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CLASSIFICATION PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

PD AAJ-165  
PROJECT TITLE

Kitui Primary Health Care (CODEL)

2. PROJECT NUMBER 615-0185	3. MISSION/AID/W OFFICE 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) 615-82-03	
<input type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> 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

B. 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 emphasis on preventive and promotive health and family planning.
  - B. Insufficient analysis of project expenditure and future funding for remainder of project.
  - C. Lack of a plan for phasing over project activities into ongoing rural health activities.
  - D. Lack of sufficient data and analysis of cost and benefits of mobile health units.

- II. Mission Recommendations
- A. Submission of a revised budget and implementation plan.
  - B. Review and finalization of revised budget and implementation plan.
  - C. Submission to USAID of report on phase over plans.
  - D. Monitor health impact data collection and report progress/problems in quarterly reports.
  - E. Continue to collect mobile health unit cost data and submit cost and benefit analyses as part of final evaluation report.
  - F. Submit to USAID proposal for follow-on activities
  - G. Review of and decision on CODEL proposal.
  - H. Submit to USAID a plan for increasing health education impact of mobile health units.

CODEL	March 1, 1982
USAID/CODEL	March 22, 1982
CODEL	April 5, 1982
CODEL	Continuous
CODEL/ EVALUATORS	Continuous to September 15, 1982
CODEL	March 15, 1982
USAID	March 31, 1981
CODEL	March 15, 1982

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input type="checkbox"/> Other (Specify)
<input checked="" type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	<input type="checkbox"/> Other (Specify)
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

- A.  Continue Project Without Change
- B.  Change Project Design and/or Revise  ~~XXXX~~ Implementation Plan
- C.  Discontinue Project

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

Draft: HNP: NMwanzia  
 Clearance: HNP: RABritanak (draft)  
 PROG: WLeferes (draft)  
 RFMC: GRobinson (draft)  
 PRJ: TLofgren (draft)

12. Mission/AID/W Office Director Approval

Signature: 

Typed Name: Allison B. Herrick, Director

Date:

SUMMARY: KITUI PRIMARY HEALTH CARE (615-0185)

In accordance with Section D, Part 2 of the Grant Agreement, the mid-project evaluation of the Kitui Primary Health Care was to take place in October/November 1980. The CODEL field staff accordingly submitted to the Mission an evaluation plan on September 12, 1980. The Mission reviewed the evaluation plan and raised the following issues:

1. According to the Grant requirements, the evaluation was to be based on the monitoring and evaluation methodology described in the CODEL OPG Proposal. The methodology calls for baseline surveys and resurveys in all four operational units. Only one unit - Mutomo - had initial surveys done at the time of this evaluation.

2. Since no baseline surveys were done in any of the other units, the evaluation team needed to determine whether or not baseline data were needed for an effective evaluation. Besides evaluating the project the evaluation team was to revise the evaluation procedures for the project and recommend any additional steps that needed to be taken to fulfil evaluation requirements.

The actual evaluation took place early November 1980. The evaluation report was submitted to the Mission December 16, 1980. The Mission's Project Review Committee reviewed the evaluation report early March 1981.

Results of the Evaluation Report

The Mission found the evaluation unacceptable because it did not meet the evaluation requirements set forth in the Project Grant Agreement. The evaluation report did not adequately cover any of the major points we had recommended to be included in the evaluation plan (see issues 1 and 2). We requested CODEL field staff to revise their evaluation Scope of Work to include the development of a revised project evaluation plan that CODEL would use for the remainder of the project and the final evaluation. On June 11, 1981 CODEL field staff and Mission staff discussed re-evaluation of the CODEL project. The CODEL field staff was required to submit a Scope of Work which the Mission reviewed and approved.

CODEL engaged two consultants for the re-evaluation of the Kitui Primary Health Care Project. Actual work on the evaluation started early August 1981 and took one week.

### Findings and Recommendations

Mission Project Review Committee reviewed CODEL's evaluation on January 13, 1982. The Project Review Committee found the evaluation report more descriptive and informative than the first one. The report also gave specific analytical data e.g. that 19.6 per cent of Kitui District's population of children under 5 years of age is covered by the CODEL project. We do know the estimated cost per patient visit KShs.22.00 (U.S.\$2.20). The evaluators did not make any recommendations or suggest any areas for further study.

See Jack Slattery's memo dated October 21, 1981 for a summary of the Evaluation Report (copy attached).

CODEL is implementing the project on schedule. All four mobile health units are fully operational and vehicles are always well maintained. The greatest concentration of services is on immunization prenatal and basic curative services. Minimal work has been done in the area of preventive and promotive health due to shortage of staff. Only family planning referrals were being done.

The evaluators recommended that additional staff be assigned for preventive health care activities. No recommendations were made in the family planning area. The evaluation also did not analyse project expenditures to determine if any reallocation of budget line items or additional funds were needed to complete project.

