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CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) — PART I

Report Symbol U-447

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION/AID/W OFFICE
Kitui Primary Health Care (CODEL)	615-0185	USAID/Kenya

4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 615-83-04

☒ REGULAR EVALUATION ☐ SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
A. First PRO-AG or Equivalent FY 79	B. Final Obligation Expected FY 79	C. Final Input Delivery FY 83	A. Total $ 811,000 B. U.S. $ 413,000	From (month/yr.) August 1981 To (month/yr.) September 1982 Date of Evaluation Review December 8, 1982

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
I. Unresolved Issues:		
A. Lack of sufficient data to analyse morbidity.		
B. Lack of community involvement.		
C. Lack of use of women groups.		
II. Mission Recommendations:		
A. Design Phase II proposal to integrate with Kitui Rural Health Services Project (615-0206) to include:	CODEL	Feb., 1983
1. CODEL will discuss design of Phase II with USAID in an effort to ameleorate shortcomings and to include evaluation findings.	CODEL	
2. Develop community health worker system	CODEL	
3. Explore possibility to include pilot fee for service scheme		
4. Develop appropriate evaluation methodology		

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

- ☐ Project Paper
- ☐ Financial Plan
- ☐ Logical Framework
- ☐ Project Agreement
- ☐ Implementation Plan e.g., CPI Network
- ☐ PIO/T
- ☐ PIO/C
- ☐ PIO/P
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A. ☐ Continue Project Without Change
- B. ☒ Change Project Design ~~XXXXX~~
- ☐ ~~XXXXXXXXXXXXXXXXXXXX~~
- C. ☐ Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

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12. Mission/AID/W Office Director Approval

Signature Barry Riley

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Date

~~Allison B. Herrick, Director~~

AID 1330-15 (3-78)

XD-AAM-72-1

KITUI PRIMARY HEALTH CARE PROJECT

CODEL/CATHOLIC DIOCESE/USAID

FINAL EVALUATION

AUGUST - NOVEMBER 1982

HNP
N MAZINGIRA

KITUI PRIMARY HEALTH CARE PROJECT

CODEL/CATHOLIC DIOCESE/USAID

FINAL EVALUATION

AUGUST - NOVEMBER 1982

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ACKNOWLEDGEMENTS

As the final evaluation team of Phase I of this project, we wish to acknowledge the assistance and hospitality extended to us throughout the evaluation period, by the USAID/Nairobi staff, by CODEL's emissary to Kenya and especially by the entire Kitui project staff. We were able to complete our work efficiently and comfortably due to the consideration given to both our professional and personal needs, particularly in the field.

Our thanks are also offered to our assistants, our driver and our typist without whom we could not have produced our report.

Appreciatively,

Dr. Dan Kaseje

Dr. Edward Mburugu

Ms. Gretchen Bloom.

11/15/82

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ABBREVIATIONS

AMREF	African Medical and Research Foundation.
ANC	Ante-natal Care.
CBHC	Community-Based Health Care.
CBR	Crude Birth Rate.
CHW	Community Health Worker
CODEL	Coordination in Development
CN	Community Nurse
CW	Child Welfare
DMO	District Medical Officer.
DPHN	District Public Health Nurse
FHFE	Family Health Field Educator
FP	Family Planning
GoK	Government of Kenya
HC	Health Center
IMR	Infant Mortality Rate
IRHP	Integrated Rural Health Project
KEPI	Kenya Expanded Immunization Program
MCH	Maternal and Child Health
MOH	Ministry of Health
OPG	Operating Program Grant
PHC	Primary Health Care
PHT	Public Health Technician
PNC	Post-natal Care
PPR	Point Prevalence Rate
PVO	Private Voluntary Organization
RHTC	Rural Health Training Center
RHU	Rural Health Unit
TBA	Traditional Birth Attendant

ABBREVIATIONS

USAID	United States Agency for International Development
VHW	Village Health Worker
WHO	World Health Organization.

KITUI PRIMARY HEALTH CARE PROJECT

CODEL/CATHOLIC DIOCESE/USAID

FINAL EVALUATION 1982

EXECUTIVE SUMMARY

The Catholic Diocese in Kitui District, Kenya, has been operating a mobile clinic primary health care project since 1979 using USAID funds channelled through Coordination in Development (CODEL). The first phase of the project is now nearly completed and the Diocese has asked to have the project refunded for a second three-year phase, for a total cost not to exceed $500,000.

The intent of this evaluation has been to assess the quality of the project in terms of its goals as a final step in the initial phase and to recommend whether the project should be refunded, offering particular suggestions as to second phase implementation and evaluation procedures. In particular, assumability and replicability by the Kenyan Ministry of Health are considered.

Without exception, it is the team's opinion that the child welfare and ante-natal services offered by the four mobile teams have been beneficial to the targeted remote populations of Kitui in terms of actual health improvements and of raised awareness about preventive and promotive health care. The Diocese has operated an efficient and reliable system which has provided excellent immunization coverage, nutritional surveillance, and counselling for pregnant mothers.

Although mobile systems are often discouraged because of their apparent high costs, this project can be shown to be cost-effective because of the extreme efficiency with which it is operated. Thus, the target population is effectively tapped, particularly with reference to

infant immunizations.

Furthermore, the teams have made some impact through health education, although the efforts at creating a permanent legacy in the communities served by involving them in planning, implementing and supporting the services, have lagged behind the project's original goals. Too few community members have been trained as community health workers or upgraded traditional birth attendants. The lag has been the result of unrealistic expectations from the beginning since community sensitization and mobilization takes time.

The mobile team leaders acknowledge their weak points and intend to improve their implementation procedures in the second phase to address these weaknesses.

On the basis of the obvious strengths of the project, the evaluation team recommends refunding, taking cognizance of the weaknesses and suggesting ways to improve upon them. These suggestions simultaneously allow for gradual and cautious integration into the Ministry of Health's proposed Integrated Rural Health Project for Kitui District, a major ten-year project to be funded in part by USAID.

These recommendations include:

1. Maintaining the clinic numbers at 64 (16 per team) but attempting to increase cost-effectiveness through maximizing community coverage.

2. Securing the services of seconded employees from the Ministry of Health, ideally one Public Health Technician and one Community Nurse per team, to allow for greater community outreach.

(3) Emphasizing dialogue with the communities in line with the World Health Organization's Alma Ata Declaration.

(4) Expanding and institutionalizing training efforts for community members, emphasizing training in the community where possible and using the psycho-social method.

(5) Coordinating with other sectors for development projects, perhaps through Locational Development Committees and their subsidiaries.

(6) Continuing semi-annual staff training seminars including Ministry of Health employees whenever possible.

(7) Expanding family planning activities to include men, involve the Ministry's Family Health Field Educators, and increase general exposure to the concepts.

(8) Altering evaluation procedures to stress self-evaluation by the staffs and community diagnosis by the communities to render the data more useable by the project.

(9) Augmenting the semi-annual reports to include suggested additional information.

(10) Allowing the Ministry of Health to assume responsibility for the clinics as soon as possible in a gradual manner without losing the Diocese's participation entirely.

If these recommendations are seriously implemented, Phase II of the project ought to have a more substantial and long-lasting impact on the health status of the remote populations of Kitui.

KITUI PRIMARY HEALTH CARE PROJECT

CODEL/CATHOLIC DIOCESE/USAID

FINAL EVALUATION

I. INTRODUCTION

Early in October, the rains have not yet started in Kitui District in the Eastern Province of Kenya and the days are still hot. Everywhere one senses the desperate lack of water and the threat of famine, for Kitui lies in a semi-arid region where arable land is limited for grazing livestock and cultivation.

And yet the mobile teams operated by the Catholic Diocese for maternal and child health care move out on schedule to their regularized clinic sites in the district. They cannot afford to miss their clinic visits, for the Wakamba women with their children of the designated remote communities will be waiting for them. They have learned that the clinic nurses always come, that they are reliable. This trust is important to the success of the mobile teams.

Two staff nurses, smartly dressed in their uniforms, assemble each team early in the morning in their respective headquarters. They are accompanied on their safaris by four aides per team. At times their team leader, a Sister from the Catholic Mission, accompanies them.

Each landrover loaded with chairs, tables, charts and medicines sets off around 9:00 with its team on an hour-long journey over a bumpy dirt road. Once at the clinic site, whether a vacant church, a school room or a tree, the team quickly sets up its operations. The women begin to gather, comforted with the arrival of the vehicle that the clinic will once again proceed as usual.

Once a small group of women has gathered, the nurses begin their health education talks, offered repeatedly throughout the day as the need arises. Where possible, they also share their knowledge with school children or attempt other forms of community outreach to increase their impact.

Whether at Kathumulani, Mwingi, Yatwa, Kisauni or any of the other sixty sites, the teams divide up their responsibilities. The nurses take turns consulting with mothers about their children or examining pregnant women for potential problems. The aides register new patients, weigh babies, give immunizations and dispense prescriptions. The drivers help out wherever necessary as full members of the teams.

These mobile clinics serve a population which has little or no access to modern health facilities. Even with the clinics, women may walk many kilometers to come to the clinics. Without the clinics the target group of women and children would be unable to attend any kind of child welfare or ante-natal service. This may change with the expansion of government static and mobile facilities in Kitui as part of the Integrated Rural Health Project. Health status in these outlying communities may also improve as community members are trained to work as volunteer community health workers.

II. BACKGROUND OF PROJECT

A. HISTORY OF THE MOBILE CLINIC PROJECT

This mobile clinic project is funded by the United States Agency for International Development (USAID) through Coordination in Development, Incorporated (CODEL), an umbrella private voluntary organization with headquarters in New York. CODEL seeks out church-affiliated projects for funding which meet its stringent criteria of promoting self-help while allowing development. This project resulted from a specific proposal from the Catholic Diocese of Kitui to expand its 1977 pilot mobile clinic effort out of Mutomo Hospital in 1979 to four mobile teams spread throughout the district.

This primary health care program was inspired by the 1972 Ministry of Health Directive on Rural Health Services which emphasized the importance of re-allocating funds toward rural health delivery services and of integrating preventive and promotive aspects of health care with the curative, especially for the "at risk" populations, such as pregnant and lactating mothers and young children.

The mobile clinic format was devised as a means of reaching remote members of the 450,000 population of Kitui District (1979 Census) with little or no access to modern health care. Teams were to be based in four of Kitui's five Divisions: Kimangao in the North, Muthale in the Near North, Nuu (originally Mutito) in the East, and Mutomo in the South. Each team was to serve sixteen sites, one each per day of a four-day week.

The goal of the project was, in the proposer's words:

> ... to achieve an improvement in the quality of life of the community through the attainment of the optimum level of health which the limited resources, culture and the economic development makes possible. What is expected is that some progress will be seen

> in increased numbers of mothers seeking ante-natal and post-natal care, increased numbers coming to the clinics for simple curative services, and initial improvements in preventive health practices related to family nutrition, hygiene and sanitation. From the project it is intended that improved methods of delivering rural health services will be developed.*

In order to reinforce the services offered by the clinics, the teams were expected to extend their outreach into the community through health education in homes and through the training of community members in improved health techniques.

The project was devised with an integral evaluation component in order to assess its achievements toward meeting these goals. Using baseline data as a reference point, the teams were to collect additional data periodically, calling upon university students where necessary. These data, along with external evaluations mid-term through the grant and just prior to its completion, would allow a determination as to the actual impact of the mobile teams.

The project grant of US$413,000 was approved on November 21, 1978 for a duration of three years. By January 1, 1980, all four of the units were fully operational. To date, the clinic visits have been extraordinarily regular; however, the element of community outreach has remained only sporadic.

B. PRIOR EVALUATIONS

Despite the stated importance of evaluation mechanisms, not enough baseline data was gathered at the beginning of the project. A mid-term evaluation, conducted in November 1980 by Professor John Bennett of UNICEF, Nairobi, revealed this lack of reliable data. Bennett also

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* Dr. Marita Malone, Kitui Primary Health Care Project Proposal.

expressed his concern that the primary health care (PHC) project was limited to mobile maternal and child health (MCH) care and was therefore incomplete because of the absence of community involvement. Unfortunately, the evaluator failed to provide systematic tools for improved monitoring; hence, a second evaluation team was brought in in August 1981.

Dr. Rita Morris and Sally Smith, who conducted this second mid-term evaluation, reiterated many of Bennett's recommendations and concurred with him on the project's strong points. They also outlined an internal data-collection system to be used by the teams for one year from July, 1981 through June, 1982 to create accurate baseline data. A random sample of thirty women from each of ten clinic sites from each of the four teams was to be monitored more closely than other beneficiaries for a total sample of 1200. The same size sample was to be drawn from the children at the clinics. An effort would then be made to detect changing attitudes and behaviour resulting from clinic attendance, which might impact upon health.

III. FINAL EVALUATION

A. SCOPE OF WORK

This final evaluation of Phase I has been designed according to the Scope of Work which dictated that "the evaluation team's report shall contain but not be limited to assessments, analyses, findings and recommendations" related to the project's goal and purpose, as follows:

PROJECT GOAL:

The improvement of the quality of life in rural areas through the attainment of an optimum level of health within the constraints of an existing and developing economy and in line with the National Health System.

PROJECT PURPOSE:

The provision of mobile primary health care services to rural areas of Kitui which lacked government or mission medical services.

B. METHODOLOGY

Community members, community leaders, clinic beneficiaries and service providers were sampled and interviewed to determine the impact and appropriateness of the clinic services. Prior evaluations focused almost exclusively on service providers and clinic beneficiaries. Since the goals of the project include extension into the community, it was felt imperative to solicit more general response to the project than that provided by attendees at the clinics.

The methodological tools utilized included a questionnaire administered to 84 households and 130 children under five years at random in four different communities throughout the project area and to 70 clinic respondents. Other more generalized interview schedules

guided the discussions with community leaders, traditional birth attendants (TBA's) and community health workers (CHW's), Ministry of Health (MOH) and other officials, and project staff. (See Annexes).

Additionally, four clinics were observed in three of the four divisions, Mutomo, Muthale, and Nuu, and the mobile teams were interviewed. Records were examined for each of the teams and comparable data for the district at large was obtained from Kitui Headquarters. Finally, the survey designed at the mid-term evaluation was analysed for the relevance of the data collected and the appropriateness of its continued use in Phase II.

(Due to a scheduling conflict, it was impossible to visit a clinic in the fourth area, Kimangao).

IV. DATA ANALYSIS

A. ASSESSMENT OF PROJECT GOAL

Health impact at a community level essentially involves progressive stages including health education, knowledge and awareness of disease causation and prevention, health practices and community involvement in health, and finally, reduced morbidity and mortality. Since the goal of a primary health care project is to promote the capacity of the community to identify their health needs and work out a community-supported primary health care system, it will be important to determine the extent to which the project has given assistance to the communities through health education, participation in health-related activities such as nutrition improvement, training of community health workers, and interaction with community leaders, and other promotive activities to this end.

Through the surveys, selected demographic characteristics of the target communities were tabulated. (See Annexes). The most important findings for the purpose of this analysis are that the household members of women attending the clinics are generally younger than the community average with 32% under 5 compared to 24% and that there are more females in homes than males due to out-migration for employment. The sex ratio is 82 males per loo females. Also, clinic attendees generally have higher education levels than random household respondents especially in Muthale where 69% at the clinics claim education of more than five years while only 19% of the general population have attended school for so long. In Nuu, on the other hand, 91% of all people interviewed had no formal schooling.

1. Reduction in Mortality

The calculation of an accurate infant mortality rate (IMR) in Kitui is difficult due to the absence of a reliable system of birth and death registration. The figures shown below are calculated from the baseline and final evaluation surveys. They compare well with national census figures in which a drop from 120/1000 to 80/1000 has been recorded in ten years (1969-1979) and are therefore a reasonable measure of health improvement.

The baseline surveys conducted by medical students revealed an IMR of 120.2 per 1000 live births in 1976 and 204.7 per 1000 in 1978 while the final evaluation survey showed 113/1000, 89.7/1000 and 75.2/1000 for 1980, 1981 and 1982 respectively. These figures, although they may not be exactly comparable, show a downward trend for infant mortality which can be partly attributed to the project.

The people interviewed in the household survey and in community meetings perceive a reduction in mortality in general and infant mortality in particular. In the 1982 clinic survey no death was recorded for 1982, but three deaths were recorded in 1980, suggesting that mortality could be declining.

In the mid-term survey, very few deaths were reported at birth, although little follow-up was done to record possible maternal or infant deaths. A number of people indicated that infant mortality is declining at a rate that will soon permit people to take family planning more seriously due to the increased survival probability of their children.

2. Reduction in Morbidity

In the absence of reliable baseline statistics, regular collection of morbidity data, and a well-determined denominator, it is impossible to

draw reliable conclusions as to the impact of the mobile clinic project on morbidity.

Hospital data show some general trends of morbidity in the area but these data are inadequate to show the morbidity experience of the community as many sick people do not get to the hospitals. Furthermore, changes in hospital morbidity data may be due to many factors, e.g. accessibility, personnel or hospital resources, and may not correspond to changes within the community.

Point prevalence surveys are another rough measure of morbidity, if done frequently enough with a large and truly random sample. The following table summarizes the point prevalence rates of certain diseases used as indicators of health in three surveys.

Table 1.

Point Prevalence Rates (per 1000) of Indicator Diseases for Children < 5

Disease	Survey / Year		
	Med. Students Survey 1976	Med. Students Survey 1978	Household Survey 1982
Scabies and Fungal Infections	188.5	407	7.8
Chronic Cough (Suspected TB)	296.0	339	129
Eye Infection	128	29	176

Sources: Medical Students Surveys
Household Survey.

(χ^2 = 68.2 >18.467 p = .001 df = 4
The test shows a highly significant difference).

Scabies and chronic cough both show a downward trend but not eye infection. The apparent morbidity reduction may be due at least partly to health education on water use. The reduction in the prevalence of scabies is very significant considering the scarcity of water in the area. The increase in eye infection has no clear explanation.

Nearly all the people interviewed see a marked decline in the incidence of certain diseases, e.g. measles, scabies, eye infections, whooping cough and polio. Most people agree that morbidity reduction of these diseases dates back the last two years, although a few others have observed declines since 1979. Therefore, it is probable that the clinic immunization activities have contributed to the reduced incidence of these diseases.

The diseases that are still active and for which no reduced morbidity has been perceived are coughs and colds, diarrhea, headaches, malaria and child malnutrition due to limited food intake. This is confirmed by the mid-term survey in which the most frequent ailments affecting the sample children were the coughs, cold fevers, and rashes common to children anywhere in the world.

3. Improvement in Health Practices

Health practices in Kitui reflect a combination of influences: cultural practices, the realities of the environment, and, possibly, the impact of health education. Health education has been a goal of the mobile clinic project since its inception as an integral component of total health care aiming at the improvement of health practices.

Health talks are held every clinic day for the mothers and children who attend the clinics. The method intended for use by the project designer was the psycho-social method developed by Paolo Freire in which small groups of individuals interact equally with a group leader expressing

However, instead, a didactic presentation with visual aids is given two or three times to groups ranging from ten to forty women. Thus, each month each team gives talks to between 320 and 1920 women for a total monthly average coverage of 4480 recipients for the entire project.

why Psychos Social worker not working

The topics for the health talks are chosen by the teams with heavy influence from the team leaders. The same topic is given at each clinic site in one area during one month. The following topics were covered in 1981-82:

Home Accidents	Skin Diseases
Nutrition	Personal Hygiene
Diarrhea and Vomiting	Importance of Vaccines
Breast/Bottle Feeding	Treatment of Malaria
Weaning	Importance of MCH Clinics
Anemia in Pregnancy	Measles.

Lectures are also given in schools to pupils and teachers. What information is available on coverage by the clinics is included in the Annexes.

All respondents acknowledge the educative role and contribution of the clinics. Even men in the communities have been made aware of improved health practices through their wives and children. Unfortunately, the contact through the clinics is brief and the impact is thus necessarily limited.

Furthermore, the environmental constraints in Kitui are considerable. For example, some selected indicators of improved health practices are treatment of water for drinking and bathing patterns. However, in Kitui, where a shortage of water is a major problem, data on these

indicators may not reflect the impact of improved knowledge. For example, the fact that only an insignificant minority claim they boil their drinking water, despite probable animal contamination, need not indicate ignorance. (See Annexes for additional data).

Similarly, another major problem in Kitui is the general unavailability of food, especially of the protective class. The staple diet in Kitui is maize, usually made into porridge (uji) or served as ugali. In some areas, beans are a common accompaniment. Together these staples provide adequate carbohydrates, when there is sufficient rain for their growth, and some protein. Milk and eggs are frequently added to this diet, especially amongst the pastoralists. However, when water is low, milk is not very available either since the animals produce very little. In all cases, very few fruits and vegetables are available for local consumption. Thus, even increased awareness of good nutrition may not necessarily allow Kitui residents to make desired improvements in their diets.

Nonetheless, the project has had an apparent impact on the nutritional status of beneficiaries under five as indicated in the following table. Furthermore, the measurement of arm circumferences throughout the year July 1981 - June 1982 in the mid-term survey population showed a general increase in arm circumference, from the first visit to the last, averaging 50% of the children with $\leq$ 13cm. at the first increasing to 79% at the last.

Table 2: Nutritional Status by Weight for Age

(Harvard Standard)

Nutritional Status	Medical Students Surveys 1976 %	Medical Students Surveys 1978 %	Mid-Term Survey 1981-82 %	Child Welfare Cards 1981 %	Child Welfare Cards 1982 %	Final Evaluation (Household Survey) 1982 %
>80	69.8	72.1	74.5	70.1	75.2	64.5
60-80	30.2	27.9	23.7	28.4	23.4	31.4
<60	0	0	1.2	1.6	1.4	4.1

Sources: Medical Students Surveys (1976 and 1978).

Mid-Term Survey (1981-82) and Final Evaluation Household Survey (1982).

(X^2 = 8.32 >7.779 and <9.487 df = 4

Thus the test shows a significance for a p level between .05 and .10.)

In the mid-term survey, mothers were asked about breast feeding and weaning practices. The data shows that 94% of mothers breast feed their children for more than a year while between 70% and 85% of these mothers have added weaning foods by six months. Unfortunately, however, clinic data also showed that nutritional status generally drops by the second year. This may be related to weaning or it may simply indicate self-selection in clinic attendance, after the immunization cycle, of those children with ailments.

Table 3: Nutritional Status by Age (≤ 2 yrs).

Nutritional Status	1st Yr. %	2nd Yr. %
>80	88.5	55.5
60 - 80	5.5	42.4
<60	0.7	2

Source: Master Growth Charts.

Amongst the adult population, there was an apparent slight improvement in diet comparing 1981 and 1982; and for 1982 the nutritional status of clinic attendees was higher than that of the general population although this may be due to other characteristics such as education levels.

Another indicator of improved health practices is latrine presence. Only a few families in Kitui have latrines (15.5%) according to the household survey but there is an apparent increase since 1976 when the student survey revealed only 5% of the people with latrines. Of the women questioned in the mid-term survey, there was no significant increase in the percentage having a latrine at the first and last visits.

When asked about their concepts of disease causation and prevention, for diarrhea, scabies, and malaria, respondents showed a wide range of knowledge, with clinic respondents generally knowing more. For example, 46% of clinic respondents attribute diarrhea to such causes as contaminated food and flies while only 33% of household respondents claim to know causation. Scabies is blamed on dirt, lack of protective foods, and "wind". The proportion aware of the mosquito vector for malaria is only

25% in an area with a high frequency of the disease.

