Code: 1= YES, 2= NO) |___|

27. Could you please explain to me how you prepare the solution?
(1. Correctly described 2. Incorrectly described) |___|

28. Where did you learn how to prepare the solution? |___|

- Codes: 1=Local Health Centre
2=Health Centre Outside the Location
(specify; _____)
3=from a friend
4=CHW
5=Mobile clinic (WVK)
6=Other (specify _____).

29. Did you use ORS the last time when Your youngest child had diarrhoea? (1=yes 2=no) |___|

PART IV MATERNAL AND CHILD HEALTH (MCH)

INSTRUCTION; fill this part for women in the child bearing age in the household.

30. Name of Woman. _____

31. Age in years.....|___|___|

32. Marital status of the respondent |___|

- 1. Married
- 2. Single
- 3. Separated
- 4. Polygamist
- 5. Widowed

33. No of years of schooling |___|

34. How many children have you had in the last five years? |___|

INSTRUCTION; Questions 35-43 apply to the last delivery.

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35. Did you attend any antenatal care clinic (ANC) during the last pregnancy? (1= Yes, 2. No) |___|

If NO then 35b)
39. Why not?

1. _____
2. _____
3. _____

36. Where did you go for the Antenatal Care clinical services?
1. Hospital
2. Health Centre/Dispensary
3. Traditional birth attendant/CHW
4. Mobile Clinic (WVI)
4. Other (specify) _____ |___|

37. Did you receive any tetanus-Toxoid (TT) injections at the ANC clinic? (1= Yes, 2. No, 3. Don't know) |___|

38. What was the number of TT injections you received? |___|

41. Where was your last child delivered?
1. Hospital 2. Health Centre
3. At home 4. Other (specify) _____

42. (If at Home) Who assisted you at delivery?
1. Traditional birth attendant (UNTRAINED)
2. Traditional Birth Attendant (TRAINED)
3. Friend/relative
4. Husband
5. No one |___|
6. Other (specify) _____

43. Assess the Immunization status of children under five years of age in the household (by confirming with the child's clinic card) and fill table 4.1

44. Have You Received Any Services from Trained CHW? (1=YES 2=NO) |___|

45. When did You Receive the Last Services? _____

46. What Kind of Services did you receive?

47. If the Clinic SERVICES were CHARGED how much would you be
ABLE to pay per visit?
_____ (AMOUNT)

PART V: NUTRITION

INSTRUCTION: Fill this part of the questionnaire for every woman aged 15-49 years who has child(ren) under the age of five years.

48. Name: _____
49. Estimated age in years _____
50. Is there any type of food that you don't eat when you are pregnant ? (If No, go to question 48)
(Code: 1= Yes, 2= No) _____

51. Which type of food don't you eat when you are pregnant ? Why don't you eat these foods?

Food	Reason
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____

52. Which type of food don't you give to children ? Why don't you give the food to the young child?
food Reason

1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____

53. Is your last born child still breast-feeding ?
(Code: 1= Yes, 2= No) _____

UB

54. If yes) How soon after birth did you put the youngest child to the breast? |__|

- | | |
|-----------------------|-------------------------|
| 1. Immediately | 2. Within 3-6 hrs |
| 3. Within 6-12 hrs. | 4. Within 12-24 hrs |
| 5. Later than 24 hrs. | 6. Other (specify_____) |
| 8. NO answer | 9. Can not remember |

55. For how many months had the older(previous) child breastfed? |__|

56. Why did you stop breast-feeding the child? |__|

- | | |
|----------------------|-----------------------------------|
| 1. Next Pregnancy | 2. New birth |
| 3. Mother became ill | 4. Child became ill |
| 5. Child too old | 6. In order to wean |
| 7. Child refused | 8. NA 9. DNK |

57. How did you stop breast-feeding the child? |__|

1. abruptly
2. gradually

58. Have you started giving your child any other food other than breast milk?
 1=yes 2=no |__|

59. (If yes) At what age (in months) did you start giving did you him/her other foods

Age in months	Liquid (specify)	Method used to feed the child
_____	_____	_____
_____	_____	_____
_____	_____	_____

Codes for Method used;

1. Bottle
3. Hands
8. NA

2. Cup and Spoon
5. Other_____

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60. Assess the Nutritional Status of each child under the age of 5 years in the Household by filling table 5.1; (both weight and height/length)

Name of the child	Sex 1. M 2. F	Age in Months	Weight (+/- 0.1 Kg.)	Oedema 1. Present 2. Absent	Growth Monitoring. 1. good 2. fair 3. poor
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----

PART VI: FAMILY PLANNING

INSTRUCTION: Fill this part of the questionnaire for every woman aged 15-49 years in the Household.