The report laid out a plan for collecting basic health data through the remainder of the project which will be essential for measuring project impact during the final evaluation. CODEL and USAID will have to monitor closely this data collection to ensure that it is done on schedule and to make possible modifications.

The Mission recommended the following to CODEL on the basis of its review of the evaluation report:

1. Submit a revised budget (and implementation plan, if necessary) to indicate how they plan to use their existing funds for the remainder of the project;
2. Submit a report describing steps to be taken to phase over the project to the GOK or mission hospitals (this plan could include a proposal for integrating its activities into the Kitui Rural Health Services Project);
3. Monitor data collection closely for purpose of final evaluation;
4. Continue to collect cost data on mobile health units including cost per beneficiary per year;

5. Submit a proposal by March 15, 1982 for any follow-on activity, with the previous that this activity focus on preventive and promotive health care, training in the management of mobile health units and training of mobile health unit staff, and promotion of national family planning; and

6. Submit a plan for increasing health education impact of the mobile health unit activities.

Attach: a/s

*Am*  
Draft:HNP:NMwanzia:2/17/82

~~PD-AAJ-166~~

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PD-AAJ-165-A

UNITED STATES GOVERNMENT

# memorandum

DATE: October 21, 1981

REPLY TO:  
ATTN OF: Jack Slattery, HNP

450170000001

SUBJECT: Mid-Term Evaluation of the CODEL Primary Health  
Care Project, August 1981

TO: THE FILES

1. Report notes that 19.6 percent of Kitui District's population of children under 5 years of age is covered by project. It also notes that for 1980 there were 84,203 recipients in the program. However 48,748 were revisits so it is probably more accurate to call these patient visits rather than recipients which the report does.
2. Based on 3-year depreciation of vehicles, clinical equipment, etc. and recurring expenditures for salaries, drugs, petrol, vehicle maintenance etc., the estimated cost per patient visit is KShs.9.13. When this is added to non-CODEL for vaccines (MOH), housing, office space (Diocese of Kitui) the per patient visit cost increases by Shs.21.58 to a total of KShs.21.58. The bulk of this cost is for vaccines, provided by the MOH, at a cost of KShs.11.54 per patient visit.  
  
Per patient visit cost in U.S. Dollars (US\$1.00 = KShs.8.00) is \$2.70. The report does not provide a patient per year cost, which may not be possible given the manner in which the data was collected. Perhaps the data collection methodology could be modified to do this.
3. Report provides 1969 and 1979 population data for sublocations served by Mobile Clinics (370,000 as per 1979 census) but does not indicate catchment area of clinics nor percent of this population served. This information would be useful in final evaluation, especially to pin down the costs for operating mobile clinics and actual catchment areas.
4. Report notes that Family Planning (FP) services offered are totally inadequate. Natural FP advocated by Catholic Missions is inappropriate for the life styles of the Akamba. Report states that other means of providing FP services through the project activities should be found but does not give any specific recommendations. Was this area explored by the evaluator?
5. Of the various PHC activities, (i.e., MCH, antenatal, immunizations, nutrition, health education, training community leaders and TBAs), the most

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5010-112



successful activity appears to be the immunization program where Muthale and Mutomo Catholic Mission Hospitals records indicate reduced morbidity and mortality from measles, whooping cough, tetanus and scabies. Malaria, diarrhea, and malnutrition remain severe problems. Tuberculosis is on the increase, apparently in part due to malnutrition in the case of children. Particularly disturbing is that the form of malaria attacking particularly young children is becoming more virulent "causing many deaths" (p. 38). It would be useful to know how many more deaths, i.e. percent increase. This finding also suggests that it might be useful to conduct some special malaria studies (e.g. through CDC) on resistance of malaria strains to anti-malarial drugs to determine most appropriate malarial drugs in Kitui Rural Health Project (615-0206).

6. Findings in item 5 above and findings in the report indicate that the health and nutrition education component and generally the preventive and promotive aspects of the project are ineffective. The project concentrates on curative services and preventive services in the area of antenatal care and immunizations. Community participation is minimal although the project has conducted health education activities and trained some TBAs. Problems associated with the lack of preventive and promotive health care include:

- a) lack of training of team staff
- b) the least qualified of the team staff, i.e., ungraded staff, are given the task of health education
- c) Clinics are not organized to provide sufficient time for health education
- d) Project administration does not place sufficient importance on long-term continuity of community health care by the community for the community
- e) Insufficient number of community leaders, members, women, TBAs trained.

It is interesting to note that the communities desire continuous health services, such as through a dispensary. A trained community worker would help meet this need by providing at least a basic level of health care on a continuous basis.

Though the evaluator makes a few recommendations in strengthening health education, the report does not indicate whether or not project staff would be receptive. Also these recommendations are probably not sufficient to turn the project around in this area.