In general, people know more about disease prevention than causation. There are no significant differences between clinic and household respondents.

However, many people indicate incorrect methods, such as vaccinations, attending hospitals, boiling water, and eating clean foods to prevent malaria. The need for more health education is evident. (Additional tables in all these areas are contained in the Annexes).

Finally, family planning is a subject which elicits varied reactions in Kitui, ranging from mirth to apprehension and encompassing confusion and anger. 70% of the respondents interviewed in their households have never heard of family planning. Only half of those who have are familiar with some artificial method. Only one of the respondents acknowledged ever using any of the known methods.

Older woman report that child spacing was a common practice in the old days when an additional child was usually disallowed until the breast-feeding infant was weaned at two years of age. In a polygamous social set-up, this posed no burden on the husband who did not need to abstain from sexual relations. In today's monogamous situation husbands appear less willing to cooperate.

Where cooperation seems present, there is great confusion over the appropriate method, and fear of the consequences. The communities appear perplexed by the dichotomous approach in which the Catholic Church and the Ministry of Health encourage different methods, the former advocating only the natural method with its emphasis on the ovulation method through an affectionate and concerned relationship while the latter stresses the greater ease and protection offered by the range of artificial contraceptives.

Many people, however, including the mobile clinic nurses have no real desire to limit their families until they have at least four to six children. The fertility rate is 8.1 in Kenya and rising, while the national growth rate is 4%, the highest in the world. (This latter is somewhat lower in Kitui District, at 3.03).*

Thus, although the mobile clinic program has done very well in raising MCH coverage in Kitui, the project has not made a very significant impact on health knowledge and practices.

4. Growth of Community Participation

From observations, interviews and reports, there seems to be little community participation in identifying health priorities in the area and in the planning, management and evaluation of the primary health care program. The only recorded community input is in requesting a clinic, offering a building, nominating a few people for training, support from some administrative leaders such as chiefs and sub-chiefs, and at the clinic sites assisting with cleaning the place.

Nonetheless, community members and leaders who have been involved with the clinic appear ready to take the next step. Throughout Phase I they have learned the rationale for the clinics and have accepted the concept of preventive and promotive measures for improved health. Although there is vagueness about the particulars of an expanded community outreach program, through increased training of community members, through greater community cooperation and through home visiting, there is a general willingness to participate in such endeavors. The communities appear to be at a take-off point.

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* Public Health Officer, Kitui.

Several communities indicated the presenee of Locational Development Committees. They are headed by the Chief and composed of Assistant Chiefs, Headmen, and elected representatives from each sub-location. These committees meet as often as weekly, although most convene monthly or quarterly. While they do not focus their attention specifically on health projects, they do encourage support for a variety of harambee projects which indirectly impact upon the health status of the community. Such projects as latrines, schools, roads, dams and other water catchments, tree nurseries, cattle dips, land terracing, cooperative shambas and health facilities were all reported.

Furthermore, these committees may have subsidiaries which reach farther down to the grassroots. For example, the members of one of the villages visited in the Muthale area were eager to participate in health activities in their village. They identified their already existing village development committee of twelve members, two of whom are women, as an appropriate committee to also deal with health matters. However, they are unsure of what they can do.

These committees could easily be tapped for their potential involvement in the clinics and their community outreach. At least two have specifically requested that the clinic teams spend some time with them in a baraza, in Migwani and Tulia.

B. ACHIEVEMENT OF PROJECT PURPOSE

1. Impact on Target Population

The mobile clinics have made major strides toward accomplishing certain goals set out in the initial project document. The teams have located receptive and needy communities in remote areas of Kitui District

and have served them regularly regarding child welfare and immunization coverage for infants and young children and ante-natal care for pregnant mothers. They have attempted to extend their impact over time through the introduction of preventive concepts in health education lectures.

In terms of objectifiable indicators, the teams have established a confidence in the communities regarding health care delivery by appearing at the clinic sites with extraordinary regularity (95%). The protective care encouraged by the teams thus becomes feasible.

Almost without exception, community leaders welcome the presence of the clinics, understand their intended purpose and request even more frequent visits at more sites. It is clear that the mobile teams have established a good reputation and are meeting a felt need.

Many of the health problems identified in Kitui are major ones, such as lack of water and nutrition food supplies, which cannot be rectified by the clinics. Nonetheless, communities express a belief that health has improved through, for example, the lessening of childhood diseases. Unfortunately one can only really measure the immunization completion rate in the absence of contentiously collected morbidity data.

What has definitely been built up among a large percentage of the communities is a recognition of the importance of childhood immunizations. Similarly, there is a general persuasion that mothers and new born infants are healthier as a result of ante-natal visits.

These findings are reinforced by the general survey's information on existing health facilities and their utilization. Most clinic respondents (61.4%) take more than two hours to walk to the clinic. Many (40.1%) would spend 2 to 5 shillings if they took public transport. This suggests that the clinics are perceived to be reliable and effective.

2. Adequacy of Clinic Services

The services provided at the clinic sites are comprehensive and well organized. High technical skills are displayed by all the staff concerned including the drivers. Correct procedures were observed all the time in the examining clients, taking measurements, giving vaccines and maintaining the cold chain. Thus the project appears to meet the expressed demands of the community.

3. Extent of Intersectoral Cooperation

As is customary with most projects and agencies, health activities in Kitui tend to function unilaterally rather than in the ideal multi-disciplinary fashion. However, particularly at the locational level, there are vital signs of multi-sectoral community participation. Most community leaders interviewed indicated the presence of Locational Development Committees in their areas, as described earlier. These multi-purpose development committees at the locational and even sub-locational levels could form a basis for intersectoral involvement. These committees can handle matters of health as part of their functions.

4. Recognition of Women Leaders

Despite repeated statements in the initial project proposal that women's groups were well-formed in Kitui and ready to be tapped for participation in the mobile clinic project, the teams have made only sporadic efforts at fulfilling this project purpose. Rarely have women leaders been asked to participate in joint planning efforts regarding essential health services for their communities. Although verbal pronouncements have been made about the fact that involvement of women, as in training, is an essential adjunct to the clinic set-up, only a

few women have received additional training, whether as up-graded TBA's or CHW's. The attempts which have been made have been universally well received, however, indicating a need for increased commitment to such activities on a more intensive basis in Phase II of the project.

C. EVALUATION OF OUTPUTS

1. Mobile Health Delivery System

The mobile clinics have been very successful in increasing coverage. They are regular and reliable. Only a few clinics have been closed or changed due to poor attendance. There have been some vehicle problems, but, on the whole, the mobile health delivery system offered by this project has been successful.

The main failures in the project have been in the areas of community involvement, health education, baseline surveys, training of villagers in health care, and family planning.

2. Baseline Data Surveys

The original promised baseline surveys were never adequately done, due to a change in project leadership and dependence on medical students. Hence, there have been difficulties assessing the impact of the project on mortality, morbidity and the knowledge, attitudes and behaviour of the people. Now, with the mid-term survey, and this final evaluation household survey, there is some data collected which can serve as baseline data for Phase II of the project.

3. Maternal/Child Health Care and Disease Prevention

The main services being provided in this area are immunizations, ante-natal care, nutritional surveillance and health education.

Immunization coverage reveals rapidly increasing use of this preventive service and the percentage coverage for BCG, polio and DPT is so high that it must have reduced morbidity due to the diseases preventable by these vaccines. Immunization coverage is between 65% and 78% according to the 1982 household survey. This is close to achieving hard immunity and is very good coverage, much better than the national figures. Of those who are immunized, 40% use the mobile clinics, 35% use Mission-run static facilities and 23% attend Ministry of Health static facilities.

Ante-natal coverage by the mobile clinics is also quite high. Of those respondents attending ante-natal clinics, 31% use the mobile services, 21% use Mission-run static facilities and 48% attend Ministry of Health clinics.

Table 4: Utilization of Services by Type of Delivery Point

	Mobile Clinics		Mission Static Clinics		Ministry of Health Clinics		No Answer		Total	
CWC	No.	%	No.	%	No.	%	No.	%	No.	%
	37	39.4	34	36.2	21	22.3	2	2.1	94	100
ANC	33	30.8	22	20.6	52	48.6	-	-	107	100

Source: Household Survey.

The following table shows improvement in all the services since the beginning of the project, particularly in BCG, DPT, and polio coverage. The number of visits per woman per preganancy is still too low, however. Pregnant should be encouraged to visit at least four times and to return for post-natal care.

Table 5: MCH Coverage by Year (in %)

	YEAR			
Service/Immunization	1979	1980	1981	1982
BCG	35	85	74	76.6
DPT	36	99	63	72.6
Polio	37	100	82	75.3
Measles	17	46	41	44.3
Tetanus Toxiod	14	20	19	37.2
ANC				
Coverage	13	32	29	40
Revisits/visits ratio	1.2	1.3	1.6	1.6

Source: Semi-Annual Reports.

Nutritional surveillance of both mothers and children has been undertaken through child weighing and individual conversations about improved diet.

Health education has already been discussed.

4. Promotive and Curative Services

The promotive aspects of the clinics have already been discussed. Since the clinics are designed to be promotive, the curative aspects are deliberately down-played. Of course, no truly sick person is turned away when medicines are available but common non-serious complaints are discouraged.

On the other hand, mothers are urged to bring all sick children aged under 5 to the clinics for diagnosis and treatment. A nurse examines each child, presents medication, and advises the mother on proper care and feeding of her children to avoid illness.

(For a comparison of curative vs. preventive services, consult the table in the Annexes).

5. Training and Instruction for Women's Groups

As indicated earlier, the project has made only beginning efforts at training women in the communities, whether upgrading the skills of recognized traditional birth attendants or creating a cadre of community health workers. The teams acknowledge this lacuna and insist they will make renewed efforts in a second phase. These efforts will be greatly facilitated by the requested presence of seconded Ministry of Health employees.

The training undertaken to date has largely been residential in the team headquarters, spanning two days to three weeks. Many of the shorter sessions have been followed up with additional training for the same individuals. The course curriculum has ranged from being simple and participant-determined to being quite elaborate. For example, the courses offered in Mutomo by the seconded Public Health Technician included discussions on water supplies, refuse disposal, latrines, rodent control, food storage, personal hygiene, insect vectors, communicable diseases, midwifery and maternal and child care. A short examination was given at the end with results ranging from 70% to 90% correct.

There are few returns so far from the workers who have been trained. Follow-up of these workers is also difficult due to a shortage of staff. The TBA's, however, appear to have been the most receptive to skill upgrading. They are accustomed to handling the health problems of women in the community and appear to welcome the opportunity to add to their knowledge. Those interviewed indicated that they received no cash remuneration for their services and only occasionally payment in kind. Hence, they may be considered a precedent for emulation in inaugurating the planned MoH program for training volunteer CHW's.

A detailed account of the specific training undertaken by the teams is given in the Annexes.

6. Training for Community Leaders

There has been virtually no training of community leaders. Instead, there has been contact with the community leaders in order to arrange for clinic sites and dates. Many community leaders would appear

to welcome barazas or other forms of additional support, according to their interviews. Where specific requests have been made (e.g. in Migwani and Tulia) the teams should make a point of arranging for follow-up.

D. SUITABILITY OF PROJECT INPUTS

1. Personnel

Each clinic team is composed of one team leader, two staff nurses, four aides and a driver. In Mutumo two of the aides are replaced on a rotational basis by student nurses from the Mutomo Hospital School of Nursing. One team also has a Public Health Technician, seconded by the Ministry of Health. The team leader in every case is an expatriate, mostly Irish Sisters from Catholic orders. The remaining staff is Kenyan. All but the drivers and the Mutomo PHT are female.

The team leaders are exceptionally well-motivated, conscientious and enthusiastic about the project. They are diligent and perservering, determined to adhere to the established schedule despite occasionally overwhelming odds. These positive qualities add a unique and essential dimension to the project but also make it virtually impossible in a government system.

The staff nurses, trained as Enrolled Midwives, in most cases are skilled in their tasks and personable with their patients. Some are particularly enthusiastic about their roles as educators. Despite their current interest in the project, however, none proposes to make it a career. Their terms of service range from a few months to two years, the maximum. The team leaders are trying to encourage a minimum commitment of one year from now on.

The aides are often local girls who have a greater stake in remaining in the community. Thus, their longevity of service tends to be greater. Furthermore, despite their minimal training, or perhaps because of it, they often seem to proceed with greater endurance and enthusiasm.

The student nurses in Mutomo serve twice monthly on a rotational basis. Not all of them are good; but all of them are thus exposed to the principles of community health. Those that show themselves to be qualified, serious and gifted are usually selected for subsequent full-time service. With this nursing school the project is assured of having staff readily available.

The drivers on all teams are full members of the teams. They participate as needed, weighing babies, registering mothers, and assisting with other tasks. They are generally the longest serving team members. As drivers they must contend with the hardships of rugged roads and are expected to keep their vehicle in condition for the rigorous safaris. These tasks they perform cheerfully.

This staffing pattern has been adequate for the provision of minimal clinic services but it has not allowed for the establishment of a community-based system. The [illegible]conded PHT and CN per team planned for in Phase II, if achieved, would enhance the required inputs towards achieving the project purpose.

2. Equipment

Drugs are the main item of equipment purchased with the project budget. Drugs are purchased by the team leaders on a quarterly basis from central stores in Nairobi, usually when the vehicle is being serviced. There are no reported instances of drug pilferage a problem

frequently associated with government facilities. Supplies have been regular and adequate, as confirmed by inspection at the clinics.

Other equipment includes office supplies, consumables, furniture and so on for which the budget has been adequate.

3. Vehicle Operation and Maintenance

The project is equiped with three Landrovers paid for by USAID funds and a Datsun built-up pickup. The Landrovers have been with the project since the beginning. A fourth older Landrover was replaced in June 1982 by the Datsun, a cheaper vehicle, lacking four-wheel drive, by separate funds collected by CODEL especially for the purpose. (It is the unanimous opinion of the Mutomo team, which uses it, that it is not a satisfactory vehicle for the Kitui roads. It is not dependable; it is not sufficiently durable; and it is doubtful whether it will be able to navigate the roads in the rainy season without four-wheel drive).

The supervisor utilizes a vehicle borrowed either from the Diocese or the hospital. Petrol money comes from the project budget.

The longevity of a Landrover is estimated to be about three years; hence, the three older ones will undoubtedly need to be replaced during Phase II. The Datsun also will have to be changed for a Landrover.

4. Travel and Allowances

The clinic staffs generally appreciate their roles and feel they are being justly compensated for their work. The staff nurses receive an additional monthly bonus (Shs.200/=) above their salary (commensurate with Ministry of Health salaries) for their safari work. What they do not have is any ranking in the system due to longevity of work:

application has been made through the Kenya Catholic Secretariat for this privilege.

The major complaint lodged refers to the length of the working day accompanied by the tiring safaris. The average safari taken four days weekly involves travel ranging from thirty minutes to ninety minutes each way over bumpy roads. More important, the teams take no mid-day break. Once they arrive at a clinic site and begin serving their patients, they feel compelled to continue working until all patients have been seen.

The staffs' diligence and willingness is to be commended. They are right to argue that it would be unfair to halt their work when the women waiting have come long distances and themselves have no access to refreshment. Nonetheless, particularly in the hot weather, the nurses and their aides are rendered less effective due to thirst, hunger and fatigue. Once the clinic ends, the staffs are tired and eager to return home when they might be able to contribute additional time toward community work.

5. Local Resources

The vaccines for immunizations are the main item provided locally by non-USAID funds. These are supplied by the Ministry of Health. As with drugs, the supply has been regular and adequate for the most part. Once again, there has been no pilferage due to the project's careful monitoring of supplies.

Additionally the Diocese contributes some staff housing, offices, stores, and per diems for Nairobi stays, amongst others.

6. CODEL Funding Support

In addition to the USAID grant monies channelled through CODEL and the local resource contributions made by the MOH and the Catholic Diocese, as itemized, CODEL has occasionally provided supplementary funds. The new Datsun replacement vehicle, for example, was purchased by supplementary funds generated by CODEL.

E. COST OF SERVICES

Although an excessively quantitative economic analysis is difficult to perform on a so-called "soft" project such as this one in the social sector, an effort will nevertheless be made to determine the costs of the services per beneficiary and to analyze the cost-effectiveness of the project.

The cost assessment must include salaries of personnel, travel and subsistance, depreciation of capital expenditure, administrative and office support, and all materials and supplies used. Effectiveness of the services may be measured in terms of the number of users of all the services provided.

In order for a project like this to be cost-effective, given the coherent expenses involved in operating mobile clinics, the potential target population must be sufficiently tapped.

The potential benefits of this health project include: reduced mortality, especially amongst newborns, infants and young children; decreased time and money spent on care of the sick; fewer absences from school and work; improved attitudes toward child spacing and family limitation; reduced suffering and anxiety; and general improvement in attitudes towards development, both for oneself and for the

community at large. To impute these benefits in monetary terms is at best a difficult exercise, if not a false one, by, for example, attempting to calculate the financial value of the gained work potential through better health, at the current wage for agricultural labor. Hence, the analysis concentrates on cost-effectiveness rather than cost-benefit parameters.

The analysis that follows is based on the costs and activities of a one-year period, July 1, 1981 to June 30, 1982. The first table summarizes the cost of services by team areas and by items of expenditure:

Table 6: Cost of Services (July 1981 - June 1982) : Expenditures (Shs)

Team	Salaries	Transport	Equipment	Health Education	Medical Supplies	Total	Vaccines	New Total
Kimangao	88,932	47,650	86,992	1457.45	16,057.10	152,156.55	6,393	188,775.10
Muthale	88,341.40	33,209.75	4,407.40	4609.70	15,168	145,775.55	7,015.70	182,976.80
Nuu	85,087	51,600.05	3,236.90	1428.55	35,060.75	216,413.25	2,632.40	212,172.70
Mutomo	80,313	57,567.45	2,869.00	19771.20	18,794.10	179,314.75	6,131.75	212,770.55
Total	342,673.40	190,027.25	97,505.30	27266.90	85,079.75	693,620.10	22,172.85	796,695.95

Source: Project Expenditure Records.

N.B. The expenses incurred centrally are divided into four and added to each team's total (Shs.30,225.55).

The next table summarizes the cost of the vaccines used by the teams:

Table 7: Cost of Vaccines (July 81 - June 1982) (KShs)

Vaccine	Cost/Dose	Nuu		Muthale		Kimangao		Mutomo		Total	
		No.	Cost	No.	Cost	No.	Cost	No.	Cost	No.	Cost
Measles	1.80	627	1128.60	1932	3477.60	2000	3599.40	1676	3016.80	6235	11,223
Polio	0.02	2694	53.90	6915	138.30	5291	105.85	6264	125.30	21,164	432.30
DPT	0.28	2878	805.85	6622	1854.20	5276	1477.30	5434	1521.55	20,210	5658.90
BCG	0.27	1325	357.75	3096	836	2315	625.30	2624	708.50	9361	2527.55
Tetanus Toxoid	0.34	842	286.30	2087	709.60	1721	585.15	2234	759.60	6884	2340.60
Total	2.71	8366	2632.40	20,652	7015.70	14,604	6393	18232	6131.75	63,854	22,182.25

Source: MOH Figures and Semi-Annual Reports.

Finally there is a calculation of the number of users (beneficiaries) of the various services:

Table 8: Number of Users (Beneficiaries) (July 81 - June 82)

(1st Visits Only)

Service	Nuu	Muthale	Kimangao	Mutomo	Total
Curative	3,520	6,385	3,636	9,307	22,848
BCG	1,325	3096	2,126	3,525	10,072
ANC (New)	1,587	2,274	1,237	2,686	7,884
Health Education / Seminars	150	458	-	309	917
CHW/TBA Training	23	60	10	4	97
TOTAL	6,605	12,273	7,109	15,831	41,818

Source: Semi-Annual Reports.

On the basis of the preceding figures, the annual cost per beneficiary is calculated by team area and as an average, as follows:

Cost-Effectiveness by Team Areas (Vaccine Cost Included)

Kimangao: $\frac{188,775.10}{7109}$ $\frac{\text{(total costs)}}{\text{(users)}}$ = Shs. 26.55 per beneficiary.

Muthale: $\frac{182,976.80}{12,273}$ = Shs.14.90 per beneficiary.

Nuu: $\frac{212,172.70}{6,605}$ = Shs. 32.10 per beneficiary.

Mutomo $\frac{212,770.55}{15,831}$ = Shs.13.40 per beneficiary.

Total: $\frac{796,695.95}{41,818}$ = Shs. 19.05 per beneficiary

These figures are higher than those calculated by the project staffs in their Semi-Annual Reports. Their figures indicated costs ranging between Shs.5.80 and Shs.13.60 per patient during the project period.

However, the project staff took as their denominator the total number of immunizations plus the number of curative visits. Thus, the cost actually computed was the cost per visit, not the cost per beneficiary, with many beneficiaries having at least one re-visit during the report period. In this report the number of users, limited to first visits in the year wherever possible, is taken as the denominator.

Additionally, the project staffs omitted to add the cost of vaccines in the numerator, a major item of expenditure, because these were supplied by the Ministry of Health. This error was noted by Dr. Morris in the Mid-Term Evaluation. When these errors are corrected, the cost per person is still quite low, at Shs.19.05 per person.

Comparison with Ministry of Health costs indicates that the services provided by the project's mobile team are relatively cheap. Two of Kenya's better Rural Health Training Centers (RHTC), located outside of Kitui, can be taken for comparison. Tiwi RHTC has a calculated cost-effectiveness of Shs.120/00 per person while Maragua RHTC's services cost Shs.43/70 per person because it serves more people. These figures are lower than the budgeted national average of Shs.97/30 per patient based on costs of Shs.5,700,000 to cover 58,000 patients in each center.

Another comparison can be made for immunization coverage only from a typical Rural Health Unit Headquarters (Health Centre), as follows:

Annual Cost of Typical Health Centre (RHU Headquarters)
(With Curative and MCH/FP Services including Immunizations)

Total Cost : Shs.510,000

Immunization Program

Depreciation of vehicles and other Equipment	67,000
Vaccines	34,200
Other supplies	4,080
Administrative costs (20% of total)	102,000
	Shs. 207,280

(Source: Report on KEPI 1978).

If 6000 children are immunized fully, then the cost per fully immunized child is:

$$\text{Shs. } \frac{207,280}{6,000} = \text{Sh. } 35 \text{ per child.}$$

This is a minimum cost as the numbers rarely reach so many.

The mobile teams' cost-effectiveness diminishes considerably when the figures are analyzed more closely, however. For example, because measles coverage and thus completed immunization coverage is fairly low compared with coverage of the earlier childhood immunizations, due to the age at when it is given (after 8 months), the cost per recipient is much higher, as follows: (by team area)

Muthale	Shs. 76/60 per patient
Kimangao	Shs. 79/30 per patient
Mutomo	Shs.132/80 per patient
Nuu	Shs.290/20 per patient.

Another expensive service is health education, calculated to cost Shs.151/20 per person reached. This compares poorly to the Ministry estimates of Shs.37/60 per person contacted. Part of the reason for this ridiculously high figure is the lack of records of the number of people reached by the teams with health education and related activities, however.