61. Estimated age in years: _____
62. Marital Status:
 1= Married
 2= Single
 3= Widowed
 4= Separated
63. Years of schooling of the respondent.
64. Are you using any family planning method currently? (Code: 1= Yes 2=No)
 (If Yes go to question 66)
65. (If NO) Would you like to use any method of Family Planning?
 1. Yes 2. No
 (If YES, go to question 68a)
 If NO, go 65b)

65b. Why don't you want to use FP methods

- 1= Spouse refusal
- 2= Wants more children
- 3= Fears of side effects
- 4= Prohibited by religion/culture
- 8= Other (specify) _____

66. Which method of family planning are using currently ?

- 1= Natural method
- 2= Pills
- 3= Barrier (diaphragm, condom)
- 4= IUD
- 5= Injectables (depo-provera)
- 6= Don't Know
- 7= Other (specify): _____

67. From where do you get your supply of contraceptives ?

- 1= Clinic/Hospital
- 2= Community Health Worker (CHW)
- 3= Other (specify): _____

68a. Why don't you use any of the family planning methods ?

- 1= Not allowed by spouse
- 2= Wants more children
- 3= Fears side effects
- 4= Prohibited by religion, culture etc.
- 5= Not aware of them
- 6= Non Accessibility
- 7= pregnant
- 8= Other (specify): _____

69. ASK the What duration the youngest 2 were Spaced (at birth)

70. WHAT DO YOU THINK OF THE WORLD VISION PROJECT IN THE AREA?

71. HOW CAN IT BE IMPROVED?

TABLES

Table A1. Distribution of Types of Food Crops Grown by Households

Foods	Households	
	n	%
Maize	488	33.6
Beans	454	31.3
Onions	235	16.2
Tomatoes	271	18.7
Potatoes	78	5.4

Table A2. Complete Immunization of different vaccines among under-fives.

Age (months)	BCG		DPT		PVO		Measles		ALL	
	n	%	n	%	n	%	n	%	n	%
12-23	416	95.2	373	85.4	370	84.7	343	78.5	325	74.4
24-35	387	91.3	351	82.8	354	83.5	348	82.1	327	77.1
>36	580	92.2	551	87.6	550	87.4	547	87.0	527	83.3
ALL	1383	92.8	1275	85.6	1274	85.5	1238	83.1	1176	78.4

Table A3. Distribution of Women Receiving full schedule of tetanus toxoid prior to previous pregnancy by Age.

Age(years)	n	%
< 20	132	60.8
20-30	569	59.0
30+	141	52.6
Total	842	58.1

(3)

Table A4. Nutritional Status by Age

Age (months)	Weight-for-Age						total
	< 60		60-80		>80		
	n	%	n	%	n	%	
<12	17	3.1	100	18.5	424	78.4	541
12-23	8	1.8	147	33.2	288	65.0	443
24-35	7	1.7	111	26.4	302	71.9	420
>36	16	2.4	218	33.4	419	64.2	653
ALL	48	2.3	576	28.0	1433	69.7	2057

Proportion of children below; 80% W/A 30.3%

Table A5. Growth Monitoring Attendance by Age.

Age(months)	growth monitoring rating					
	Good		Fair		Poor	
	n	%	n	%	n	%
< 12	268	49.6	151	27.9	122	22.5
12-23	166	38.2	175	40.3	93	21.4
24-35	122	28.8	169	39.9	133	31.4
> 36	155	25.1	239	38.7	223	36.1
All	712	35.3	734	36.4	571	28.3

Table A6. Source of Contraceptives

Source	n	Mothers %
Clinic/Hospital	58	4.0
Community Health Worker	---	0.0
Mobile clinic	29	0.2
Not specified	46	3.2
Other *	38	2.6
Total	146	10.0

* Include; Friends, Buying.

Table A7. Summary of Chosen Characteristics For Mid-Term and Final Evaluations.

Characteristic	Mid-Term Level (percentages)	Final Level
Permanent Residence	80.6	83.9
Crude Birth rates (x1000)	57.8	65.5
Crude death rates (x1000)		10.5
Households Boiling drinking water	9.1	8.4
Households with a latrine (and use it)	8.9	11.4
Mothers Know what is ORT	82.7	86.2
Mothers attend ante-natal clinic	64.4	79.9
Children with W/A < 60% of NCHS	4.5 (?)	2.3
Mothers avoiding certain foods during pregnancy	44.0	52.0