If these latter numbers, of village trainees and audiences at health education sessions, are added to the figures for service recipients, the overall cost-effectiveness of the project increases, as the denominator becomes larger. The higher the attendance at clinic sessions, the lower will be the cost per beneficiary.

One way to ensure this is to visit the site with utmost regularity in order that potential beneficiaries can develop a trust in the system, which the clinic teams have done. The second is to extend the clinic's influence into the community, leaving behind a legacy of increased awareness and trained community members, an effort which will need to be emphasized in Phase II of the project.

It can be noted that the MOH will certainly never be able to operate this system as efficiently, with the same dedication and regularity. As a result the mobile clinic costs will increase per user and the user numbers will undoubtedly decrease. It must thus be hoped that, by including seconded MOH employees on the teams to allow greater community outreach, sufficient CHW's can be trained to permit transference of many of the mobile teams' activities onto them. At such time, the mobile teams may be able to reduce their travel.

In conclusion, this primary health care program is cost-effective if administered by the Diocese of Kitui. Under the Ministry of Health, however, it is predicted that the costs per beneficiary will rise to

unacceptable levels because the number of beneficiaries is likely to fall. Thus, the MOH may not be able to afford the project as it is. It may therefore be better to work with the community members to devise a scheme whereby they can meet some of the costs, as is done in several other health projects elsewhere in Kenya. Each user would need to pay only Shs.20.00 per year. If this is too high, they could begin by paying Shs.10.00 per year. This can be discussed with community members as they are best able to judge what they can afford. The project so formulated would stand a better chance of success than the planned complete transferral to the MOH.

In the long run, the MOH should be able to supply personnel and perhaps vehicles but the operation of the vehicles, the supervision of the staff and the community-based health care activities would be more successful in the hands of Diocesan staff. The project is simply not replicable by the Ministry of Health.

F. COMPLIANCE WITH GRANT PROVISIONS

Compliance with the provision of the Operating Program Grant authorizing funding of the project has been good. Reports have been sent in reliably twice annually. The budget has not been overspent and no expenditure has been disallowed. In fact, the funding period has been extended by six months to March 31, 1983 since not all of the original grant money was obligated by the end of the three-year project period.

V. CONCLUSIONS AND RECOMMENDATIONS

A. PHASE I

1. Summary

The Catholic Diocese in Kitui District has managed to keep four mobile health teams operational in a place where most teams would be defeated by logistical problems involving vehicle maintenance and drug supplies. The Diocese, through its dedicated health staff, has successfully brought primary health care services to remote areas of Kitui District formerly unreached by modern health services. In the last three years the project has shown progress in meeting most of its objectives including reduction in actual and perceived morbidity and mortality rates, in imparting health education on topics of community interest, and in meeting health needs of expectant women and children under five years of age. As such, the Diocese is to be commended and the project can be considered a success.

Nonetheless, there are areas of weakness. One was the failure to collect sufficient baseline data against which the impact of the teams on the health of the affected communities could be measured. Furthermore, it was expected that the project would be community-based when it turned out to be mainly clinic-based. While this may also be considered a failure, it is realized that more time and more staff are required for adequate community outreach.

Efforts and resources must now be directed towards sensitizing the communities to what they are capable of doing to solve many of their own health problems. Only this can provide a lasting solution to these communities. Until this has changed, the program will remain limited to and dependent upon external support and cannot be called

Primary Health Care in the sense of the Alma Ata Declaration.

2. Recommendations

I. REFUND AT CURRENT BUDGET

The project should be refunded for a second three-year phase on account of the vital services it provides to remote areas.

(1) The number of clinics should remain at 16 per team. Although there are repeated requests for more clinic sites, no new ones should be added.

(2) Clinic sites should be phased into the MOH's planned integrated system as soon as possible.

II. MAXIMIZE COST-EFFECTIVENESS THROUGH INCREASED COMMUNITY COVERAGE

Wherever feasible, efforts should be made to increase attendance at the clinics through barazas in order to increase cost-effectiveness and maximize community coverage.

(1) Each team should write up its clinic format, using time-and-motion study techniques, to determine the optimum use of available space and personnel and to determine the desirability of an integrated approach.

(2) Clinic staff should spend more time with individuals during the clinic if time is available.
More time must always be given to high risk clients.

III. SEEK MOH SECONDED EMPLOYEES IMMEDIATELY

Every effort should be made to arrange for the secondment of MOH employees to each team as soon as possible, preferably both a PHT and a CN, to allow for community work.

(1) These employees should travel out with the teams, at least in the initial stages.

(2) They may need to be rotated amongst the teams on a three-or six-monthly basis until a full complement is seconded.

(3) Participation of MOH staff within reach of clinic sites, e.g. Family Health Field Educators, should be encouraged.

(4) The project supervisor should be relieved from being in charge of the Mutomo team and should be more responsible for the personnel working on the community-based and evaluation aspects of the program.

IV. INCREASE COMMUNITY INVOLVEMENT THROUGH DIALOGUE

Several suggested methods may help the teams to increase their community impact and thus render the project more community-based.

(1) Seconded employees should be used as they become available for community sensitization, training, home visiting, community diagnosis and monitoring of impact.

(2) Teams should devise a schedule each six months for community outreach to be approved by the team leader and conveyed to the project supervisor for concurrence.

(3) The AMREF guideline "How to Start a Community-based Health Care System" should be consulted. (See Annexes).

(4) Regular community seminars should be organized to enhance sensitization and mobilization of the community.

(5) Every year all members of the staff should spend some time in the communities to enhance their understanding and foster dialogue.

V. EXPAND AND INSTITUTIONALIZE TRAINING EFFORTS

The original project mandate should be addressed in a more thorough manner, especially as additional personnel become available.

(1) More community members, especially women, should be recruited for training as CHW's (VHW's).

(2) Training should take place in the community as much as possible rather than at the clinic headquarters once the new personnel have become familiar with the procedures.

(3) More TBA's should be upgraded in accordance with the MOH's training format.

(4) The psycho-social method should be used more intensively.

(5) As TBA's and CHW's are trained, these individuals can accompany staff members in community work in order to help out, to learn more and to familiarize the communities with their new roles. They can also help at MCH clinics and perhaps replace the Clinic Aides.

(6) Fridays should continue to be used for additional community outreach and training according to a definite schedule.

VI. COORDINATE WITH OTHER SECTORS

The goal of intersectoral cooperation for development activities should be addressed for the benefit of all.

(1) Joint involvement with other development officials and government administrative and extension personnel should be actively sought.

(2) Possibilities for liaising with Locational Development Committees and their subsidiaries should be explored.

VII. CONTINUE SEMI-ANNUAL STAFF TRAINING SEMINARS

These sessions are excellent for morale, cross-fertilization and skill upgrading and will be especially useful during the transition period.

(1) MOH officials and prospective staff should be included whenever possible.

(2) Discussions on new approaches to community dialogue, the transition to MOH control and self-evaluation should be emphasized.

VIII. EXPAND FAMILY PLANNING ACTIVITIES

The Catholic stance supporting natural family planning through the ovulation method is acknowledged but the teams are encouraged to discuss more broadly the rationale behind FP. They may then indicate to their clients where services are provided.

(1) Men are to be included to ensure that their cooperation is enlisted.

(2) The Mutomo Hospital program is to be continued to allow the training of committed users of the natural method in techniques of teaching others.

(3) The MOH FHFE's should be enlisted to participate with the mobile teams to allow greater coverage and exposure to artificial contraceptive methods.

IX. EMPHASIZE SELF-EVALUATION

The teams should become much more involved with evaluative mechanisms for their project. They should be responsible for all mid-term evaluations with only a final Phase II evaluation performed by outsiders.

(1) The forms should be altered according to the recommendations in Section V (B) to allow for easier and more relevant data-gathering.

(2) The Semi-Annual Reports should include additionally:

(a) Status reports on integration with MOH.

(b) Detailed descriptions of health education and training.

(c) Summaries from cumulative CW master charts and ANC visits.

(d) Health statistics, with hospital and clinic-based morbidity figures.

(3) More thought needs to be put into how the CHW's can replace the mobile services completely since they cannot give immunizations. The services may have to be an appropriate mix of static, mobile and community-based health care services.

X. INTEGRATE WITH MOH

As the mobile clinic project is scheduled to be integrated with the MOH project in Kitui by the end of 1986, this transition should begin as soon as possible, with the caveats outlined in Section V. B. taken into consideration.

(1) One mobile team should be phased over completely as a pilot effort, perhaps the Muthale team.

(2) MOH employees at all levels should become involved with the Diocesan project.

(3) The coordination of the project should be shifted to the District Public Health Nurse or her delegate. She would understudy the current project supervisor in a transition phase.

(4) Consideration should be given to locating other means of financing the services in the future, such as user contributions, and to granting a Phase III grace period of additional funds to ease the transition.

(5) The Catholic Diocese should be encouraged to remain involved with the underserved people of Kitui even after the MOH absorbs the major aspects of the project due to their proven capabilities and moral commitment.

B. PHASE II

Phase I of the Kitui PHC project is drawing to a close. The extended final deadline for the disbursement of the initial $413,000 USAID grant is March 31, 1983. The Diocese wants the project to be refunded for a second three-year period, to allow the initial accomplishments of the outreach effort to be solidified and to permit the gradual assumption of the responsibility for extended primary health care in Kitui District by the Ministry of Health as part of the Integrated Rural Health Project to be funded by USAID.

This latter project is intended to establish a more effective primary health care delivery system meeting the needs of up to 70% of the population in Kitui District. Government and non-government health providers will be integrated into a comprehensive system offering curative, preventive and promotive care. These health activities will be coordinated to the greatest possible extent with other development activities in Kitui.

Thus, during Phase II, the Diocese is committed to continuing the implementation of the project according to the basic principles of primary health care as recommended by the World Health Organization. To do this, the project must: be shaped around the life patterns of the community; be an integral but peripheral part of the National Health Care System; be integrated with other community development activities; involve the community in its planning and implementation through a continuous dialogue with the community and with reliance on available resources within the community; be within a cost that the country can afford at every stage of its development; be integrated in approach providing curative, preventive and promotive services; and provide health intervention at the most peripheral level possible.

Phase II must now build upon the foundation already laid to bring about more effective community participation and the involvement of other sectors, as they seek to provide primary health care services.

1. Community Participation

It is encouraging that in Phase II there will be emphasis on health education and family planning, by the natural method. The Phase II document also indicates that some home visiting and training of community or village health workers will be done. These activities must be planned for and carried out systematically, and this should appear so in the Phase II document. Some system must be developed for the initiation of the community-based aspect of the program which can be modified as situations demand in different areas.

With the planned additional two members of staff per team, a Community Nurse and a Public Health Technician, joined by the data collection aide already hired per team, the community-based work and data collection can be done in a more systematic manner. This work should include:

- Sensitizing the communities to an awareness that they can take some responsibilities in looking after their health.
- Facilitating community organizations which would enable such participation (e.g. formation of health committees).
- Initiating the selection of village health workers by the villagers.
- Training CHW's and TBA's.

- Carrying out regular community diagnosis exercises and keeping records of relevant data under the guidance of the project coordinator. This data would involve the community as much as possible and any results of analysis would be discussed with the villagers.

- Carrying out transectoral discussions and liaising with government and non-government extension workers and other administrative officials.

- Carrying out most of the health education and school health activities.

If the full complement of these employees is not immediately seconded, those available can rotate amongst the teams.

2. Integration with Ministry of Health

Phase II of the project is defined in terms of gradual absorption into the expanded Ministry of Health Integrated Rural Health Project for Kitui scheduled to begin in 1983 and extend with USAID funding for a minimum of six years in two tranches of three years each. The MOH has indicated verbally a willingness to absorb the current PHC project due to their recognition of its usefulness.

The only actual step taken to date, however, to ease the transition has been the secondment of a Public Health Technician to one team, based in Mutomo. This individual has been trained and supported by the Ministry of Health. He utilizes the team's mobile facility to extend its outreach in its catchment area. The intention is to give the employee a familiarity with the operation of a mobile service, to extend the clinic

team's impact beyond the clinic site, and to increase the cost-benefit ratio of the project by adding an extra dimension of service to the costliest aspect of the project.

Certain reservations must be offered regarding this plan. Without exception, respondents expressed a concern regarding the feasibility of this transition. Most would prefer to continue to have the clinics operated by the Diocese, finding the personnel dedicated and reliable. MOH employees are not perceived to be so hard-working and conscientious.

It should also be noted that the supervision available for these mobile team members is impossible to achieve in the public sector because of the multiplicity of their responsibilities. Likewise, assuming that the Ministry intends to maintain a certain mobile capability, reservation must be offered vis a vis the reliability which can be anticipated. Most respondents acknowledged that MOH vehicles are frequently inoperative due to needed repairs and/or shortage of petrol.

The Integrated Rural Health Plan intends to rectify these vehicle problems by developing garage facilities in each headquarters where vehicles are based. Petrol shortages should be eliminated, at least early on when adequate resources are available, unless the GoK decides to restrict petrol imports even more. (In such a case, even the Catholic Diocese vehicles would suffer).

These reservations were expressed by community members, Diocese staff, and Ministry of Health personnel alike at several levels. Nonetheless, the gradual absorption of the primary health care system by the MOH is already planned as an integral part of the project's second phase. Although no concrete talks have as yet been held involving all three parties, the Ministry of Health, USAID and the Catholic Diocese in Kitui, the proposed scenario of transition involves the takeover of one

clinic by the Ministry in 1984 followed by the assumption of responsibility for the other three at six-month intervals.

The transition towards integration will be eased considerably if the following suggested steps are taken at the appropriate time:

Year 1:

(a) Integration with the MOH should begin in January 1983, by the MOH assigning staff to take part in the program at all levels, even if on a part-time basis.

(b) The semi-annual senior staff workshops should be attended by the District Public Health Nurse, the District Public Health Officer, the District Health Education Officer, the District Development Officer, the Community Development Officer and the Medical Officer, if he is available.

(c) At least four additional staff members should be assigned to work with the teams. They should be Public Health Technicians or Community Nurses, preferably assigned in pairs. These staff members would start the community-based work, under supervision.

Year 2:

(a) The coordination of the project should be transferred to the District Public Health Nurse, or to whomever she may delegate the responsibility. She would understudy the present project supervisor of the project.

(b) The complete transfer of the Muthale team and its catchment area to the MOH should be made.

(c) At least three more members of staff should be added to the program from the MOH apart from the Muthale team. These three would join the previous five in enhancing community-based work in the Nuu, Mutomo and Kimangao areas.

Year 3:

(a) The work of all the teams should be evaluated to establish any problems that would affect the complete transfer of the other teams to the MOH.

(b) The Mutomo team and its catchment area should be tranferred to the MOH if the accompanying static facilities are ready. (The Nuu and Kimangao teams will have to wait until the 1986-89 phase according to the information available).

In fact, as the integrated program expects to cover only three divisions (Near North, Eastern and Southern) in six years, it may be more realistic to expect that only the Muthale team could be taken over in the first three project years, i.e. during Phase II of the mobile clinic project. The next two teams, in Nuu and Mutomo, would be taken over in the second phase (1986-89). If this is anticipated in time, we advise that funds be sought for a Phase III of the current project to allow a smooth and successful takeover. It would be disastrous if the project stopped abruptly at the end of Phase II without replacement.

It should also be noted that the Diocese health delivery system is actually the best suited for the work required by the communities. Thus, although the transfer to the MOH is desirable, it is clear from the experiences during Phase I and from other GoK ministries that it may be a very difficult system for the MOH to run. Here are some reasons for this:

(1) The program is transport intensive. This makes it both expensive and often unreliable since the maintenance of Government vehicles in peripheral facilities is usually inefficient. Although the new maintenance system proposed in the integrated program may solve this problem completely, the mobile system would still be difficult to run without external aid.

(2) The present project coordination and supervision work is done totally by expatriate, missionary, full-time, well-trained senior personnel. Similarly trained local personnel in enough numbers to assign to the working teams full time cannot be realized in the next six years. Even if some are found, they will have many other responsibilities, family and professional; hence, the level of commitment to the project will be lower than that provided now. Thus the program is unlikely to be run with sufficient efficiency to ensure a reasonable level of cost-effectiveness.

For these reasons, the Diocese's continued participation in the project after the MOH takeover is desirable. Discussion with the MOH should take this into account and an acceptable mix of responsibilities and resources should be worked out.

3. Evaluation Methodology

a. Relevance of Mid-Term Evaluation Techniques

The evaluations, both internal and external, during Phase I, have proved unsatisfactory for a number of reasons. Consistent and comparable data has not been available from the inception of the project when inadequate baseline data was collected. The only initial information for measurement was provided by two separate studies conducted by medical students from the University of Nairobi in 1976 and 1978. This data was not specifically correlative to the whole project area as they covered only two sub-locations each time.

A first evaluation, conducted in 1980, was considered unacceptable by USAID because it too failed to provide sufficient quantitative measurements. A second mid-term evaluation, prepared in 1981, attempted to correct this lack by generating the requisite data. Furthermore, this latter evaluation instituted a data-gathering system to provide continuously available information for on-going project monitoring.

The final evaluation team is unfortunately not fully satisfied with the new system for the following reasons:

(a) It concentrates on a highly selected population which may differ from the reference population in a number of ways.

(b) The data is collected by service providers who may, even unknowingly, bias the responses.

(c) The study population is transient and the period of study is therefore not long enough for changes to occur in the indicators of health being measured (e.g. diet, latrine presence and quantity of water used) in response to health education.

(d) The important data on the supplementary data collection forms can be recorded on the relevant MCH forms for all users and hence the users of MCH clinics can still be followed up (e.g. child measurements, important illnesses, gestation at first ANC visit, number of attendances per pregnancy, outcome of pregnancy, post-natal visit, completed immunization).

(e) It is not enough to focus on users only since the project aims at a lasting change within the community.

(f) The service teams did not seem to understand the reasons for the supplementary information neither were they able to use it for self-evaluation.

Nonetheless, the teams are encouraged to tabulate the data collected in the survey in the manner utilized in this evaluation in order to retain it as part of the baseline data for Phase II against which future changes can be measured.

b. Revised Techniques of Data Collection for Phase II

The main objectives for evaluation and monitoring of a project are:

(1) to provide a diagnosis of the main health problems in the target community and factors determining these problems;

(2) to form a basis for planning, organization and implementation;

(3) to provide feedback to service providers and to the community served regarding the inputs, the outcomes and the impact of the services provided; and

(4) to expose implementation approaches that may need modification.

The baseline surveys, semi-annual reports, mid-term evaluation reports and the present evaluation all have provided very useful data that will determine the management of Phase II of the project.

The main consumers of these reports should be the service planners, providers and the community served. Thus, the data to be collected either continuously or by periodic surveys must be the minimum required. It is to be noted that this is a service project, not a research one, and hence there are limits to the amount of data collection that is possible.

The service system should thus be able to collect most of the data for its own evaluation; external evaluators should only be needed to validate the data collected and further analyse them. There is great value in self-monitoring by the teams and in self-diagnosis by the community. If this is mutually understood, then data collection becomes a joy, not a burden.

It is thus proposed that a simple monitoring system be instituted whereby a few selected indicators can be gathered regularly by the teams themselves with a more comprehensive evaluation completed at the end of Phase II by external evaluators. These indicators are:

(1) Infant Mortality

(2) Morbidity

Scabies
Chronic cough
Sore eyes
Nutritional status.

(3) Health practices

Child feeding and weaning
Latrines
Water source and distance.

(4) Community participation

Health committees
- Number of meetings
- Composition
- Resolutions

Contributions
- Cash
- Kind

Joint meetings/workshops

(5) Attainment of Purpose

Number of services
- Preventive
- Promotive
- Curative

Coverage
- Ante-natal
- First visit (when)
- Number of visits per pregnancy
- Child welfare
- BCG
- Measles
- Completed immunization

Scope/Quality of services.

(6) Inputs

Regularity

Health education
- Number of sessions
- Recipients
- Topics

Training of women
- Who
- How many
- When
- Where
- Curriculum
- Method of training.

Two main aspects should be monitored, project impact and project implementation. Samples must be taken from both the service users and the general community, for clinic respondents would be expected to be a selected group from the community. This was confirmed by this final evaluation, where clinic respondents in the general survey were found to be younger mothers with fewer children and with a higher level of education than the general household respondents.

Clinic-based data collection should continue as in Phase I. No additional information sheet is required. All the information required will be recorded in or on individual clinic cards (ANC and CW), master clinic cards, clinic registers and staff notebooks and diaries. The data collected through these means will monitor ante-natal and child welfare services, health education, family planning and curative services. Summaries of these data should be presented in the semi-annual reports along with utilization patterns and cost-effectiveness.

To clarify, ante-natal and child welfare information can be gleaned from the individual cards but the information should be retained by the team in a register (see Dr. Morris Report, p. 73). The ANC card and register should also show the outcome of pregnancy, the date of the post-natal check-up, and the condition of the mother and child. Brief information on the morbidity experience of children should be recorded in the "Notes" section of the CW card. The smallpox item should be removed from the cards. The weight of each child should also be plotted on the master chart for monthly analysis regarding overall nutritional status, according to the Harvard weight-for-age standard. Summary immunization information should be entered into the Summary Charts II and III as in Phase I, with completed immunizations indicated also.*

A limited amount of hospital data should be collected for comparative purposes, with recognition of its limitations. Hospital register procedures may need to be modified slightly to allow tabulation of the following:

Calculation of Coverage:

The teams have experienced considerable problems with this. The inherent problems with determining the numerator and denominator for the calculations is noted and the simplest method, understood by the teams, would be the best.

It is suggested:

(a) That the denominator be considered as the target group for the year based on Crude Birth Rate (CBR) and Infant Mortality Rate (IMR).

(b) That the numerator be the number of vaccinations for each type in children under one year.

These should be calculated only once a year, in December.

(1) Pediatric admission

- Age
- Sex
- Location (or sub-location)
- Diagnosis at discharge/death.

(2) ANC/Delivery admissions

- Age
- Clinic site
- Risk/non-risk
- Method of delivery
- Outcome .

For health education, the following information should be recorded in a register by clinic: the date of the talk, the topic covered, the number of attendants and the length of the discussion. For family planning, the Ministry of Health record system should be adopted with a register maintained by the team as well as giving the following details about each client: age, sex, marital status, parity, education, occupation, church affiliation, method of family planning, dates of first and other visits, and any comments. Information on curative services should be kept in a register by clinic and diagnosis, available for semi-annual analysis and reporting. All these figures can then be tallied monthly for entry into the clinic summary sheet.

With regard to community-based data, the following records should be maintained:

(1) Number of contacts with the community, including the number of meetings, with whom and for what purpose, and the number of people attending.

(2) Number of VHW's trained by area and month (Goal : 150 per team per year).

- Length of training
- Topics covered
- Attendees' demographic characteristics
- Evaluation of training.

(3) Number of health committees formed (Goal: 70 per team per year if at the village level).

(4) Number of projects initiated and by type.

(5) Number of households visited by month and clinic area

- Ratio of 2nd (12-24 months) year olds seen during the month with completed immunization or BCG scar.
- Ratio of households with a usable latrine
- Number of babies born in the household in the past six months (confirm by date), and number of babies who died in the report period by age of death.
- Ratio of children under 2 with:
  - Scabies/fungal infection
  - Eye-infection, at the time of visit
  - Chronic cough (more than 3 weeks)
- Ratio of children under 2 with arm circumference of less than 13.

(See Home Visiting Form in Annexes)

On the basis of this information, the coverage by completed immunizations (or measles), the prevalence of latrines, the percentage of malnourished children, prevalence of morbidity indicators, and the infant mortality rate can be calculated.

(6) Number of schools visited.

- Topics covered
- Number of attendees
- Ratio of various classes with scabies (choosing classes 1 - 4 randomly)
- Other comments.

(7) Number of sessions devoted to Family Planning

- Topics covered
- Number of attendees and demographic characteristics
- Number of contacts (Goal: 20 per month)
- Number of acceptors.

(8) List of accomplished talks by months.

(9) Record of community contributions to the project in cash or kind (e.g. money, leadership, housing).

(10) Record of reports from CHW's, VHC's and TBA's showing their activities.

It is suggested that these records be maintained together in a looseleaf notebook for easy reference. The findings should be reported every six-months and discussed with the communities.

Progress in handing over the project should be summarized every six months in the reports. Discussion of problems and progress among staff and with the community should be recorded. Project expenditure records should be kept as in Phase I and used to calculate cost-effectiveness.

In addition to this continuous data collection by all team members, it is suggested that a yearly survey be conducted in each area by the community-focused personnel, i.e. the PHT and CN per team assisted by the additional aide and supervised by the project coordinator. (If all teams do not have such extra staff, those available should rotate throughout the teams to complete this survey). In this survey, 10 clusters per school area should be covered for the 3 schools with the households of 10 pupils selected in the schools randomly, with a maximum of 10 children under 2 surveyed in each cluster. (See the appropriate data collection form in the Annexes). The survey should require 3 - 5 days of field work and analysis for each area. The information collected can be used to validate the continuously collected data as well as providing material for the final external evaluation.

At the end of Phase II a complete survey should be undertaken by external evaluators, using both unstructured and structured interviews, as well as analysis of clinic and other data to compare with Phase I's implementation and impact. A mid-term external evaluation is not really necessary, it is our firm belief, unless it is required by the donors because most of the parameters of health do not change quickly. Furthermore, the community diagnosis exercises and the records kept continuously can show the expected changes over time.

The data that will need to be collected in the final evaluation includes:

(1) Demographic characteristics of the respondent population.

(2) Household-based assessment of nutrition status (by weight-for-age and circumference).

(3) Knowledge, attitudes, and practices regarding:

- morbidity (causation, prevention and cure of disease).
- family planning
- utilization of health services (ANC, FP, CWC, health education).
- nutrition (diet and weaning practices)
- environmental health (water source and distance, latrine availability).

(4) Point prevalence survey of:

- scabies/fungal infections
- acute eye infection
- chronic cough (more than 3 weeks).

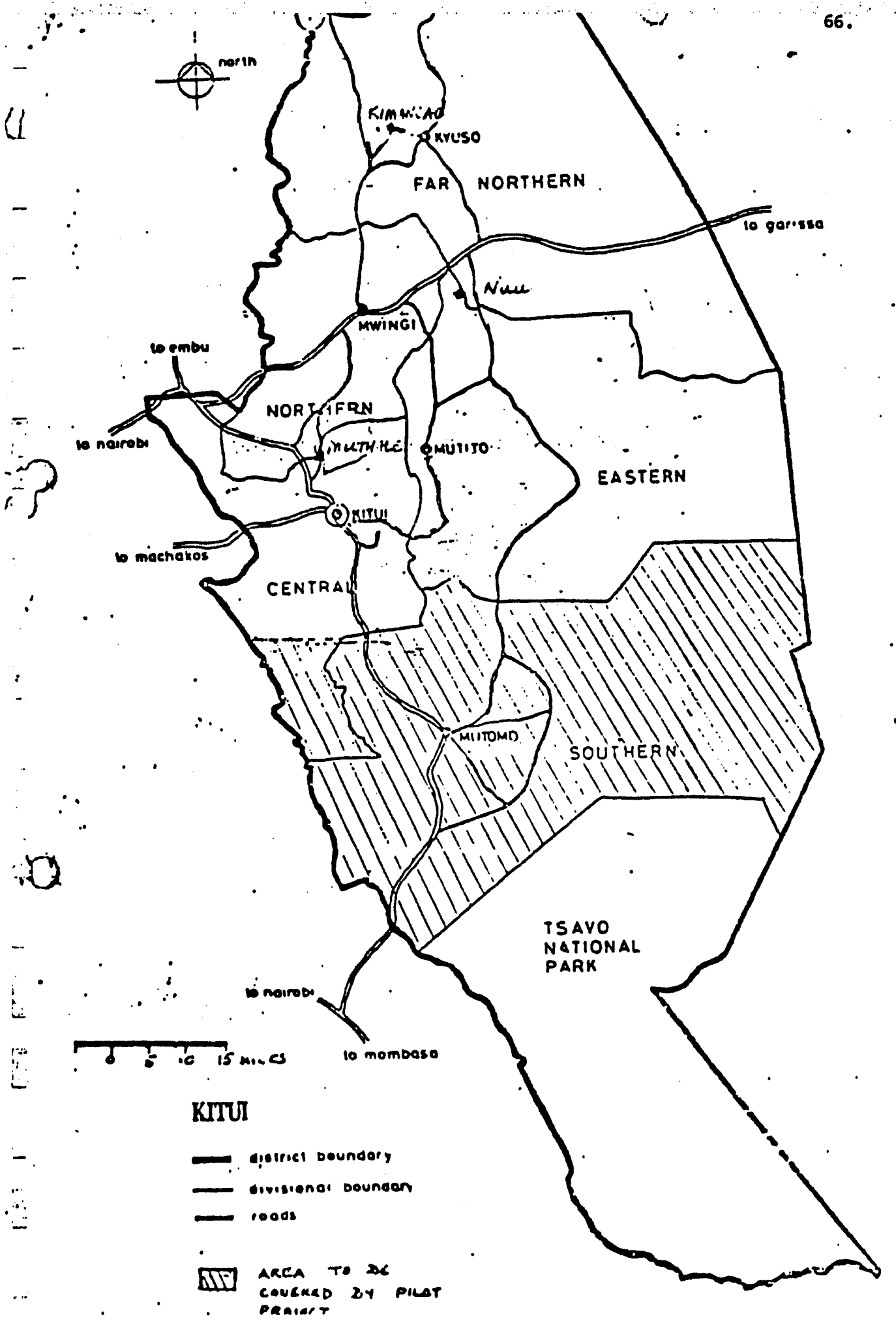
This information should be collected using a simpler questionnaire than the one used in this final evaluation survey. The clusters should be randomly selected using the methodology outlined for the final Phase I evaluation and using the same schools used in this survey to select index houses from the same general area. The same number of respondents should be interviewed. The results of the survey can then be compared to the now sufficient baseline data to detect changes in the community's health status.

Hopefully the final evaluation team for Phase II three years hence will reach the same conclusions as the team has for Phase I, i.e. that the Kitui mobile clinic project has greatly benefited a vastly underserved population with its maternal and child health care services. Perhaps that team will also be able to acknowledge that the project has become well-integrated into the MOH's expanded health delivery system and more firmly entrenched into the community's structures, allowing for a longer lasting impact on health status in Kitui.

A N N E X E S

Annex I

Map of Kitui



Best Available Document

Annex II

Scope of Work

SCOPE OF WORK FOR THE FINAL EVALUATION FOR THE KITUI PRIMARY HEALTH CARE PROJECT

The evaluation team's report shall contain but not be limited to assessments, analyses, findings and recommendations, as appropriate, as follows:

A. Assessment of the project goal "The improvement of quality of life in rural areas through attainment of optimum level of health within the constraints of existing and developing economy and in line with the National Health Systems" in terms of the degree of achievement attained which will be determined by the use of the following indicators.

1. Reduction in mortality with emphasis on infant mortality.
2. Reduction in morbidity of commonly preventable diseases such as diptheria, tetanus, pertussis, measles, polio, tuberculosis, leprosy, malaria, scabies and worm infestations.
3. Improvement in the health practices of the people.
4. Growth of community participation in work on priority health needs.

B. The extent to which the project purpose "The provision of a mobile primary health care services to rural areas of Kitui which lacked government/or mission medical services" has been achieved will be determined as follows:

1. Target population reached by the project.
2. Services provided by the mobile teams in terms of adequacy to meet the felt needs of the population served.
3. The extent to which joint planning with other services is carried out.
4. The extent of recognition of women leaders in community health work.

Include a summary of the attainment of the Project's purpose.

The examination of project reports, hospital and clinic records will be made, and selected interviews conducted where necessary to elicit information.

C. The outputs targeted by the project are as follows:

- Mobile health delivery system
- Baseline data surveys
- Maternal and child health care and disease prevention
- Promotive and curative services
- Training and instruction for women's groups
- Community leaders trained in simple health remedies and techniques.

The above will be evaluated to determine the degree of success achieved, problems encountered and the solutions used. In the case of unrealistic goals, re-evaluation of project outputs will be made particularly in the light of project experience gained and minimum acceptable standards for quality health care. Training and instructions for women's groups and community groups will be assessed in terms of numbers trained, type of curriculum used, and the kind of return provided by the trainees.

D. Project inputs will be examined to evaluate suitability to project performance for remainder of project and the proposed Phase II Project, and where necessary additional resources of cutbacks will be recommended in the following:

- Personnel
- Equipment
- Vehicle operation and maintenance
- Travel and per diem
- Local resources
- CODEL funding support

E. The cost of services to project beneficiaries, including those support costs not covered by the project will be analysed and presented.

F. Review and assess the mid-project evaluation's recommendations for data collection and analysis techniques to determine their relevancy for the proposed Phase II evaluation activities. See Appendix I to Mid-Project Evaluation Scope of Work (copy attached).

G. On the basis of this evaluation, CODEL experience with Phase I and the CODEL Phase II project proposal, design a detailed evaluation plan and methodology which CODEL can administer and maintain within its resources in its proposed Phase II project. This methodology will include data collection techniques which will make possible the accurate judging of both the health impact of the project on the communities and the cost effectiveness of the program. Methods of implementation will be explained to the CODEL staff concerned.

H. Review the Grant to assess compliance with its provisions.

I. Provision of summary and information requested in STATE 081077, as required. Copy of telegram is attached.

J. A written report of the Final Evaluation will be submitted in the required number of copies.

K Based on this SOW submit to CODEL and USAID for review a detailed evaluation plan and methodology for conducting this evaluation prior to undertaking field work.

Annex III

Evaluation Methodology and Itinerary

PHASE I FINAL EVALUATION

SEPTEMBER/OCTOBER 1982

USAID/CODEL PHC PROJECT - KITUI, KENYA

EVALUATION METHODOLOGY

The assessments will be based on:-

(1) Baseline surveys (selected indicators)

(2) Evaluation reports

(3) Hospital and clinic records

(4) Annual Reports

(5) Project documents

(6) Interviews.

	Suggested Procedure
Sample surveys will be done in 4 Communities (about 60 households or more will be covered).	-Sample survey (demographic)
A. ASSESSMENT OF THE PROJECT GOAL:	-Hospital Records, Sample Survey:-
A.1 Reduction in mortality (Esp. infant).	-Observation and interview.
A.2 Reduction in morbidity (scabies/ring-worms, chronic cough and eye infections)	
A.3 Improvement in Health practices	-Sample KAP Surveys -Nutrition -Utilization Services -Immunisation - Env. Health.
A.4 Growth of Community Participation	-Review of implimentation procedures
- Selection of-Health Committees-Trainees/VHWS.	
- Who defines objectives, decides on priorities	-Decision making process.
-Households involvement:-	-Health Committee -Composition -Role -Minutes -No. of meetings - Community Contributions (cash/kind)
-Are they aware of the programms? -Objectives -Health needs - [illegible]	
-Do they [illegible] the project	-Ro[illegible]

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	Suggested Procedure:
B. ACHIEVEMENT OF [illegible]GE:	
B.1 Population coverage:	- Random sample survey: Utilisation of service.
. Estimate catchment population, based on census data, work out % coverage and compare with Baseline and other evaluation reports	- Records - Hospitals - Clinics - Reports
B.2 Quality of Services:	- Interviews: Achievements of the project as seen by:- - management - community leader - TBA, VHWs, Women's group, - ordinary users. - Church leaders - Observation of clinics - Clinic Records - Some question on sample survey.
B.3 Intersectoral Collaboration: (Particularly in planning) e.g. livestock	- Interview -Management - Records -Minutes of meetings -Extension workers from other sectors as in A.4.
B.4 Participation by women	
C. ASSESSMENT OF OUTPUTS (In terms of suitability and whether realistic).	- From Records, reports; - Clinics (MCH/FP) - Baseline report. - Curative Service - No. trained - Women - Leaders. - Type of Curriculum - Interview trainees.

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	Suggested Procedure
D. ASSESSMENT OF INPUTS:	- From records: -Personnel -Equipment -Vehicle Operation and Maintenance -Travel and per diem -Local resources -Funding support.
E. COST/EFFECTIVENESS	- Cost of service compared with achievements (using all above data).
F. REVIEW OF MID-PROJECT EVALUATION TECHNIQUES (Also - community Based Survey as soon as possible before Phase II)	- Assess relevance as per Phase II Project document.
G. DESIGN OF DETAILED EVALUATION PLAN & METHODOLOGY FOR PHASE II	- Based on F. - Choice of simple indicators and data collection system.
H. COMPLIANCE (with the grant)	- Based on the above and the grant document.
I. INTEGRATION WITH MOH	- Discuss with MOH officials - Discuss with CODEL officials.
RESPONSIBILITIES	
1. Literature Review (Documents, reports etc). Retrieval of Data from records, reports etc.	- Mrs Bloom
2. Design of Unstructured interview	- Mrs Bloom
3. Design of sample surveys - Questionnaires	- Dr. Mburugu Dr. Kaseje
4. Admin. Responsibilities, - Transport	- Dr. Kaseje
-Accommodation	" "
Hiring of Staff	" "
Typing/Coding etc	- Dr. Mburugu
Finances	- Mrs Bloom
5. Data analysis	- All
6. Report Writing	- All.

NB: Sampling Method:

At least 60 households will be interviewed and data will be compared with Clinic based data, baseline data and data from other reports.

Three schools will be chosen by the team leader in its catchment area such that one school would be within 5 kms and the other 2 more than 5 kms of a clinic. The 9th, 19th and 29th children will be selected in each school respectively. The households of these pupils would be the index households and other families around it would be interviewed. It is hoped that 60 households will yield at least 100 children under five years of age. More families may be interviewed if necessary.

PHASE I FINAL EVALUATION

SEPTEMBER/OCTOBER 1982

USAID/CODEL PHC PROJECT - KITUI, KENYA

SCHEDULE AND ITINERARY

25/8/82 Preliminary meeting with AID and CODEL officials.

25-30/8/82 Literature review.

27/8/82 Meeting: Evaluators with AID officials.

30/8/82 Meeting: Evaluators. Tasks dividing.

30/8/82 - 1/9/82. Evaluation Design.

1/9/82 - 9/9/82 . Further work on: Evaluation design.

- Critique by peers and Aid officials.
- Background literature.

9-11/9/82 - Preliminary Field Visit to Kitui.

- Meet District Team and make arrangements for the evaluation week.
- Meet Codel staff.
- Hire assistants.
- Pre-test questionnaires.
- Finalise itenerary and Evaluation methodology.

12-14/9/82 - Type final evaluation methodology, and plan.

15/9/82 - Present final plan/methodology to USAID and CODEL.

16-27/9/82 - Further review of background literature.

28/9/82)
29/9/82 } - Work with Muthale team in their catchment area and visit one of their Clinics (Mwingi).

30/9/82 }
1/10/82 } - Work with Kimangao team in their catchment area, interviewing the team, leaders, groups and households.

2/10/82 }
3/10/82 } - Repeat activities at Kimangao above in the Nuu catchment area.

4/10/82 - The evaluation team will split to cover two clinics (Yatwa - Musavani).

- Move to Mutomo.

5-6/10/82 - Work with Mutomo team in their catchment area and have fin[illegible] discussion with COdel Management team.

- Review the 2nd Phase proposal in the light of preliminary [illegible]ings.

- Make final decision on evaluation plan for Phase II.

7/10/82 - Meet MOH, District Public Health Nurse and District [illegible] [illegible]th Officer.

- [illegible]al meeting with COD[illegible].

- [illegible] to Nairobi.

[illegible] - [illegible]plete data analysis.

11-[illegible] - [illegible]plete report writing, present preliminary [illegible]

- [illegible] final report.

[illegible] - [illegible] final report (as required).

[illegible] - [illegible]

[illegible]

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Annex IV

Mid-Term Survey and Results (1981-82)

EFUI PRIMARY HEALTH CARE PROGRAM

NAME _____ **Childwelfare Card – Supplementary Information** CLINIC _____

	Arm Circum. – Cm	Head Circum. – Cm	Anemia Sev./severe	Spleen Palp. (fingers)	Breast Feeding	Taking Iron	Taking Chloroquin	No. Cooked for	Doses of water daily	Pit latrine at home	Porridge	SUPPLEMENTARY FOOD: Eggs	Fruits	Tinned Milk	Oil	C.R.S. Food	Other	RECORD OF ILLNESS
July 1981																		
August																		
September																		
October																		
November																		
December																		
January 1982																		
February																		
March																		
April																		
[illegible]																		
[illegible]																		

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KI... PRIMARY HEALTH CARE PROGRAM

NAME _____ Ante-Natal Card – Supplementary Information CLINIC _____

	Taking Iron	Taking Chloroquin	No. Cooked for	Dates of Water daily	FOOD INTAKE WEEKLY							RECORD OF ILLNESS
					Meat	Eggs	Milk	Vegetables	Fruits	Beans	Maize/Ugali	Others	
July 1981													
August													
September													
October													
November													
December													
January 1982													
February													
March													
April													
May													
Jun													

Best Available Document

SUMMARY OF MID-TERM SURVEY DATA

JULY 1981 - JUNE 1982

Beginning in July 1981, supplementary information was gathered from a sample of women and children in selected clinics following the recommendations of the mid-term evaluators. This data was collected for twelve months, ending in June 1982.

The sample was selected as follows: 30 women were chosen at random from 10 of the largest of the 16 clinics served by each team, for a total of 1,200 women. Similarly, 1,200 children were selected for surveillance. An additional aide was hired to question the sample survey respondents each month for the recommended indicators.

In this evaluation, a sample of the sample has been extracted for analysis with 20% of the data perused for relevant information. Two of the clinics from each center were randomly chosen. The data from all respondents in those clinics has been recorded; however, coding and collating has been done for only 20 of the chosen cases in each clinic, limiting the sample somewhat further in order to equalize it.

An itemized presentation of the indicators for the coded clinics is also included here. A general summary follows.

The average number of ante-natal visits ranged from 2 to 4.35, appropriate for five months of pre-natal care, whereas children were brought on the average for 4.5 visits, allowing for adequate BCG, DPT and polio coverage but meaning a distinct decline in measles coverage. The most common illnesses treated at the clinic included: common colds, coughs, fevers (including malaria), stomach problems and rashes. Rarely were severe illnesses such as whooping cough and measles recorded. 75.2% of children aged six months were being fed supplementary food,

including usually porridge, sometimes eggs or tinned milk and occasionally oil or fruits. By one year this % had increased to 78%.

The ANC survey respondents provided the following supplementary information. Recommended weekly food intake of nutritious foods increased in most instances during the clinic attendance period, as follows:

Meat	1.3 - 1.59	Fruits	1.96 - 2.3
Eggs	1.1 - 1.57	Beans	6.3 - 5.7
Milk	3.7 - 3.8	Maize	9.9 - 10.3
Vegetables	2.9 - 3.3		

Most women were married, at 85%. Most continued to deliver their children at home (73.3%) despite repeated recommendations to the contrary, due to the difficulties of reaching appropriate health facilities. Nonetheless, the overwhelming majority of children were born alive (98.6%).

The percentage of families with latrines varied curiously from an average of 17.5% for ante-natal beneficiaries to 28% for child welfare recipients. The average number of children for pregnant mothers was curiously low at 1.97 while 94.4% mothers with small children were breast feeding, a high percentage. Each woman cooked for between 5 and 6 persons allowing each person about .4 debes of water for daily use.

It is recommended that the remaining information be organized at each center in order to form a baseline for future comparison. A format for compiling this information is included here. By having the teams collate this data themselves, they will become familiar with

it and understand better its potential use for self-evaluation.

Further, it is recommended that data of a comparable nature be gathered in the future from the individual ante-natal and child welfare cards, appropriately modified, as well as from daily clinic registers and during community visits.

Mid-Term Survey Clinic ANC	No. visits	No. cooked f	No. dabas H_2	H_2O per perso	Latrine	Married	No. children	Del. place (	Del. (Hospital	alive	Food (Per Week) Meat F	Meat L	Eggs F	Eggs L	Milk F	Milk L	Vegs F	Vegs L	Fruit F	Fruit L	Beans F	Beans L	Mais F	Mais I
Mzeluni (Muthale)	4.3	6.5	2.25	.34	40%	84%	1.2	75%	25%	100%	2.15	2.35	1.85	2.7	4.3	5.2	2.8	4.7	2.85	4.4	6.35	6.35	6.94	6.
Endau (Nuu)	3.65	4.85	2.15	.44	0%	70%	2.1	84%	16%	100%	1.75	2.45	.95	1.95	5.9	5.75	5.55	5.4	3.45	3.7	12.5	16.95	22	23
Kasaala (Mutomo)	2.05	4.6	1.6	.35	10%	90%	.9	100%	0%	100%	1.4	1.4	.85	1	3.3	2.95	2.2	2.05	1.2	1.4	.25	.3	6.8	6
Tyaa Muthale (Kimangao)	3.3	6.65	2.4	.36	5%	95%	4.2	42%	47%	100%	.3	1.1	.95	1.53	.05	1.6	.89	2.18	.47	1.3	.63	.68	5.41	5.4
Twambui (Nuu)	3.26	4.78	1.73	.36	0%	85%	.95	76%	24%	89%	1.16	1.16	1.28	1.56	4.5	4.33	3.94	3.67	2.56	2.2	13.67	13.5	17.3	18.
Katutu (Muthale)	4.35	5.95	2.55	.43	70%	83%	1.37	84%	16%	100%	1.7	2.05	1.3	1.7	5.96	6	3.3	3.5	3.05	2.95	6.75	6.75	7	7
Voo (Mutomo)	2.9	5	1.95	.39	5%	90%	1.9	90%	10%	100%	1.25	1.25	1.2	1.1	3.2	3.3	3.9	3.85	1.35	1.4	.2	.2	6.75	6.7
Ngungani (Kimangao)	3.3	6.7	2.1	.31	10%	84%	3.1	35%	50%	100%	.68	.95	.53	1.05	2.4	1.47	.8	1.4	.75	1.1	.84	.74	6.83	6.8
	3.39	5.62	2.09	.37	17.5%	85%	1.97	73.3%	23.5%	98.6%	1.3	1.59	1.1	1.57	3.7	3.8	2.9	3.3	1.96	2.3	6.3	5.7	9.9	10.

MID-TERM SURVEY CLINIC CHC	No. Visits	No. Cooked for	Dabas H_2O	H_2O per person	Breast FDG.	Latrine	Arm Circ. ≥13 (First Visit)	Arm Circ. ≥13 (Last visit)	BCG	Polio No. 3	DPT No. 3	Measles	Foods/6 months					Foods/lyr					Illnesses			
													Porridge	Eggs	Tinned milk	Fruit	Oil	Porridge	Eggs	Tinned milk	Fruit	Oil	URTI	Fever	Stomach	Other
Katutu (Muthale	4.95	6.7	3.1	.46	100%	90%	70%	90%	90%	75%	75%	80%			x 70%				x 90%						x	
Nzeluni (Muthale	6.4	5.35	2.95	.55	100%	60%	60%	90%	100%	90%	90%	65%			x 85%				x 75%						x	
Voo (Mutomo)	4.1	6.24	2.33	.37	100%	11%	35%	70%	100%	60%	60%	40%	53%	32%	3. x	37%	16%	47%	26%	26% x	37%	11%	8	17	4	4
Kasaala (Mutomo)	3.9	5.7	1.9	.33	100%	18%	27%	72%	100%	85%	85%	60%			x 72%					x 50%					x	
Endau (Nuu)	2.1	6.4	2.94	.46	100%	15%	53%	67%	100%	25%	25%	20%														
Twambui (Nuu)	2.8	5.95	1.75	.29	80%	10%	47%	79%	100%	25%	25%	35%			79%					100%						
Ngungani (Kimangao)	6.5	6.3	2.45	.39	85%	15%	60%	90%	100%	75%	70%	70%	55%	30%	10% x	20%	0%	65%	30%	15% x	25%	20%	16	10	6	11
Tyaa Muthale (Kimangao)	5.35	6	2.32	.39	90%	5%	50%	75%	100%	55%	55%	60%			x 70%					x 75%						
Totals	4.5	6.1	2.57	.4	94.3%	28%	50.25%	79.1%	98.2%	61.3%	61%	53.8%			75.2%					78%						

Annex V

Household Survey and Results (1982)

PHASE I - FINAL EVALUATION

SEPTEMBER/OCTOBER 1982

USAID/CORBL PHC PROJECT - KITUI, KENYA

SAMPLE SURVEY

HOUSEHOLD FORM

Clinic Respondent ----------

Non-Clinic Respondent ----------

Name of Village ---------- Location ----------

Household number (Cluster, house) [ ][ ][ ][ ]

Date (Day, month, year) [ ][ ][ ][ ][ ]

No. of residents in the household [ ][ ]

(A) DEMOGRAPHY:

1. Fill in the following Table

Name	I.D. No.	Sex	Age	Completed Education
		1=male 2=female	1= < 1/r 2=1-4/r 3=5-14 4=15-49 5=50+	1=nil 2=1-4 3=5-7 4=>7 5=continuing

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Age/Sex distribution

Age (by code)	1	2	3	4	5	Total
Total males						
Total females						

(D) MORBIDITY

1. Observe available children 0-9 years and record the ratio with scabies or fungal infection. ☐

2. Observe available children 0-9 years for ratio with eye infection. ☐

3. Ask about all members of the household and record the ratio with cough for three weeks or more ☐

C. MORTALITY

Has a family member died in the last three years?

Year	Member (sex)	Age	Cause
1980	_____	_____	_____
1981	_____	_____	_____
1982	_____	_____	_____

Total _____

D. ENVIRONMENT

Observe the homestead for the availability of a latrine.

1 = present

2 = absent

E. K.A.P. (Knowledge, attitude, practice)

Improvement in K/A/P

1. Where do you get your drinking water? Is the source used by animals?

2. Distance travelled to get water

1 = less than ½ mile

2 = ½-2 miles

3 = 2-5 miles

4 = 5+ miles.

3. Do you do anything with the water before drinking it?

1 = nothing because it is clean

2 = nothing although unclean

3 = boil before drinking

4 = other (specify) _____

(4) Is it difficult to get water for bathing?
How often are you able to bathe?

1 = daily

2 = in 2-3 days

3 = after 3 days

4 = when water is available.

(5) What type of milk is best for infants?
(Read alternatives below)

1. = breast milk

2 = powdered milk

3 = cow/goat milk

4 = other

What do you think of mother's milk?

_____

_____

(6) What causes the following diseases?

Diarrhea _____

Scabies _____

malaria _____

(7) How can these diseases be prevented?

Diarrhea _____

Scabies _____

Malaria _____

F. Utilization of Health Services

(1) Nearest health facility

Name	Type	(Walking time)

Time to walk	Time by vehicle	Cost of Transport

(2) Are you aware of a mobile health clinic in your area?

(Specify clinic name and town).

Yes ☐ No ☐

(3) Does this clinic help you? The people here?

Yes ☐ No ☐

If yes, how? If no, why not?

_____

_____

_____

(C) Quality of Services in Relation to felt needs

1. What are the most common diseases in the children in your family?

_____

_____

_____

2. Do you learn anything in the talks at the clinics to help you prevent or treat diseases?

1 = yes

2 = no

3 = don't know

☐

(II) Growth of Community Participation

(1) Do you know of a health committee in your area?

Yes ☐ No ☐

(2) Are there any CHW's in your community?
"People educated in health"

Yes ☐ No ☐

(3) What do you do to support health activities in your community? (suggest e.g. preparing road, providing building, cleaning building)

_____

_____

_____

ANALYSIS OF THE CLINIC AND HOUSEHOLD SURVEY DATA

FINAL EVALUATION 1982

1. Introduction

This analysis aims to examine the effects of the Kitui primary health care project through assessment of the project goal as seen by both the project beneficiaries (i.e. clinic respondents) and household respondents. Clinic respondents were selected in one of the 16 clinics in each of the areas, except Kimangao where clinics were inoperative during the two days the evaluation team worked there. Other respondents were obtained through random selection of households in places of progressively increasing distance from the nearest mobile clinic. Identification of clinics was also based on random selection (see Methodology).

The questions asked to both the clinic and household respondents (all of whom were either married, lactating, or expectant women) revolved around their health and that of their children, in addition to their health knowledge and practices, and utilization of mobile health services.

The data analysis in this survey will largely proceed through comparison of clinic and household respondents. Given the short period of three years when the Kitui (PHC) project has been active, it is only realistic to examine the project impact among the confirmed users (i.e. clinic attendants) vis-a-vis the household respondents (possibly project non-beneficiaries). It is also important to indicate at the outset the type of health impact that is realistic to expect in this short duration of the project. Health impact at a community level essentially involves progressive stages including health education, knowledge and awareness

of disease causes and their prevention, health practices and community involvement in health, and finally, reduced morbidity and mortality. Since the goal of a PHC project is to promote the capacity of the community to identify their health needs and work out a community-supported primary health care system, it will be important to determine the extent to which the project has given assistance to the communities through health education, participation in health related activities (e.g. nutrition improvement, training of community health workers, interaction with community leaders, and so on) and other promotive activities.

2. Demographic Characteristics of the Population

The next section of this report deals with demographic background characteristics of the respondents for the whole area as well as specific clinic areas. Such demographic characteristics (e.g. age and education) are important in assessing the amount of effort and time required in selling the idea of primary health care through education and other promotive activities.

Before examining the age, sex and educational characteristics of household members it is worthwhile to note the sample distribution of the respondents by area as observed in Table 2.1.

Table 2.1: Distribution of Respondents by Area, Clinic and Type (Percentages)

Area	Type of Respondent					
	All Respondents		Clinic Respondents		Household Respondents	
	%	N	%	N	%	N
Total	100.0	154	100.0	70	100.0	84
Muthale	22.0	34	18.5	13	25.0	21
Kimangao	11.7	18	-	-	21.4	18
Nuu	27.9	43	31.4	22	25.0	21
Mutomo	38.3	59	50.0	35	28.6	24

The clinic respondents are represented by 70 household while household respondents are represented by 84 households. The sample variations by area do not reflect population balances in these areas, although they are representative of household characteristics. (The omission of clinic women in Kimangao should not be taken to imply non-existence of mobile clinics in the area. Rather, there were no operating clinics at the time the evaluation team was in Kimangao).

2.1 Age-Sex Characteristics

As the figures below show (see Table 2.2) the clinic women's households are younger than other households. Thus 61.8% of the household members among clinic respondents consist of children aged under 15, while the comparable proportion is 56.1% in other respondents' households. Indeed, 32.2% of the members in clinic households are under 5 years of age while the number in other random households is only 23.8%. Since the mobile clinics aim at attracting women with very young children,

Table 2.2 Age Distribution of Household Members (in percentages) and Type of Respondent

Type of Respondent	Age Distribution in Household						
	< 1	1 - 4	5 - 14	15 - 49	50+	Total	Number
Clinic	12.6	19.6	29.6	33.6	5.0	100	422
Household	5.6	18.2	32.3	34.2	9.5	100	532

it is not surprising that a higher proportion of such children are in households where mothers attend mobile clinics.

Table 2.3 shows the distribution of age by sex. Overall there are more females than males but it is questionable why there are abnormally few males among the youngest children, and particularly among children under 1 in the sample households. Although the male mortality rate is higher than that of the female sex, it is questionable whether this could occur and show up quantitatively within the first year of life when the sex-ratio at birth is slightly above parity.

The sex ratio in the reproductive age span of women (i.e. 15-49) is instructive. In general there is a shortage of males, especially in survey respondents' households where there are only 80.2 males for every 100 females. Since this is the age group where most women are mothers of young children, the absence of males from households increases the need for assistance in child care among the woman. Availability of mobile clinics and their health services to such women and children is bound to be highly appreciated in these households.

Table 2.3: Age Distribtuion of Sex, Sex Ratios and Per cent under 5 among Clinic and Household Respondents

Age	Type of Respondent								
	All			Clinic Respondents			Household Respondents		
	Males	Females	Sex Ratio	Males	Females	Sex Ratio	Males	Females	Sex Ratio
<1	35	48	72.9	23	30	76.6	12	18	66.7
1 - 4	92	86	106.9	39	44	88.6	55	42	130.9
5 - 14	137	160	85.0	60	63	95.2	75	97	77.3
15 - 49	146	178	82.0	65	77	84.4	81	101	80.2
50+	36	36	100.0	8	13	61.5	28	23	121.7
Total	446	508	87.8	195	222	85.9	251	281	89.3
	% < 5 = 27.3			% < 5 = 32.2			% < 5 = 23.8		
	% < 1 = 8.7			% < 1 = 12.6			% <1 = 5.6		

2.2 Education of Respondents

Table 2.4 shows higher education levels among clinic attendants than random household respondents since 58.6% have no education in the former group while 82.1% have no education in the latter group. However, it is essentially in Muthale and Mutomo where educational differences between clinic and household respondents are clearly marked. Hardly any differences exist between the two types of respondents in Nuu and Kimangao.

Due to lower education levels in Nuu and Kimangao, there is need for intensified health education activities in these areas. Due to these educational differences between clinic and household respondents careful interpretation of any differences between the two groups in health behavior in subsequent sections has to be borne in mind because the educational factor might confound the project effect.

Table 2.4: Per cent Distribution by Educational Level and Type of Respondent (for 4 Project Areas)

Area	Clinic Respondents						Household Respondents					
	None	1 - 4	5 - 7	7+	Continuing	N.	None	1 - 4	5 - 7	7+	Continuing	N.
All	58.6	10.0	8.6	20.0	2.8	70	82.1	7.1	7.1	2.4	1.2	84
Muthale	7.7	7.7	7.7	61.5	15.4	13	71.4	9.6	19.0	-	-	21
Kimangao	-	-	-	-	-	-	77.8	16.7	5.5	-	-	18
Nzu	90.9	4.5	-	4.5	-	22	90.5	-	4.8	4.7	—	21
Mutomo	57.1	14.3	14.3	14.3	-	35	87.4	4.2	4.2	4.2	-	24

$x^2 = 15.48$ $P < .005 > .001$ df = 4

(The difference between clinic and household respondents is very significant)

3. Perceived Reduction in Morbidity and Mortality

3.1 Reduction in Morbidity

Nearly all the people interviewed see a marked decline in the incidence of certain diseases in the last three years (e.g. measles, scabies, eye infections, whooping cough and polio). Certainly, most of these diseases used to affect young children; therefore it is probable that the clinic immunization activities have largely contributed to the reduction in incidence of these diseases, even in areas of relatively low socio-economic development like Kimangao. Most people agree that morbidity reduction of these diseases dates back the last two years, although a few others have observed declines since 1979.

The diseases that are still active and for which no reduced morbidity has been perceived are coughs and colds, diarrhea, headaches, malaria and child malnutrition due to limited food intake.

3.2 Common Diseases in Children

It is interesting to observe variations in response among clinic and household respondents concerning perceived common diseases in children in the four project areas. As Table 2.5 shows, far more household respondents (19.0%) than clinic respondents (12.9%) think measles is a common disease among children. The more interesting observation is that in Muthale, no clinic respondents see this disease as common childhood disease these days, while 28.6% household respondents in Muthale see measles to be still common, indicating that mobile clinic services may have made an impact.

Table 3.1: Common Childhood Diseases, Area, and Per Cent Household Among Clinic and Random Survey Respondents

Diseases	Clinic Respondents					Household Respondents				
	All	Muth.	Kim.	Nuu	Mutomo	All	Muth.	Kim.	Nuu	Mutomo
Measles	12.9	-	-	13.6	17.2	19.0	28.6	22.2	14.2	12.5
Diarrhea, Vomiting	12.9	15.4	-	13.6	11.4	11.9	14.3	11.1	4.8	16.7
Coughs, & Chest pains	25.7	-	-	31.8	31.4	25.0	28.6	33.3	28.6	12.5
Malaria, fever, headaches	32.9	69.2	-	22.8	25.7	13.1	4.8	16.7	19.0	12.5
Scabies	2.7	7.7	-	-	2.9	4.8	-	-	4.8	12.5
None, don't know	12.9	7.7	-	18.2	11.4	26.2	23.7	16.7	28.6	33.3
Total	100.0	100.0	-	100.00	100.00	100.0	100.0	100.0	100.0	100.0
N	70	13	-	22	35	84	21	18	21	24

It is not certain why coughs and chest pains (31.4%), and malaria, fever, and headaches (25.7%) among clinic respondents in Mutomo seem to have more than doubled when compared to random survey (household) respondents where this incidence is 12.5% and 12.5% respectively. Certainly, this is not what would be expected. It is very likely that there might be no difference in incidence of these diseases between clinic and other respondents' households or these diseases might have actually declined slightly among clinic respondents' households. However, the fact that other diseases (e.g. measles, and scabies, among others) have sharply declined in clinic respondents' households, makes diseases such as malaria, coughs and headaches more common among clinic respondents because no compensatory declines have been registered in them.

The perceived reduction in some common childhood diseases is perhaps due to an increase in the number of children in most households over the last 3 years due to increased survival rates since the inception of the PHC program. Indeed a number of informal discussions with the local people showed that the reason they thought childhood diseases were "disappearing" was because the infant mortality rate was declining resulting in an increase in the number of children in most households. Overall the percentage of children under 5 is 27.3% (see Table 2.3 above) and perhaps this proportion represents an increase over the last 3 years.

3.2: Reduction in Mortality

The people interviewed in the household survey perceive a reduction in mortality in general and infant mortality in particular. In the clinic survey no death was recorded for 1982, but three deaths were recorded in 1980, suggesting that mortality (especially infant mortality) has been declining. A number of people in Kimangao indicated that infant mortality is declining at a rate that will soon permit people to take family planning more seriously due to the increased survival probability of their children.

4. Existing Health Facilities and Their Utilization

4.1: Nearest Health Facility

Among both the clinic and household respondents the nearest health facility is judged to be the Government clinic, hospital or health centre. However, far fewer clinic respondents (42.9%) than household respondents (71.4%) indicate Government health facilities to be nearest, and conversely, far more clinic respondents (30%) than household respondents indicate mobile clinics to be the nearest health facilities, as seen in Table 4.1 below. Mobile health facilities as seen by clinic respondents dominate in Muthale and Mutomo (61.5% and 37.1% respectively) while only 9.5% of household respondents perceive mobile health services to be the nearest facility. The conclusion we could draw from this observation is that, although the majority of the clinic respondents do not perceive mobile services to be the nearest health facilities (only 30.0% so perceive them), they still continue seeking services from mobile clinics. (In some cases the government services do not offer maternal and child care.) It may also suggest that the mobile clinics are seen by local people as efficient and effective, especially when it is realized that most clinic respondents (61.4%) would take more than two hours to walk to the clinic, and would spend at least KShs.2/= and at most over KShs.5/= in 40.1% of the cases if they were to take means of public transport. (See the Survey Appendix Tables, Nos. 3, 4, & 5).

Table 4.1: Perceived Nearest Health Facility, Type of Respondent and Area. (Per cent Households)

Facility	Clinic Respondents					Household Respondents				
	All	Muth.	Kim.	Nuu	Mutomo	All	Muth	Kim.	Nuu	Mutomo
Catholic Hospital	21.4	-	-	4.5	40.0	23.8	52.4	5.6	-	33.3
Mobile Clinic	30.0	61.5	-	-	37.1	2.4	9.5	-	-	-
Dispensaries	-	-	--	-	-	-	-	-	-	-
Govt. Facility	42.9	7.7	-	95.5	22.9	71.4	28.6	94.4	100	66.6
Private Clinic	5.7	30.7	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	2.4	9.5	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	70.	13	-	22	35	84	21	18	21	24

4.2 Reasons for Utilization of Mobile Clinics

The clinic and household respondents were also asked to indicate how mobile clinics help in delivering health services to the people. The responses they gave are shown in Table 4.2. In terms of the mobile clinic objectives of promoting health education, knowledge of nutrition and disease prevention, it is important to note that 70% of the clinic beneficiaries believe these are the major contributions of the mobile clinics. Among household respondents only 44% think mobile clinics play promotive roles. Household respondents are less likely to have attended the clinics and therefore more likely to imagine rather than observe mobile clinic activities. Other notable methods of help provided by mobile clinics include treatments and immunizations, and improved access to remote communities. Again, more clinic respondents (24.3%) than household respondents (16.7%) see mobile clinics as treatment and immunization centers. No one among clinic respondents thinks mobile clinics provide no help, but a significant number among household respondents (19.0%) see no help provided by mobile clinics. This perception of no help is perhaps based on the fact that household respondents are likely to reside in areas far removed from the environs of mobile clinic services, and therefore less likely to have benefited from them.

Table 4.2: Per cent Distribution of Respondents by Area and Stated Method of Help by Mobile Clinics

Method of Help	Clinic Respondents					Household Respondents				
	All	Muth.	Kim.	Nuu	Mutomo	All	Muth.	Kim.	Nuu	Muto.
MCH (nutrition, health educ. etc.)	37.1	69.2	-	36.5	25.7	25.0	19.0	22.1	33.3	25.0
Prevention of Diseases	32.9	7.7	-	31.8	42.9	19.1	4.8	11.1	28.6	29.2
Treatment & Immunization	24.3	23.1	-	22.7	25.7	16.7	33.3	16.7	9.5	8.3
Shortens Clinic Distance	4.3	-	-	4.5	5.7	9.5	28.6	5.6	-	4.2
Other (not attended, provide food)	1.4	-	-	4.5	-	10.7	14.3	16.7	9.5	4.2
Do not help	-	-	-	-	-	19.0	-	27.8	19.1	29.1
Total	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	70	13	-	22	35	84	21	18	21	24

$X^2 = 21.84$ $P < .001$ df = 5

(The chi square test shows a very significant difference between clinic and household respondents)

5. Health Knowledge

In this section of the report we are keen to assess the extent of health knowledge that is not based on misunderstood cultural practices, but one that is likely to result from health educational discussions by the project staff in Kitui.

5.1 Opinion on the Best Type of Milk for Infants

Mobile clinics in Kitui are expected to have discussed the value of different types of food at different stages of growth. Since these health services aim at improving the health of young children primarily through advice to mothers on good dietary practices, it is instructive to assess what the women in Kitui think would be the best milk for infants, as a measure of mobile clinics' performance in health education.

As Table 5.1 shows, there are more clinic respondents (52.9%) than household respondents (42.8%) who believe breast milk from the mother is best for infants. This suggests that the difference between the two groups is due to health education provided to beneficiaries at the clinics. A close competitor to breast milk is cow or goat milk, which is favoured by 40% of all clinic respondents and 33.3% of the household respondents.

Table 5.1: Distribution of Respondents by Area and Type of Milk Thought Best for Intants (in Percentages).

Type of Milk	Clinic Respondents					Household Respondents				
	All	Muth.	Kim.	Nuu	Mutomo	All	Muth.	Kim.	Nuu	Mutomo
Breast Milk	52.9	69.2	-	59.1	42.9	42.8	23.8	38.9	47.6	58.3
Powdered	5.7	-	-	9.1	5.7	17.9	19.0	16.7	23.8	12.5
Cow/Goat	40.0	30.8	-	27.3	51.4	33.3	52.4	33.3	23.8	25.0
Other	1.4	-	-	4.5	-	6.0	4.8	11.1	4.8	4.2
Total	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	70	13	-	22	35	84	21	18	21	24

$X^2 = 6.6$ $P < .100 > .050$ $df = 3$

While no women beneficiaries in Muthale thought powdered milk is best for infants and only an insignificant number in Nuu and Mutomo favored it, highly significant proportions of household respondents took powdered milk to be the best, suggesting the need for intensive health education on the value of breast milk among non-clinic women. It also seems that some beneficiaries have not yet been made aware of the value of breast feeding either because they may not have attended clinics regularly or are recent recruits into the program.

5.2: Opinion on Mother's Milk

When asked to evaluate mother's milk, more clinic than household respondents thought of it as most nutritious although at Nuu and Mutomo the reverse is the case. However, overall, not all respondents who thought breast feeding is best for infants (i.e. 52.9% and 42.8% clinic and household respondents, respectively - see Table 5.1) believe mother's milk is best because it is nutritions and healthy (see Table 5.2 below). Thus only 41.4% among clinic respondents and 38.1% among household respondents evaluate mother's milk as nutritious. Other responses in Table 5.2 seem to suggest that although mother's milk is most nutritious, most mothers cannot depend on it wholly because it would not be sufficient or in some cases may not be recommended if the mother is sick.

Almost equal proportions of clinic and household respondents either do not know the nutritional value of mother's milk or simply think it it not good. This is particularly so among respondents in Nuu and Mutomo when clinic beneficiaries are considered, and among respondents in Muthale and Kimangao when household respondents are considered. It is not expected that such a large number of clinic beneficiaries (37.1%) would be ignorant of the nutritional value of

Table 5.2. Opinion on Mother's Milk by Area and Type of Respondent

Opinion	Clinic Respondents					Household Respondents				
	All	Muth.	Kim.	Nuu	Muto.	All	Muth.	Kim.	Nuu	Muto.
Most nutritious, healthy	41.4	38.5	-	36.5	45.7	38.1	19.0	33.3	47.6	50.0
Good but not sufficient	5.7	23.0	-	4.5	-	-	-	-	-	-
Cleaner than others	12.9	15.4	-	4.5	17.1	21.4	19.0	27.8	19.1	20.8
Good but not when mother is sick	2.9	7.7	-	4.5	-	3.6	4.8	-	9.5	-
Not good, don't know	37.1	15.4	-	50.0	37.2	36.9	57.2	38.9	23.8	29.2
Total	100	100	-	100	100	100	100	100	100	100
N	70	13	-	22	35	84	21	18	21	24

mother's milk especially in the Mutomo area where mobile clinics have operated for longer periods than in other areas.

5.3 Knowledge of Disease Causation

In general most clinic respondents, far more than household respondents, are able to associate diseases such as diarrhea, scabies and malaria with conditions which cause them. This reflects on health education they might have gotten at the clinics (see Table No. 8 of the Survey Appendix). Since the Mid-Term Evaluation did not report specific disease causes as seen by beneficiaries, no proper comparisons can be made with this survey to indicate gain in knowledge.

Among clinic respondents 45.7% are able to specify causes of diarrhea, while 33.3% are able to do so among household respondents. The majority of respondents attribute diarrhea to consumption of contaminated food and poor feeding, but a significant number of clinic beneficiaries think diarrhea could be spread by flies. It is notable that 54.3% and 66.7% of the clinic and household respondents, respectively, either do not know causes of diarrhea or consider it an act of God, spelling out the need for more health education.

Causes of scabies are seen to be the use of dirty water for washing, dirty body, and lack of protective foods such as fruits. A few beneficiaries wrongly attribute scabies to "lack of blood" (a form of anaemia presumably) and "wind" (whatever this means or implies). An interesting observation is that while 62.9% of the clinic respondents do not know what causes scabies, a smaller proportion (57.1%) of household respondents have no knowledge. It is not certain why this is so.

Although more clinic respondents (28.6%) than household respondents (21.4%) know the causes of malaria to be mosquitoes, the proportion is small. Since malaria is a very common disease in the area, it should be discussed more in the health education sessions.

5.4 Knowledge of Disease Prevention

In general more people know methods of disease prevention than they know what causes these diseases, although it could be easier to prevent diseases when causes are known. Table 5.3 shows distribution of respondents according to knowledge of disease prevention by each of the four areas. It is apparent there are no significant differences in knowledge of disease prevention between clinic and household respondents although the tendency favours clinic respondents. Indeed household respondents have more knowledge of preventing scabies than clinic beneficiaries. Most people who have knowledge of preventing diarrhea think of good diet and clean food as the right method of prevention. A few recommend digging pit latrines and boiling water for drinking. Scabies can be prevented through use of soap and salty water and maintaining a clean body and clothes as well as providing preventive foods such as fruits. A significant number of respondents would recommend either visiting a witchdoctor or attending hospital for prevention of scabies. Certainly this is mistaking prevention for treatment or cure. It seems that a good number of respondents are unable to see clear differences between preventive and curative measures.

Malaria is seen preventable through periodic use of tablets, use of nets and other methods of keeping off mosquitoes, and clearing bushes and draining water where mosquitoes could breed. These are good methods of prevention but only 32.9% of the clinic respondents and 26.2% of the household respondents opt for them. A significant number

Table 5.3 Knowledge of Disease Prevention by Type of Disease and Area Among Clinic and Household Respondents

Knowledge	Clinic Respondents					Household Respondents				
	All	Muth.	Kim.	Nuu	Mutomo	All	Muth.	Kim.	Nuu	Mutomo
Prevention of Diarrhea										
Some	55.6	69.2	-	54.6	51.4	51.2	71.4	22.3	61.9	45.9
None	44.4	30.8	-	45.4	48.6	48.8	28.6	77.7	38.1	54.1
Total	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Prevention of Scabies										
Some	42.9	100.0	-	31.8	28.7	48.8	81.0	38.9	38.1	37.5
None	57.1	-	-	68.2	71.3	51.2	19.0	61.1	61.9	62.5
Total	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Prevention of Malaria										
Some	55.7	100.0	-	31.8	34.3	46.5	71.3	50.0	33.3	33.3
None	54.3	-	-	68.2	65.7	53.5	28.7	50.0	66.7	66.7
Total	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	70	13	-	22	35	84	21	18	21	24

(12.8% and 20.3% of the clinic and household respondents) clearly indicate the wrong methods of prevention of malaria, such as vaccinations, attending hospitals, boiling water before drinking and using clean utencils and food. Clearly, these people need more health education.

6. Health Practices

6.1: Treatment of Drinking Water and Bathing Practices

Some good indicators of improved health practices are treatment of water for drinking and bathing practices of the people. Table 6.1 shows that 60% of the clinic respondents and 45.2% of the others do nothing to water for drinking because they think it is clean. The water used is probably not as clean as these respondents would want to think and therefore more education on water as a carrier of germs is needed. The fact that more clinic than household respondents think the water they drink is clean is perhaps a rationalization since they know from clinic talks the importance of boiling water before drinking, although they may have "no time" or fuel to "waste" in boiling it. In any case there is no significant difference between clinic and household respondents in their treatment of water. More non-beneficiaries (38.1%) than beneficiaries (27.1%) do nothing to water for drinking although they are aware the water is not clean, and only an insignificant minority boil water.

Comparison of the Mid-Term Report data on bathing practices with data in this survey show few people bathing more frequently in 1982 than they did in 1981 (see Table 6.2).

(It is not possible to include Kimangao and Nuu in Table 6.2 because no comparable data are available for the two periods (1981 and 1982) in either of the two surveys). It is doubtful that bathing practices have actually reduced. Rather, it is likely that clinic samples are not

Table 6.1 Respondents' Methods of Treating Water for Drinking

Method of Treatment	Clinic Respondents				Household Respondents				
	All	Muth.	Nuu	Muto.	All	Muth.	Kim.	Nuu	Muto.
Nothing, it is clean	60.0	53.8	50.0	68.6	45.2	28.6	22.2	57.1	66.7
Nothing though unclean	27.1	15.4	36.4	25.7	38.1	38.2	55.6	38.1	25.0
Boil	8.6	30.8	-	5.7	6.0	19.0	-	4.8	-
Other (no response)	4.3	-	13.6	-	10.7	4.3	22.2	-	8.3
Total	100	100	100	100	100	100	100	100	100
	70	13	22	35	84	21	18	21	24

$X^{2'} = 1.53$ $P < .75 > .50$ $df = 3$

Table 6.2 Comparison of Bathing Practices in 1981 (as in Mid-Term Report) with Practices this Year, 1982 (as in this Survey) Among Project Beneficiaries.

Area	Daily	2 - 3 Days	3+ Days	When Water Available	N
			Mid-Term Report 1981		
Mutomo	60.0	20.0	-	20.0	20
Muthale	95.0	5.0	-	-	20
Total	77.5	12.5	-	10.0	40
			Survey Data, 1982		
Mutomo	48.6	20.0	20.0	11.4	35
Muthale	46.2	30.8	-	23.0	13
Total	47.9	22.9	14.6	14.6	48

comparable for the two periods. This observation alerts evaluators to the vital need of drawing out representative samples that can be replicable for monitoring and evaluation of the Kitui Primary Health Care Project.

6.2 Sources of Water and Distances

All the clinic respondents in Nuu and Mutomo, and 92.3% in Muthale obtain water from seasonal rivers or dug wells along river valleys. Only a negligible number (7.7% in Muthale) draw water from the dam. (See the relevant table in the Survey Appendix). Among household respondents the principle sources of water are seasonal rivers or dug wells (60.7%) and dams (33.3%) in all the four clinic areas.

Besides lack of permanent sources of water as a major problem in the area, the other problem relates to distances covered to get water. Clinic respondents have better access to water. A more interesting observation is that more clinic beneficiaries are covering shorter distances to water points in 1982 when compared with beneficiaries of more than a year ago (1981) as shown in the Mid-Term Report, 1981 (see Table 6.4). Thus Table 6.4 shows that in 1981, 62.5% of the survey beneficiaries covered at most 2 km. to water points while in 1982 the comparable proportion is 65.7%.
The proportion covering long distances of more than 5 km. has also declined from 15% to 6.2% in 1981 and 1982 respectively. It is logical to expect more people to use larger quantities of water as a result of better access to water points. In particular bathing practices among the beneficiaries would be expected to have increased between 1981 and 1982.

Table 6.3 Distance to Water Points and Percent Household Distribution (Clinic & Non-Clinic Respondents)

Area	Distance in Kilometers and Respondents									
	Clinic Respondents					Household Respondents				
	<½km	½-2	2-5	5+	N	<½km	½-2	2-5	5+	N
All areas	34.3	20.0	37.1	8.6	70	19.1	22.6	46.4	11.9	84
Muthale	46.1	30.8	15.4	7.7	13	33.3	38.1	28.6	-	21
Kimangao	-	-	-	-	-	-	16.7	27.8	55.5	18
Nuu	18.2	9.1	59.1	13.6	22	42.9	14.3	42.8	-	21
Mutomo	40.0	22.9	31.4	5.7	35	-	20.8	79.2	-	24

Table 6.4 Comparison of Distances (in Km) covered to Water Points by Beneficiaries of 1981 (see Mid-Term Report) and those of 1982 (as observed in this Survey).

Area*	Type of Survey and Distances									
	Mid-Term (1981)					End of Term (1982)				
	<½ km.	½-2	2-5	5+	N	<½ km.	½-2	2 - 5	5+	N
All areas	27.5	35.0	22.5	15.0	40	41.7	25.0	27.1	6.2	48
Muthale	30.0	50.0	15.0	5.0	20	46.1	30.8	15.4	7.7	13
Mutomo	25.0	20.0	30.0	25.0	20	40.0	22.9	31.4	5.7	35

* Calculations of area percentages do not include Kimangao and Nuu areas because these areas were missed out in the Surveys of 1981 and 1982 respectively.

6.3 Use of Water Sources by Animals

Increased access to water sources has meant that the water is also available for animal use. It is noted that there are more clinic beneficiaries sharing water sources with animals than is the case with other households. Thus 57% and 38% of the clinic and household respondents, respectively, indicate sharing water sources with animals. Since clinic respondents have better access to water than the household respondents (see Table 6.3), they may feel encouraged to improve animal health through frequent supply of water at these sources, although the people may realize that these animals may contaminate water. In this semi-arid area, the value placed on livestock is high (for both subsistence and sale) and most people would not compromise their livestock with some "health measures" (e.g. having separate water points for humans and animals when water is scarce). Indeed the alternative of leading animals to separate water points would not be a rational choice both economically and healthwise. The people stand to suffer substantially through shortage of milk and meat if animals are not well supplied with water. It is well to remark that animals like lactating cows need a lot of water in order to yield sufficient milk that is highly demanded by young children.

7. Conclusion

In the last 3 years the Kitui PHC project has shown progress in meeting most of its objectives including reduction in actual and perceived morbidity and mortality rates, imparting health education on topics of community interest (e.g. knowledge of disease causes and prevention, health practices and nutritional value of the available local foods), and meeting health needs of expectant women and children under five years of age.

Nearly all the cross-sections of local people recognize the importance of the mobile clinics in reaching out to the remote communities in order to provide health services, no matter how inadequately. It is the only service the "poorest majority" in Kitui thinks attempts to meet their health needs.

A good number of residents seem to make no difference between these health services (which are community oriented) and government services through the MOH (which are national and district oriented). However, they have no doubts about the benefits they have enjoyed from services which seem more symphathetic to their health conditions.

Nonetheless, it is necessary to develop the community's sense of independance and self reliance in meeting its health needs, since the mobile clinic project is to be phased out soon. To date there is no clear indication the community is moving toward self support in its health care system.

APPENDIX

SURVEY TABLES ON SELECTED HEALTH TOPICS

Table 1:

Place to draw water and % households (Clinic & Household Respondents)

Area	Bore-hole	Seasonal River	Perennial River	Dam	Other	Total	N
Clinic Respondents							
All area	-	98.6	-	1.4	-	100	70
Muthale	-	92.3	-	7.7	-	100	13
Kimangao	-	-	-	-	-	-	-
Nuu	-	100.0	-	-	-	100	22
Mutomo	-	100.0	-	-	-	100	35
Household Respondents							
All areas	3.6	60.7	1.2	33.3	1.2	100	84
Muthale	-	66.7	-	33.3	-	100	21
Kimangao	-	88.8	5.6	5.6		100	18
Nuu	14.3	85.7	-	-	-	100	21
Mutomo	-	12.5	-	87.5	-	100	24

Table 2

Whether the Water Point is Used by Animals (% Households)

			Clinic Respondents		
			Area		
Response	All	Muthale	Kimangao	Nuu	Mutomo
Yes	57.1	61.5	-	63.6	51.4
No	40.00	38.5	-	27.3	48.6
Other	2.9	9.0	-	9. 1	-
Total	100.0	100.0	-	100.0	100.0
N	70	13	-	22	35
			Household Respondents		
Yes	38.1	47.6	61.1	52.4	-
No	58.3	52.4	27.8	42.8	100
Other	3.6	-	11.1	4.8	-
Total	100.0	100.0	100.0	100.0	100.0
N	84	21	18	21	24

Table 3

Time to Walk to Clinic (% Households)

Area	Clinic Repondents Hours < ½	½-1	1-2	2+	Other	total	N	Household Respondents Hours < ½	½-1	1-2	2+	Other	Total	N
All	11.4	7.2	11.4	61.4	8.6	100.	70	9.5	4.8	8.3	77.4	-	100	84
Muthale	38.4	23.1	30.8	7.7	-	100	13	-	14.3	9.5	76.2	-	100	21
Kimangao	-	-	-	-	-	-	-	-	-	-	100.0	-	100	18
Nuu	4.6	-	-	81.8	13.6	100	22	38.1	-	19.0	42.9	-	100	21
Mutomo	5.7	5.7	11.4	68.6	8.6	100	35	-	4.2	91.6	-	-	100	24

Table 4

Time to Clinic by Vehicle (% Households)

Area	Clinic Minutes <15	15-30	30-60	60+	other	Total	N	Household Minutes <15	15-30	30-60	60+	Other	Total	N
All	7.2	11.4	10.0	20.0	51.4	100.0	70	21.3	15.7	8.2	29.8	25.0	100	84
Muthale	23.1	30.8	15.3	-	30.8	100	13	38.1	28.6	9.5	28.8	-	100	21
Kimangao	-	-	-	-	-	-	-	-	-	5.5	55.6	38.9	100	18
Nuu	-	13.6	22.7	18.2	45.5	100	22	33.3	-	19.0	9.5	38.2	100	21
Mutomo	5.7	2.9	-	28.6	62.8	100	35	12.5	29.2	-	33.3	25.0	100	24

Table 5

Cost of Transport to Health Facility (% Households)

	Clinic Resps. Shillings								Household Shillings							
	None	2	2-3	3.1-4	4.1-5	5+	Other	N	None	2	2-3	3.1-4	4.1-5	5+	Other	N
.ll	1.4	11.4	18.6	1.4	8.6	11.4	47.2	70	8.3	16.7	17.9	2.4	27.4	4.7	22.6	84
Muthale	7.7	15.4	38.4	-	23.1	-	15.4	13	-	23.8	28.5	42.9	4.8	4.8	-	21
:Imangao	-	-	-	-	-	-	-	-	-	-	5.5	5.5	50.0	-	39.0	18
.Nun	-	-	18.2	4.6	13.6	27.2	36.4	22	33.3	4.8	-	4.8	23.8	4.8	28.5	21
lutomo	-	17.2	11.4	-	-	5.7	65.7	35	-	33.3	33.3	-	-	8.4	25.0	24

Table 6

Whether Clinics are Believed to Help

	Clinic Resps.	Household Resps.
Yes	98.6	78.6
No	-	21.4
Other	1.6	-
	100.0	100.0
	N= 70	84

Table 7

Awareness of Mobile Clinic

	Clinic Respondents	Household Respondents
Yes	100.0	83.3
No	-	16.7
Total	100.0	100.0
	N= 70	84

Table 8

Knowledge of causes of diarrhea, Scabies and Malaria

Causes	Clinic					Household				
	All	Muth	Kim	Nuu	Muto	All	Muth	Kim	Nuu	Muto
Diarrhea										
1. Contaminated food, poor feedi	32.9	53.8	-	22.7	31.4	21.4	47.6	5.6	28.6	4.2
2. Flies	11.4	23.2	-	-	14.3	2.4	9.5	-	-	-
3. Dirty water (unboiled)	1.4	7.6	-	-	-	-	-	-	-	-
4. Dirty surroun surrounds	-	-	-	-	-	9.5	14.3	16.7	4.8	4.2
5. God, Don't know	54.3	15.4	-	77.3	54.3	66.7	28.6	77.7	66.6	91.6
Scabies										
1. Washing with dirty water	5.7	30.8	-	-	-	4.8	19.0	-	-	-
2. Dirty body	18.5	7.7	-	9.1	28.6	25.0	28.6	22.2	33.3	16.7
3. Lack of fruits	5.7	23.0	-	9.1	2.9	4.8	14.3	-	-	4.2
4. Lack of blood	4.3	7.7	-	-	-	-	-	-	-	-
5. Other (e.g wind)	2.9	-	-	-	5.6	8.3	14.3	11.1	9.5	-
6. Don't know	62.9	30.8	-	81.8	62.9	57.1	23.8	66.7	57.1	97.1
Malaria										
1. Mosquito	28.6	61.5	-	-	43.3	21.4	33.3	22.2	19.0	12.5
2. Wind, flies, stagnant water	7.1	23.1	-	9.1	-	13.1	19.0	16.6	9.6	8.3
3. Dirty and bushes	-	-	-	-	-	2.4	9.5	-	-	-
4. Weakness, bad stomach	7.1	15.4	-	9.1	2.9	6.0	14.3	5.6	-	4.2
5. Don't know	57.2	-	-	81.1	62.8	57.1	23.9	55.6	71.5	75.0
N=	70	13	-	22	35	84	21	18	21	24

Table 9

How Often Respondents Bathe

	Clinic					Household				
	All	Muth.	Kim.	Nuu	Muto.	All	Muth.	Kim.	Nuu	Muto.
Daily	51.4	46.2	-	59.1	48.6	22.6	33.3	-	52.4	4.2
2-3 days	22.9	30.8	-	22.7	20.0	27.4	42.9	33.3	9.5	25.0
After 3 days	10.0	-	-	-	20.0	4.8	4.8	5.8	-	8.3
When water is available	15.7	23.0	-	18.2	11.4	45.2	19.0	61.1	38.1	62.5
Total	100	100	-	100	100	100	100	100	100	100
N	70	13	-	22	35	84	21	18	21	24

Table 10

Knowledge of Health Committee?

	Clinic					Household				
	All	Muth	Kim	Nuu	Muto	All	Muth	Kim	Nuu	Muto
yes	2.9	15.4	-	-	-	1.2	4.8	-	-	-
No	97.1	84.6	-	100	100	97.6	95.2	94.4	100	100
Other	-	-	-	-	-	1.2	-	5.6	-	-
Total	100	100	-	100	100	100	100	100	100	100
N	70	13	-	22	35	84	21	18	21	24

Table 11

Any CHW's?

	Clinic					Household				
Yes	2.9	15.4	-	-	-	1.2	4.8	-	-	-
No	97.1	84.6	-	100	100	98.8	95.2	100	100	100
Total	100	100	-	100	100	100	100	100	100	100
N	70	13	-	22	35	84	21	18	21	24

Table 12

What Respondents do to support Health Activities

	Clinic Respondents		Household	
	%	N	%	N
Nothing - there are no activities to support	41.9	29	47.6	40
Don't know how to help and didn't know support is needed	5.7	4	9.5	8
Repair Roads, Provide building	44.3	31	34.5	29
Co-operate with health officials to promote health	1.4	1	2.4	2
Other (no answer)	7.2	5	6.0	5
Total	100.0	70	100.0	84

Annex VI

Maternal and Child Health Survey and Results (1982)

PHASE I FINAL EVALUATION

SEPTEMBER/OCTOBER 1 [illegible]

UNICEF/GOK PHC PROJECT - KITUI, KENYA

SAMPLE SURVEY

MCH FORM

Fill one form for each child five years and under.

Child's name ---------- Age -------- - (youngest in family)

Marital Status of mother ----------

NUTRITION

1. What did this child eat yesterday?

Time	Dishes	Ingredients
Morning		
Noon		
Evening		
In between		

Ingredients	No. of time served
Cereal	
Green leafy vegs.	
Legumes	
Tubers	
Fruit	
Animal protein	
Red/yellow vegs.	
Sugar	
Nuts	
Others	

Best Available Document

2. Take these measurements of the child and record:

Weight 1 = > 80%

2 = 60-80%

3 = < 60%

Arm circumference 1 = ≥ 13 cms

2 = < 13 cms

MCH

1. Has this child received any immunisation?

1 = Yes 2 = No 3 = No answer.

If yes, ask for/observe proof of at least 1 vaccination

1 = card seen 2 = BCG scar 3 = card and BCG

4 = No proof.

. Which clinic did the child attend?

1 = PHC (mobile) 2 = Mission (static)

3 = Government (static) 4 = Other (specify)

Give name ————————————————————

2. Ask the mother if present:

When you were pregnant with this child did you attend ANC?

1 = Yes 2 = No 3 = No answer.

If yes, where did you go? If not, why not?

1 = PHC (mobile) 2 = Mission (static),

3 = Government (static) 4 = Other (specify) Give name ————————

3. Where was this child born?

1 = Home 2 = Government Hospital/Health Centre

3 = Mission hospital

Family Planning

I. Do you know of any Family Planning methods?

Any ways to space your children?

1 = yes, 2 = No 3 = No answer

If yes, which one?

1 = natural method

2 = artificial

3 = no answer.

2. If yes, do you use any?

1 = Yes 2 = No 3 = No answer

Which one?

1 = natural, 2 = artificial, 3 = No answer

3. Where do you go for this service?

1 = PAC (mobile) 2 = Mission (static),

3 = Government (static) 4 = Other (specify)

Give name ----------

MCH SURVEY DATA

Comparison of Coverage Rates

Coverage (%)		Student Survey 1976	Student Survey 1978	Semi-Annual Reports 1980	Semi-Annual Reports 1981	Semi-Annual Reports 1982	Final Survey 1982
CWC (<5)	BCG	69.8	53	33.6	72.7	-	65
	Measles	-	-	17.0	51.5	-	-
ANC	Attendance	40.9	90.8	32	28.9	40.1	85.6
	Delivery (Hospital or Health Centre)	31.1	32.1	-	-	-	20.0

Foods Mean Frequency for Served in One day to Children < 5

Food	Medical Students Survey 1976	Medical Students Survey 1978	Final Evaluation Survey 1982
Cereals	1.6	2.2	1.0
Legumes	1.1	1.3	0.5
Green Leafy Vegetables	0.3	0.1	0.1
Fruit	0.2	0.1	0.1
Animal Protein	2.4	0.4	0.4
Yellow/Red Vegetables	0.2	0.6	0.1

Annex VII

Interview Schedules (1982)

PHASE I - FINAL EVALUATION

SEPTEMBER/OCTOBER 1982

USAID/CODEL PHC PROJECT - KITUI, KENYA

INTERVIEW SCHEDULE

COMMUNITY LEADERS

Appointed Chiefs (Modern)
Political Leaders (KANU)
Headmen (Traditional)
Health Committee Heads
Church Leaders

1. What do you perceive as the most serious health problems in your community?

Are they as important as other problems?

---

2. How can these health problems be solved?

---

3. How does the CODEL mobile clinic help?

Best Available Document

4. Are there any suggestions you have about how the clinics could be more effective?

---

5. Is there anything else happening in your community which might decrease the incidence of sickness?

---

6. Do you have a health committee?

If yes, who is a member?

When do they meet? ---

What projects have been undertaken?

(May we see the minutes of their meetings?)

---

7. Do you have any community health workers (CHW's) in your community?

If yes, how many? ---

How were they chosen? ---

Best Available Document

What was their training? By whom?

How are they supported?

Do they help improve health?

---------- How? ----------

If yes, would there be more CHW's?

If no, would you like to see some CHW's trained?

8. How do people support health activities in your community?

Has this support increased or decreased in the last few years? ----------

---

9. Who attends the mobile clinics?

Who does not? Why? Why not?

---

10. If the clinics were stopped tomorrow, how would your community suffer?

Would there be any permanent impact left by the CODEL project?

---

11. Would it make you happy to see the MOH take over the running of the mobile clinics? Why? Why not?

---

12. What is the position of President Moi's Government regarding population growth and the practice of Family Planning?

---

13. Do you approve of using Family Planning to delay or stop having children?

---

14. Are there places where you can obtain Family Planning

information and services in the community?

Name them.

---

15. Does the CODEL clinic provide information about Family Planning?

About what methods?

---

16. Should community leaders such as yourself try to motivate community residents about Family Planning?

---

17. Would you like to learn more about the methods and benefits of Family Planning?

PHASE I - FINAL EVALUATION

SEPTEMBER/OCTOBER 1982

USAID/CODEL PHC PROJECT - KITUI, KENYA

INTERVIEW SCHEDULE

CODEL STAFF

Kitui Staff — Mobile Clinic Leaders

Mutomo Staff — Mobile Clinic Staffs

1. How long have you worked with this project?

---

2. How do you evaluate it?

What are its strong points?

Its weaknesses?

Best Available Document

3. Who usually attends the clinics?

Why do they come?

---

4. What people do not come? Why not?

---

5. If the clinics were stopped tomorrow, would there be any permanent impact left in the communities?

---

6. Have vehicles been adequate?

---

7. Have drug and vaccine supplies been regular?

---

8. Do you feel you are paid well enough? Housed adequately?

How do your salaries and responsibilities compare to most employees?

---

9. Have you ever worked in conjunction with the MOH? How?

Has it been successful?

---

10. How do you imagine the transition to the MOH will take place before USAID funding for the project ends in three years?

---

11. Who determines the health discussion issues for your clinics?

PHASE I - FINAL EVALUATION

SEPTEMBER-OCTOBER 1982

USAID/CODEL PHC PROJECT - KITUI, KENYA

INTERVIEW SCHEDULE

OTHER OFFICIALS

Agricultural Officer
Livestock Officer
Social Services Officer
Education Officer
Community Development Officer

1. Do you interact with Ministry of Health (MOH) officials?

With Private Voluntary Organizations (PVO's) undertaking Health Work? If so, how?

---

2. Are you aware of the mobile clinics organized by the Catholic Diocese of Kitui? (CODEL)

---

3. If yes, what contributions are these teams making?

How could they improve their services?

---

4. Is health a priority area in Kitui or are other problems more severe?

PHASE I - FINAL EVALUATION

SEPTEMBER/OCTOBER 1982

USAID/CODEL PHC PROJECT - KITUI, KENYA

INTERVIEW SCHEDULE

TBA'S / CHW'S /OTHER MEDICAL PRACTITIONERS

1. What are the biggest health problems in this community?

   _____

   _____

   _____

2. What curative and preventive medical and health facilities are available to the community?

   _____

   _____

   _____

3. Do you know about the CODEL mobile clinics?

   _____

   _____

   What do you think of them?

   _____

   _____

4. Have the clinic staffs ever approached you for your help or advice? Have they offered you training?

   _____

   _____

   If yes, how long was the training?

   _____

   _____

5. How are you supported? Cash? Kind?

Is there a health committee in your community?

---

6. What improvements can you make to the health status of your community?

---

7. Family Planning

FP refers to all the things a husband and wife can do to delay or stop having children.

Do you approve of FP?

What methods of FP can you identify?

Do you ever provide advice to women about FP?

Would you like to know more about FP so that you could provide help to women?

Are there places where you can obtain FP information and services in the community? Name them.

PHASE I - FINAL EVALUATION

SEPTEMBER/OCTOBER 1982

USAID/CODEL PHC PROJECT - KITUI, KENYA

INTERVIEW SCHEDULE

WOMEN'S GROUPS

Leader/Member

1. What are the purposes for which your group exists?

   ---

2. How often do you meet?

   ---

3. Do you ever discuss health issues? What are the most important ones?

   ---

4. How do you think these problems can be solved?

   ---

5. Have you ever heard of the mobile clinics run by CODEL (Catholic Diocese)?

Have you attended any session?

---

6. Are these clinics meeting your needs?

Your community's needs? ---

If not, how could they improve their services?

---

7. Are there any community health workers (CHW's) in your community? Do they help? How?

Have you ever thought of becoming a CHW yourself?

---

8. Family Planning refers to all the things a husband and wife can do to delay or stop having children. Do you approve of FP?

---

9. Do you approve of having more children than can be properly fed, clothed and educated?

---

10. Do you approve of young, unmarried girls getting pregnant?

What can women's groups do to prevent this?

---

11. Are there places where one can obtain FP information and services in the community? Name them.

---

12. Would members of your women's group like to learn more about Family Planning?

---

13. Would you approve of your women's group providing information about FP to its members?

Annex VIII

Schedules of Safaris (1982)

KITUI PRIMARY HEALTH CARE PROJECT - NUU SAFARIS 1982.

Location.	Ist Week	Jan.	Feb.	March.	April.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Yutwa	Monday	4th	1st.	1st.	5th.	3rd.	31st. May	5th	2nd.	Aug.30t	4th	1st.	Nov29th.
MUTIANGONE	Tuesday.	5th.	2nd.	2nd.	6th.	4th.	4th.	6th.	3rd.	Aug.31	5th	2nd.	Nov30th.
MIKUYUNI.	Wednesday.	6th.	3rd.	3rd.	7th.	5th.	2nd.	7th.	4th.	1st.	6th	3rd.	1st.
Tuvaani.	Thursday.	7th.	4th.	4th.	8th.	6th.	3rd.	8th.	5th.	2nd.	7th	4th.	2nd.
	2nd. Week.												
Mingemi.	Monday.	11th.	6th.	8th.	16th.	10th.	7th.	12th.	9th.	6th.	11th	8th.	6th.
SALITINI	Tuesday.	12th.	9th.	9th.	13th.	11th.	8th.	13th.	10th.	7th.	12th	9th.	7th.
Mwitika.	Wednesday.	13th.	10th.	10th.	14th.	12th.	9th.	14th.	11th.	8th.	13th	10th.	8th.
Itui	Thursday.	14th.	11th.	11th.	15th.	13th.	10th.	15th.	12th.	9th.	14th	11th.	9th.
	3rd week												
Nyaani.	Monday.	18th.	15th.	15th.	19th.	17th.	14th.	19th.	16th.	13th.	18th	15th.	13th.
Kombu.	Tuesday.	19th.	16th.	16th.	20th.	18th.	15th.	20th.	17th.	14th.	19th	16th.	14th.
Kyethui.	Wednesday.	20th.	17th.	17th.	21st.	19th.	16th.	21st.	18th.	15th.	22nd	17th.	15th.
Ndau.	Thursday.	21st.	18th.	18th.	22nd.	20th.	17th.	22nd.	19th.	16th.	21st	18th	16th.
	4th week.												
Nzuuka.	Monday.	25th	22nd.	22nd.	26th.	24th.	21st.	26th.	23rd.	20th.	25th.	22nd.	20th.
Kavindu.	Tuesday.	26th.	23rd.	23rd.	27th.	25th.	22nd.	27th.	24th.	21st.	26th.	23rd.	21st.
Kwala.	Wednesday.	27th.	24th.	24th.	28th.	26th.	23rd.	28th.	25th	22nd.	27th.	24th.	22nd.
Mundi.	Thursday.	28th.	25th.	25th.	29th.	27th.	24th.	29th.	26th.	23rd.	28th.	25th.	23rd.

KITUI PRIMARY HEALTH CARE PROJECT
1982

MUTHALE
SAFARIS

CLINIC	DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Kakeani	Tue	5th	2nd	2nd	6th	4th	8th	6th	3rd	7th	5th	2nd	7th
Kiseveni	Wed	6th	3rd	3rd	7th	5th	9th	7th	4th	8th	6th	3rd	8th
Kivou	Thu	7th	4th	4th	8th	6th	10th	8th	5th	9th	7th	4th	9th
Kathumulani	Fri	4th	5th	5th	Mon 5th	7th	11th	9th	6th	10th	8th	5th	10th
Mutongo	Mon	11th	8th	8th	Fri 16th	10th	14th	12th	9th	13th	11th	8th	13th
Kanyaa	Tue	12th	9th	9th	13th	11th	15th	13th	10th	14th	12th	9th	14th
Kwelu	Wed	13th	10th	10th	14th	12th	16th	14th	11th	15th	13th	10th	15th
Thaana	Thu	14th	11th	11th	15th	13th	17th	15th	12th	16th	14th	11th	16th
Nzawa	Mon	18th	15th	15th	19th	17th	21st	19th	16th	20th	18th	15th	20th
Thitani	Tue	19th	16th	16th	20th	18th	22nd	20th	17th	21st	19th	16th	21st
Kwakamuti	Wed	20th	17th	17th	21st	19th	23rd	21st	18th	22nd	Fri 22nd	17th	22nd
Nzelimi	Thu	21st	18th	18th	22nd	20th	24th	22nd	19th	23rd	21st	18th	23rd
Mbondoni	Mon	25th	22nd	22nd	26th	24th	28th	26th	23rd	27th	25th	22nd	27th
Mwingi	Tue	26th	23rd	23rd	27th	25th	29th	27th	24th	28th	26th	23rd	28th
Katutu	Wed	27th	24th	24th	28th	26th	30th	28th	25th	29th	27th	24th	29th
Ithumbi	Thu	28th	25th	25th	29th	27th	Jul 1st	29th	26th	30th	28th	25th	30th

KITUI PRIMARY HEALTH CARE PROJECT MUTOMO SAFARIS 1982.

Location.	Ist. Week.	Jan.	Feb.	March.	Aptil.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Kathyethoke.	Mon.	4th.	1st.	1st.	5th.	3rd.	31May.	5th.	2nd.	30th.	4th.	1st.	29Nov.
Cheango.	Tues.	5th.	2nd.	2nd.	6th.	7th.	4th.	6th.	3rd.	31st.	5th.	2nd.	30Nov.
Kisnuni.	Wed.	6th.	3rd.	3rd.	7th.	5th.	2nd.	7th.	4th.	1st.	6th.	3rd.	1st.
Syomunyo.	Thurs.	7th.	4th.	4th.	8th.	6th.	3rd.	8th.	5th.	2nd.	7th.	4th.	2nd.
	2nd Week.												
Kyomatu.	Mon.	11th	8th.	8th.	16th.	10th.	7th.	12th.	9th.	6th.	11th.	8th.	6th.
Voo.	Tues.	12th.	9th.	9th.	13th.	11th.	8th.	13th.	10th.	7th.	12th.	9th.	7th.
Mutho.	Wed.	13th.	10th.	10th.	14th.	12th.	9th.	14th.	11th.	8th.	13th.	10th.	8th.
Ikanga.	Thurs.	14th.	11th.	11th.	15th.	13th.	10th.	15th.	12th.	9th.	14th.	11th.	9th.
	3rd Week.												
Kinakoni.	Mon.	18th.	15th.	15th.	19th.	17th.	14th.	19th.	18th.	13th.	18th.	15th.	13rd.
Konziko.	Tues.	19th.	16th.	16th.	20th.	18th.	15th.	20th.	17th.	14th.	19th.	16th.	14th.
Kavisauni.	Wed.	20th.	17th.	17th.	21st.	19th.	16th.	21st.	18th.	15th.	22nd.	17th.	15th.
Kanyonganyo.	Thurs.	21st.	18th.	18th.	22nd.	20th.	17th.	22nd.	19th.	16th.	21st.	18th.	16th.
	4th Week.												
Manguni.	Mon.	25th.	22nd.	22nd.	26th.	24th.	21st.	26th.	23rd.	20th.	25th.	22nd.	20th.
Kasumbe.	Wed.	27th.	24th.	24th.	28th.	26th.	23rd.	28th.	25th.	22nd.	27th.	24th.	22nd.
Kolivu.	Thurs.	28th.	25th.	25th.	29th.	27th.	24th.	29th.	26th.	23rd.	28th.	25th.	23rd.
Kisasi.	Fri.	29th.	26th.	26th.	30th.	28th.	25th.	30th.	27th.	24th.	29th.	26th.	24th.

1982 PRIMARY HEALTH CARE PROJECT CLINICS IN KIMANGAO

CLINIC	DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Musevani	Mon	4th	1st	1st	5th	3rd	31st MAY	5th	2nd	30th AUG	4th	1st	29th NOV
Nthangani	Tue	5th	2nd	2nd	6th	4th	8th	6th	3rd	31st AUG	5th	2nd	30th
Masyungwa	Wed	6th	3rd	3rd	7th	5th	2nd	7th	4th	1st	6th	3rd	1st
Tyaa-Muthale	Thu	7th	4th	4th	8th	6th	3rd	8th	5th	2nd	7th	4th	2nd
Nguuku	Mon	11th	8th	8th	19th	10th	7th	12th	9th	6th	11th	8th	6th
Kaningo	Tue	12th	9th	9th	13th	11th	15th	13th	10th	7th	12th	9th	7th
Ukasi	Wed	13th	10th	10th	14th	12th	9th	14th	11th	8th	13th	10th	8th
Maseke	Thu	14th	11th	11th	15th	13th	10th	15th	12th	9th	14th	11th	9th
Katse	Fri	15th	12th	12th	16th	14th	11th	16th	13th	10th	15th	12th	10th
Ndiuni	Mon	18th	15th	15th	26th	17th	14th	19th	16th	13th	18th	15th	20th
Kamuwongo	Tue	19th	16th	16th	20th	18th	22nd	20th	17th	14th	19th	16th	14th
Kandwia	Wed	20th	17th	17th	21st	19th	16th	21st	18th	15th	25th Mon	17th	15th
Ngungani	Thu	21st	18th	18th	22nd	20th	17th	22nd	19th	16th	21st	18th	16th
Syambyu	Tue	26th	23rd	23rd	27th	25th	22nd	27th	24th	21st	26th	23rd	21st
Musosya	Wed	27th	24th	24th	28th	26th	23rd	28th	25th	22nd	27th	24th	22nd
Mitamisyi	Thu	28th	25th	25th	29th	27th	24th	29th	26th	23rd	28th	25th	23rd

Annex IX

PHC Project Budget (1979-83)

PHC Project Budget 1979 - 1983

	Original Budget	Expenses to Feb. 28, 1982	Balance	Proposed Allocation to March 31, 1983
	$	$	$	$
Salaries	147,400.00	112,526.84	34,873.16	48,500.00
Transport	131,200.00	130,485.36	714.64	30,000.00
Equipment	19,200.00	20,486.96	-1,286.96	5,000.00
Data Processing	9,000.00	-	9,000.00	-
Housing	-	-	-	-
Health Ed.	17,400.00	3,416.36	13,983.64	3,000.00
Consultants	6,000.00	4,802.29	1,197.71	5,000.00
Med. Supplies	65,300.00	23,835.97	41,464.03	12,000.00
Evaluation	5,000.00	1,779.90	3,220.10	-
CODEL Overheads	12,000.00	8,533.45	3,466.55	3,466.55
Balance	500.00	1.63	498.37	164.69
Totals	413,000.00	305,868.76	107,131.24	107,131.24

Annex X.

Mobile Service Coverage (1979-82)

MOBILE SERVICE COVERAGE

MUTOMO

	1979		1980		1981		1982	
	No.	% Cov.	No.	% Cov.	No.	% Cov.	No.	% Cov.
CURATIVE								
< 5	5095		6350		6385		3705	
≥ 5	1732		4802		3085		1152	
IMMUNIZATION:								
BCG	1284	(37.7)	3082	(79.5)	2344	(65.4)	1561	
DPT_1	1452	(39.3)	3233	(84.2)	2152	(65.2)	1301	
$DPT_{2,3}$	2322		5017		1295		1963	
$Polio_1$	1795	(48.6)	3097	(80.8)	2144	(65)	1312	
$Polio_{2,3}$	1101		5121		1301		1820	
Measles	823	(24.5)	1652	(40)	1851	(62.2)	934	
ANC:								
New Cases (Risk)	419	(18.7)	1351	(50.6)	1260	(34.3)	619	(37.4)
" (Non-risk)	340		793		1080		679	
Ratio Revisits/Visits	1.5		1.6		1.8		1.4	
Tetanus Toxoid	998	(24.6)	1482	(31.7)	998	(23.6)	758	

Source: Semi-Annual Reports.

MOBILE SERVICE COVERAGE

KIMANGAO

	1979		1980		1981		1982	
	No.	% Cov.	No.	% Cov.	No.	% Cov.	No.	% Cov
CURATIVE								
< 5	1176		2754		5256		380	
≥ 5	34		399		156		60	
IMMUNIZATION:								
BCG	1171	(32.4)	1926	(51.2)	-		160	
DPT_1	1197	(33.2)	2602	(66.4)	-		160	
$DPT_{2,3}$	779		3588		-		262	
$Polio_1$	901	(25)	2689	(71.4)			189	
$Polio_{2,3}$	525		4287		-		256	
Measles	309	(9.4)	1360	(38.6)	-		136	
ANC: New cases (Risk)	151	(6.9)	369	(16.1)	546	(26)	432	(41.4)
New Cases (Non-risk)	123		311		517		410	
Ratio : Revisits / visits	0.8		1.6		1.7		1.8	
Tetanus Toxoid	166	(4.2)	584	(13.9)	-		169	

Source: Semi-Annual Reports.

MOBILE SERVICE COVERAGE
MUTHALE

	1979		1980		1981		1982	
	No.	% Cov.	No.	% Cov.	No.	% Cov.	No.	% Cov.
CURATIVE:								
<5 Yrs	-		6358		5171		2458	
≥ 5 yrs	-		7004		2165		639	
IMMUNIZATION:								
BCG	-		4188	(108)	2877	(58.1)	1740	
DPT_1	-		4146	(107)	2708	(60.1)	1449	
$DPT_{2,3}$	-		5869		1930		2107	
$Polio_1$	-		4996	(120)	2754	(59.6)	1457	
$Polio_{2,3}$	-		3167		1967		2297	
Measles	-		3011	(44.7)	2067	(48.1)	1011	
ANC:								
New cases (risk:)	-		621	(28.6)	537	(22.6)	654	(36.3)
New cases (non-risk)	-		995		1071		661	
Ratio Revisits/Visits	-		1.3		1.4		1.7	
Tetanus Toxoid	-		1399	(24.6)	1165	(19.7)	981	

Source: Semi-Annual Reports

MOBILE SERVICE COVERAGE

NUU

	1979		1980		1981		1982	
	No.	% Cov.	No.	% Cov.	No.	% Cov.	No.	% Cov.
CURATIVE:								
<5 yrs	-		2330		704		2987	
≥ 5 yrs	-		3642		3709		533	
IMMUNIZATION:								
BCG	-		1883	(100.5)	1065	(47.4)	887	
DPT_1	-		2448	(137.6)	1399	(62.6)	523	
$DPT_{2,3}$	-		2217		2249		811	
$Polio_1$	-		2304	(125.7)	2174	(121)	486	
$Polio_{2,3}$			1993		3218		651	
Measles	-		1034	(59)	995	(52.3)	261	
ANC:								
New cases (Risk)	-		562	(32.6)	489	(32.7)	341	(45.4)
New cases (non-risk)	-		360		476		326	
Ratio Revisits / Visits	-		0.8		1.4		1.6	
Tetanus Toxoid	-		500	(9.6)	478	(15)	229	

Source: Semi-Annual Reports.

Annex XI

Community Health Activities (1979-82)

COMMUNITY HEALTH ACTIVITIES
(ESP. SCHOOLS)

MUTOMO

1977-1981	No information available.
1982	Seconded PHT has begun active program in schools.

MUTHALE

1981	Health education in schools begun.
1982	Sex-education added to school talks.
	Health education also given to in-patients at Muthale Hospital.

NUU

1980	Health education given in schools, markets and at Chief's barazas as means of entering community.
1981	Health education continued. Shopkeepers stocking drugs were taught correct malaria treatment.
	Polio vaccine given to 367 pupils. BCG not given due to pupils' fears.
1982	Continuation of same program with 10 schools covered. Topics included malaria, personal hygiene, nutrition and BCG vaccination.

KIMANGAO

1979	Health education given in several schools and to parent-teacher association.
1980	Continuation
1981	10 schools chosen for regular visits.

TRAINING AND INSTRUCTION FOR WOMEN'S GROUPS

MUTOMO	Number Trained	Length of Training
1979	2 TBA's 9 CHW's 9 TBA's 24 women	4 days x 4 visits 4 days x 4 visits 3 days x 5 sessions 3 days x 3 sessions.
1980	6 women 7 women 7 women 4 women 14 TBA's 2 couples	10 days 20 days 16 days 10 days 7 days 2 seminars each on FP
1981	2 couples 6 midwives nurses 6 TBA's 4 women 6 women	F.P. at Muthomo Hospital 1 week 1 week 3 days
1982	4 TBA's 5 CHW's 9 couples	5 days (Using PHT) 3 weeks (Using PHT) FP/Kitui (Workshop)
NUU		
1982	13 women 5 TBA's	4 days x 2 4 days x 2
KIMAMBAO		
1979	24 participants 7 women leaders 2 TBA's 3 TBA's 4 TBA's	3 workshops 4 days Several sessions Several sessions Several sessions Total 30 woman days
1980	14 TBA's 10 TBA's	6 days 3 days x 5
1980-82	8 - 10 mothers TBA's (numbers not specified)	Saturday mornings Saturday mornings

TRAINING AND INSTRUCTION

FOR WOMEN'S GROUPS (Continuation)

MUTHALE	Number Trained	Length of Training
1980	6 women per group (total not given)	3 days x 3 sessions Followed completion of community-constructed building
1981	Local leaders (in 3 groups) 4 adults 3 pupils 7 parents 5 TBA's 2 traditional practitioners 112 women 3 TBA's	4 health seminars (no length given)
1982	1 couple 20 TBA's 10 traditional healers 15 other	FP seminar 6 health seminars

Annex XII

Kitui Morbidity Data (1980 - 82)

KITUI MORBIDITY DATA

The Incidence of Diagnosis of some Indicator Diseases in Kitui District (All Ages)

Disease	Year		
	1980	1981	1982
Scabies/Fungal Infection	2,484	2,559	2434
Chronic Cough	23	8	33
Eye Infection	350	882	962
Malaria	6,004	7,147	6799
Measles	85	88	117
Whooping Cough	3	12	43
Polio	2	1	1
Malnutrition	50	45	63
Diarrhea and Vomiting	1,684	1,461	1484

Source: Kitui District Headquarters.

This table does not show any significant morbidity changes in the District.

Annex XIII.

Forms Used by Project

KITUI PRIMARY HEALTH CARE PROGRAMME

MONTHLY STATISTICAL RETURNS

CENTRE: _____ MONTH: _____ YEAR: _____

	N/CASES	REPEATS	TOTAL	BCG	POLIO			DPT			MEAS
					1	2	3	1	2	3	
CHILD WELFARE											
ANTE NATAL				TETANUS TOXOID 1		TETANUS TOXOID 2					
CURATIVE (EXCL. CWC & ANC) < 5 YRS.											
CURATIVE (EXCL. CWC & ANC) > 5 YRS.											
HEALTH EDUCATION	TOPIC(S)										
	BASIC HEALTH ED (AT CENTRE)			No. OF PARTICIPANTS							
				HOW OFTEN							

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CHART I

ANTE-NATAL / POST NATAL INFORMATION

CLINIC -

		NEW CASES							REPEATS								
		TOTAL N/Cases	1	2	3	4	5	6	>	Total	1	2	3	4	5	6	>
Total	Risk Cases																
	Non Risk																
Negro	Risk Cases																
	Non Risk																
Coloured	Risk Cases																
	Non Risk																
Indian	Risk Cases																
	Non Risk																
Asiatic	Risk Cases																
	Non Risk																
Double Barrelled																	
Aliens																	

Best Available Document

CHART II

IMMUNIZATION SUMMARY SHEET
(by disease)

Disease _____

Clinic	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

IMMUNIZATION SUMMARY SHEET

Month _____ 19___ CLINIC _____

Type of Immunization																			Total
SMALLPOX																			
Primary Vaccination	Under 1 year																		
	1-4 years																		
	5-14 years																		
	15 years & over																		
Revaccination all ages																			
BCG																			
Primary Vaccination	Under 1 year																		
	1-4 years																		
	5-14 years																		
	15 years & over																		
Revaccination all ages																			
DPT ("Triple")																			
	1st dose																		
	2nd or later does																		
Revaccination all ages																			
ORAL POLIO																			
	1st dose																		
	2nd or later doese																		
MEASLES																			
	Under 1 year																		
	1 year																		
	2 years and over																		
TETANUS TOXOID																			
	1st dose																		
	2nd or later dose																		
OTHERS (Specify)																			

CHART IV

CLINIC MANAGEMENT INFORMATION

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CLINIC _____												
Was clinic held?												
Were medicines adequate?												
Were vaccines adequate?												
Was staff complete?												
Were clinic facilities adequate?												
Was first group leader training completed?												
Were initial group meetings held? (indicate no. held)												
Was second group leader training completed?												
CLINIC _____												

NOTES

CHILD HEALTH CHART

DIOCESE OF KITUI

PRIMARY HEALTH CARE PROGRAM

Clinic	Child's No.
	Boy Girl
Child's Name	Tribe

District	Location	Sublocation

Father's Name
Mother's Name

Date First Seen	Birth Date

BROTHERS & SISTERS		
Name	Sex	Birth Date

IMMUNIZATIONS

TUBERCULOSIS (BCG)
Date
Remarks

TUBERCULIN TEST
Date
Date Read:
Reaction

POLIOMYELITIS (ORAL)
Date: 1
Date: 2
Date: 3

SMALLPOX	Reaction
Date of Primary	
Date of Revaccination:	

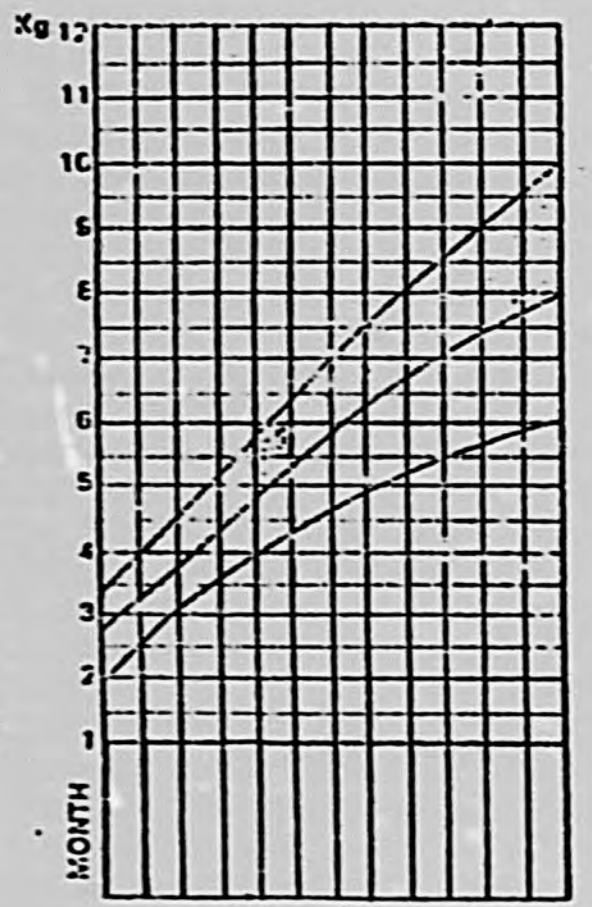
WHOOPING COUGH-TETANUS-DIPHTHERIA
Date: 1
Date: 2
Date: 3

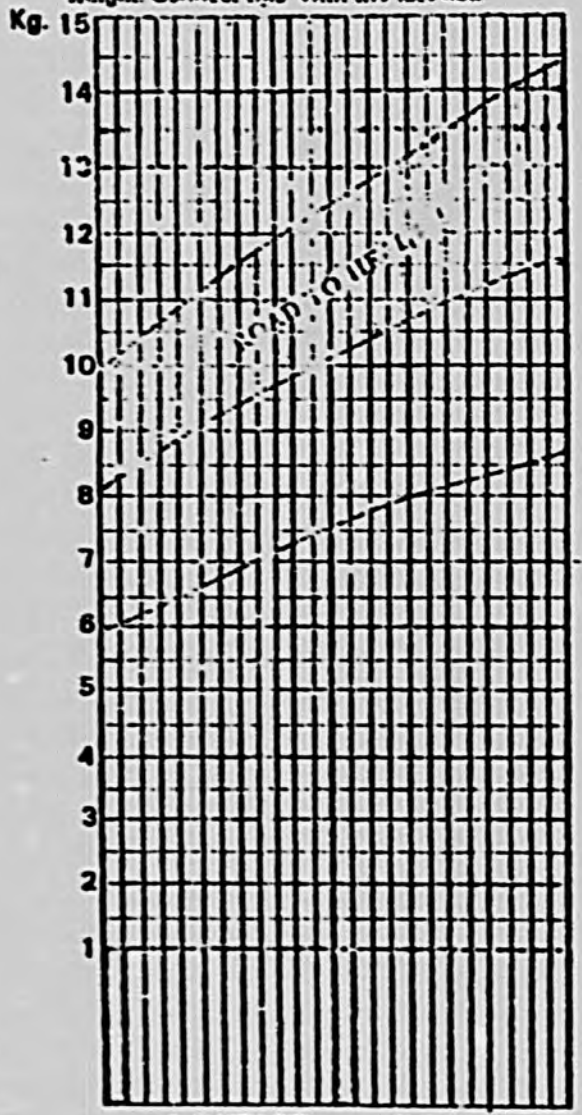
MEASLES
Date:
Remarks:

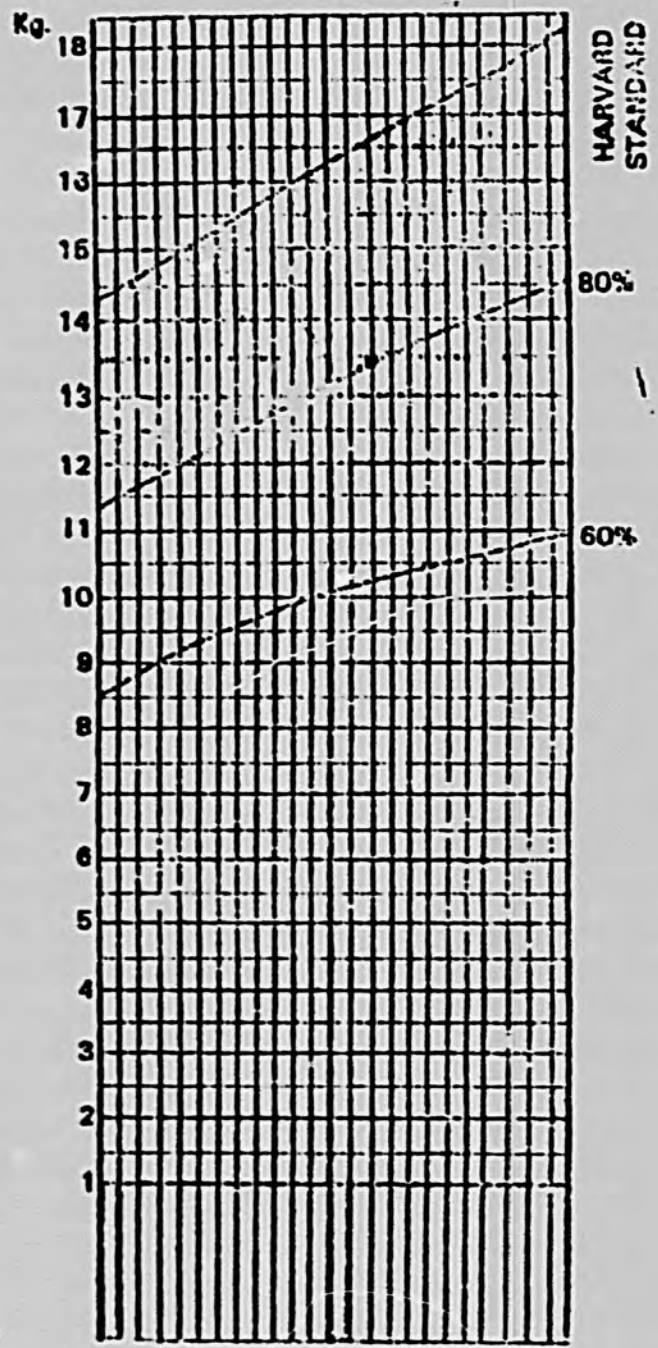
Best Available Document

REASONS FOR SPECIAL CARE

INSTRUCTIONS FOR COMPLETING CHART:
Find out the month of birth of the child and fill this into all the black edged spaces, then fill in the other months. Also mark off the years as shown.
When the child comes for weighing, make a large dot in that month's column against the weight. Connect this with the last dot.







Best Available Document

KITUI PRIMARY HEALTH CARE PROGRAM
ANTE NATAL RECORD

Name .....
Village .....
Gravida .....Para.....Living Children.....

Clinic _____ Number _____

CRITERIA FOR DELIVERY AT HOME

- Married
- Age 15-35 Years

PREVIOUS OBSTETRICAL HISTORY

Deliveries	0 / 1 / 2 / 3 / 4
Premature Deliveries	0 / 1
Abortions	0 / 1 / 2
Stillbirths	no
Caesarian section	no
Forceps Vacuum	no
APH	no
PPH	no
Labour	< 24 hr
First Week Mortality	no

MEDICAL HISTORY

Tuberculosis	no
U.T.I.	no
Anaemia	no
Malaria	no
V.D.	no

PHYSICAL DEVELOPMENT

PHYSICAL EXAM

Heart _____
Lungs _____
Liver _____
Spleen _____
Breasts _____
Other _____

Height	•	160	155	150	145	140
Pelvic-inlet (CM)	•	13.5	13.0	12.5	12.0	11.5
Pelvic-Outlet (Knuckles)		4.0	3.5	3.0		

Abnormalities no ☐ yes ☐

T. Toxid

1st _____
2nd _____

CRITERIA FOR DELIVERY AT H.C. or HOP.

- Unmarried
- Age <15>35 years

PREVIOUS OBSTETRICAL HISTORY — **REMARKS**

>1	
>2	
yes, nr.	
yes, nr.	
yes, no.	
yes, nr.	
yes, nr.	
> 24 hr, no	
yes, nr.	

MEDICAL HISTORY

yes	
yes	
yes	
yes	
yes	

PHYSICAL DEVELOPMENT

PRESENT			PREGNANCY					L.M.P.				E.D.D.	
Date	Wks Preg.	Fundal Height	Pres	Weight	B.P.	Foetal Heart	Anaemia	Blood loss	Oedema	Urine ALB SUG	Treatment	Sign.	

Delivery at _____ Date _____ Sex M F
Alive ☐ S.B. ☐ Birth Wt. .....
CONDITION CHILD AT DISCHARGE
alive ☐ Died after _____ Hours Days

Can Head enter yes ☐ No ☐
ANTE NATAL CONCLUSION FOR DELIVERY
At home ☐ at H.C. ☐ at Hosp. ☐
Reason.....

Annex XIV

Phase II Evaluation Forms

HOME VISITING CHART

Clinic Area: _____ Date _____

No.	Name of Head of Household	No. of Births in 6/12	No. of deaths in 6/12	No. of children 1 - 2 yrs	No. with BCG	No. Comp. Imm. or measles	No. latrine + or -	Chronic Cough No.	No. Scabies	No. Sore-eyes	No. Arm. circ. ≥ 13

YEARLY EVALUATION FORM

(FOR CHILDREN 12 - 24 MONTHS ONLY)

(Page 1)

TEAM AREA: ----------

CLUSTER NO. ---------- Interviewer ----------

Birth Date Range ---------- to ----------*

(Mark + if present and - if absent or negative).

Child No.	Household No.	Name	Birth Date	Card Present	BCG Scar	Polio			DPT			Measles	Fully Vacc.	Arm Circ. ≥ 13 cms.
						1	2	3	1	2	3			
1.														
2.														
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10														

* Calculate applicable children by determining range of possible birth dates to allow them to fall into 12 - 24 month category.

YEARLY EVALUATION FORM

MOTHER (OF CHILDREN ABOVE) (Page 2)

No.	Attended ANC	Tetanus Toxoid		Breast Feeding Now	F.P. Now	Latrine Present
		1	2			

Other Comments:

Annex XV

AMREF's "20 First Steps in Starting a CBBC Program"

AMREF

IN STARTING A COMMUNITY-BASED HEALTH CARE PROGRAM

DETAILED DISCUSSION

1. VISION

It requires only one person to have vision. That person can be anyone. That person should support their vision with some reading and some visiting. The reading may be "Where There is No Doctor", HELPER newsletter or reports about workshops. The visiting may be to an active Community-Based Health Care programme. This may be arranged through the Support Unit at AMREF.

2. PRIVATE DISCUSSION

The inspired and informed individual then discusses the idea with neighbours. She/he should discuss it with a variety of people: old/young; male/female; rich/poor; medical/non-medical; official/non-official etc. These people must ask themselves questions like this:

a) Do we feel keenly about any health problem?
b) Is that problem solvable?
c) By villagers?
d) Do villagers have the will to work together?
e) Do villagers have good leadership?
f) Who could we get to help with training?
g) How much voluntary (no pay) help can we expect from villagers?
h) What could the village-together-do for gratuity for health workers?
i) Will people listen to a slightly trained neighbour?
j) Will this neighbour's words produce changed actions?
k) What about money and equipment?

If this small interest group do their "homework" well the Chief or Sub-Chief will be willing to call a baraza.

3. First BARAZA (Sensetization)

The Community should hear a brief simple explanation of the main ideas ;

a) We have specific problems such as .....
b) These problems can be stopped by the village changing its habits.
c) These changes of habit can be promoted gradually by neighbours who get a little training.
d) The whole thing concerns villagers (CHWs) helping their neighbours to help themselves to stay healthy.
e) There is almost no money or dawa involved.

The question before the baraza is not "What Will We Get?"

No. The question before the baraza is "What Will We Do?"

If the community seems ready in spirit to try the path of self-reliance, the leaders can arrange appointment of a small Committee. Those chosen must be people who get things done.

4. ORGANIZATION

The Committee organizes itself with chairman and secretary. They get in writing what their objectives are and their authority for pursuing these objectives.

5. INVESTIGATION

They share out responsibility for digging out answers to these questions:

a) What are the main self-solvable problems?

b) What people as CHWs would be the best motivators of improved habits?

c) How many needed to cover this village at 1 to 1,000?

d) Are these people available?

e) What about zawadi?

f) What is the best method of training?

g) Who locally has this skill or could be sent to find it?

h) Who, specifically would give them medical back-up?

i) How, specifically would the Committee give them administrative back-up?

j) How Health Committee relates to local health facility.

k) Health Committee's part in training.

l) What demographic data is available?

6a. SECOND & THIRD BARAZA (Evaluation-Decision)

The Health Committee reports to baraza, explaining their findings and recommending a plan of action. This plan would specify WHO? WHEN? HOW? WHY? WHY NOT? WITH WHAT? etc. The baraza will then recess for a week. This week is for personal thinking and private group discussion of the plan. In particular villagers must be thinking about WHO should be the CHWs and nominating such people to the Committee.

b. At a re-convened baraza the Community must:

a) agree to the Committee's plan

b) approve Health Committee selection of CHWs

c) make commitment to actively support the plan

Also there must be agreement on the area chosen for the first (pilot) programme - a sub-location.

7. ORIENTATION

The Trainer and local health worker (may be same person) gives trainees orientation to their role. Might even take them to visit an on-going programme somewhere else. Back home the group agrees on which CHW is covering which part of the village.

8. PLANS SURVEY (Baseline)

A very simple survey form is designed by the "team" (CHWs, Health Committeemen, local Medical Worker and Trainer). The survey form must be appropriate to the CHW's abilities. Its purpose is to enable the CHW to start her/his training with a clear understanding of "her/his" defined area. (people, problems, distances, etc.) The Support Unit at AMREF has a model CHW survey to borrow ideas from. One of the most important parts of this exercise is the designing of the tables on which the survey data will be tallied for analysis. The survey should ask only for information which has a place in a table. Dont ask for what you wont use. The form must be field-tested repeatedly before final printing.

9. SURVEY

The survey itself should be run as a Community exercise. Even though only a sample may be interviewed, everyone should feel that the survey concerns them.

10. ANALYSIS etc

The results of the survey are tallied, collated and then analyzed. From this information the team can decide which problems deserve highest priority in CHW training. They should also agree on what specific changes they expect could be achieved by the end of one or two years. These expectations should be written clearly as objectives to try for.

11. 4th BARAZA (Presentation etc)

A baraza reports to the whole Community what "their" survey showed and what the Health Committee hopes the community can do about it in future.

12. TRAINING

With this foundation of facts and hopes the CHWs start their training. Training should be led by someone experienced with CHWs. It should be carried out right in or near the village. Effective communication is the most important skill taught in the training. Next comes evaluation. See Support Unit papers for more detailed discussion of training.

13. 5th BARAZA

Upon completion of their "basic" training CHWs are presented to the community. Now begins the main part of the plan, and everyone is involved. From [illegible] on the CHWs are the motivators and the villagers themselves are the activators of the plan. Everyone is now involved in a personal "day-by-day harambee" for health.

14. WORK

The CHWs now begin their work. It involves mainly the priority problems the survey revealed and the Health Committee prioritized. The work is part time. It is very much through home visitation. See Support Unit papers for more detailed discussion.

15. BACK-UP

The Health Committee, the local medical worker and the trainer must keep in frequent touch with the CHW in her/his home area. She/he needs their encouragement, supervision, protection etc.

16. REFLECTION

At least once a year all the CHWs of that village should come together to share experiences and to reflect on how things are going. At this time they may wish to make some adjustments to their methods and objectives.

17. PLAN RE-SURVEY

Near the end of the first (or second) year the team should begin to plan the follow-up survey. This is to see if any changes are yet measurable.

18. RE-SURVEY

This follow-up survey should be almost identical to the baseline survey. The tallying and analysis would also be similar.

19. 6th BARAZA

Here the community gets a first "report card" on how they - together - are doing at the end of the first phase of their exercise in health self-reliance. The big question is "Have specific community habits yet changed in a countable way?"

20. ANALYSIS AND RE-PLAN

The team reflects on the analysis, on the good, the bad and the uncertain. If necessary they revise their methods and objectives for the second phase. On the self-help road to health this village's steps are now straight and steady. Fueta Nyayo!

Annex XVI

Evaluation Information : State Telegram 081077

EVALUATION INFORMATION

STATE TELEGRAM 081077

Q1: The Kitui CODEL mobile clinic primary health care project attempts to overcome the health constraints that cause infants to die at young ages from preventable communicable diseases, that cause mothers to deliver unsuccessfully and that cause less than optimum health due to environmental hazards, through immunization, antenatal and health education services. It cannot hope to address the serious underlying contributing factors of water shortage and lack of nutritious food.

Q2: The technology promoted to improve the health status of infants and mothers in particular includes immunizations, hospital deliveries for at risk pregnancies, and expanded community - based health care. The project staff encourages regular attendance at the monthly clinics for childhood growth surveillance and ante-natal monitoring as improved health behavior. The training of community health workers will foster the long-term impact of health education about latrine use, improved diet and healthier water use.

Q3: Unhealthy 'tural practices, such as using dirty water for drinking and sharing a water source with livestock, are being discouraged as well as recourse to the often harmful medical approaches of traditional practitioners. Villagers are also being exposed to an existing appropriate technology of health-care, largely community-based, to replace either the lack of any coping technology or the inappropriate hospital-oriented approach.

Q4: Project planners have evidence that the intended beneficiaries will adopt at least certain aspects of the proposed technology because the project has been serving the remote target population for three years with enthusiastic support. The villagers have recognized the benefits of some aspects of the maternal and child health care and attend the clinics regularly, especially for immunizations and ante-natal care. The cost-savings in improved health and lessened travel expense to distant static health facilities are parsuasive.

The longer-term undertaking of effecting changes in lifestyles has not borne fruits this early, however.

Q5: The clinic users display a higher education level than general community members. Their decisions to attend the clinics already indicates a predisposition to improvement.

The target communities demonstrate a willingness to cooperate in a spirit of harambee (self-help) for local development projects, indicating an openness to change. Many communities have institutionalized development committees for this purpose.

Q6: The immunization coverage is high (65+%) for BCG, DPT and polio, given in the first six months, indicating a high persuasion rate. The measles coverage at eight months is less good though at 52%: mothers apparently neglect to return for that inoculation. For antenatal coverage, the percentage of women attending clinics has increased from 41% in 1976 to 86% in 1982.

The most difficult technology transfer involves changing habits related to health. These changes require time and continuous contact, which the clinics in their mobile form do not allow. Once community health workers have become implanted,

the impact of health education may increase, although it is always difficult for people to change their lifestyles. It is also impossible in Kitui to make certain improvements given the environmental constraints.

Q7: The mobile clinic project has already helped to stimulate a major ten-year integrated rural health project in the entire Kitui District to be funded by USAID for the first six years in conjunction with the Ministry of Health.

The Catholic Diocese, in experimenting with mobile clinics in this project, has aptly demonstrated that such a form of health service delivery can be cost-effective under certain conditions. Likewise, it has shown that these conditions are not easily replicable by government institutions.

Q8: The Catholic Diocese running the project is itself a private supplier of services. The project has been a good stimulus for dialogue between the Government of Kenya and non-governmental organizations.

There is no marketing involved.

Q9: The Diocese has developed an effective mobile delivery system for part of the techno , relying on efficiency and regularity to establish a trust in the system. It has begun to train extension agents (CHW's and TBA's) in improved health concepts and will concentrate on this aspect in Phase II. Likewise, greater effort will be made to establish links with local development committees to encourage community health projects.

Q10: The mobile team nurses have as part of their training rotational assignments with a team. Further to that, they receive on-the-job training. What they lack are community outreach skills which the

new personnel from the MOH (Public Health Technicians and Community Nurses) should have.

All employees in this project should have an sincere interst in community health issues and ways to cope with them as well as a willingness to induce the hardships of frequent safaris.

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BIBLIOGRAPHY

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