7. Additional staff, "helpers" or ungraded staff are needed to implement data collection system proposed and to strengthen preventive and promotive health activities. Is ungraded staff qualified for preventive and promotive work? Or should these people be Public Health Technicians (PHTs)? What is the possibility of PHTs from nearby MOH Health Centers going along on Mobile Clinics e.g. visiting each community once every 2 months?

8. A range of health environments are represented in the project area. The Muthale area where rainfall is most plentiful has a better health status, uses more latrines than Mutomo and Kimangao. The Mutito/Nuu area appears to have the most difficult health environment, with the driest climate.

9. The report suggested forms for collecting data implies that food is being distributed in the project area either through static clinics or the mobile clinics. CODEL had requested over a year ago that Corn-Soya-Milk blend (CSM) or milk powder be used on an experimental basis as "dawa" (medicine) for treatment of severely malnourished children during mobile clinic activities. What has been the result?

Also, if data is to be collected on eating patterns and outside food interventions (e.g. CRS/Kenya PL 480 Title II food) this data might be useful in some of the special Title II evaluation activities to be undertaken during FY 1982.

10. The report gives no information on the following:

- a) What steps CODEL has taken to integrate its project in to GOK/MOH activities and how it (CODEL) plans to continue supporting this activity after October 1982.
- b) What, if any, budget additions are required to complete project activities to reach fully the goals and objectives of the project. We know, for example, transportation costs in the project have exceeded estimates. Also funding will be needed for the proposed additional project staff and final evaluation.
- c) Whether or not CODEL agrees with recommended evaluation plan.

11. The August 1981 evaluation Report is a vastly superior product than the November 1980 report. While there remain numerous questions unanswered, a thorough review of this document within the Mission followed by a joint USAID working meetings with CODEL, Diocese of Kitui and MOH Headquarters and Kitui District officers should lead to a better definition of remaining project activities and a follow-on phase to be integrated with the proposed Kitui Rural Health Services Project. In other words CODEL, MOH and USAID have sufficient feedback on the project to make necessary plans for the future.

C.C. Dr. Britanak, HNP  
Ms. Nellie Mwanzia, HNP

~~PD-AAJ-167~~

ISV-704

615012500/17

AD-AAJ-165-B

MID TERM EVALUATION OF THE PRIMARY HEALTH CARE PROJECT

KITUI DISTRICT

KENYA

BY

RITA MORRIS

HEALTH CARE, AND EDUCATION CONSULTANT

AND

SALLY SMITH

MEDICAL-SOCIOLOGIST

AUGUST 1981

### ACKNOWLEDGEMENTS

The author of this report wishes to thank all the members of Kitui Catholic Mission, especially Dr. Dolan, Father Barry and Fr. O'Reilly for their invaluable help. Each of the team leaders, Inez Keenan, Sr. Nuela Galvin, Sr. Agnes Mary and Sr. Paschal Crawford and each of their team members, need special mention for their patience, help and assistance, beyond the call of duty.

The gracious hospitality extended at every Centre is especially appreciated.

Mention should also be made of our driver, Boniface Rodriguez for his expert and careful driving through poor roads.

For the help, assistance, and time for discussions given by the USAID staff we are especially grateful.

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evaluation.

Mid Term Evaluation of the Kitui Primary  
Health Care Project

SECTION I

A. Project Background

The Kitui Primary Health Care Mobile Program (PHC) was implemented with the purpose of providing primary health care for people living in the remote areas of the Kitui district for whom existing Government and Mission Medical Services were inaccessible.

The program envisaged outreach services in strategically placed locations throughout the district. Services were to be provided by four mobile teams, each covering sixteen widely scattered centres to be visited once a month. The range of services were to include maternal and child health care, antenatal, postnatal and family planning, immunizations, health education and simple curative care.

In 1977, the pre-pilot phase of the program was started with one mobile team in operation, based at the Mutomo Catholic Mission hospital. This program was financed (\$24,719) by Co-ordination in Development Inc. (CODEL). The Grant Agreement for Kitui Primary Health Care Project became effective on 1st February 1979, funded by USAID through CODEL (US.\$355,808) for a period of three years. According to the plan of operations worked out, a second team was implemented at Kimangao in July 1979, a third team at Kuthale in December 1979, and a fourth at Mutito/Muu in January 1980. All four teams were in full operation beginning February 1980.

Mid-term Evaluation

In accordance with the Grant Agreement, an evaluation was done in November 1980 by the UNICEF Adviser in Community Health, EARO. However, the evaluation report did not meet USAID expectations, and as such a

re-evaluation was requested. A team of two consultants, undertook the current evaluation at the request of the project administrator, Rev. J Barry. The team visited Kitui and Mutomo on June 11th and 12th, to review the project and hold discussions with project staff in order to plan the evaluation methodology. At this visit, the team outlined the evaluation procedures, set up sampling procedures for data collection, designed supplementary data collection records, and the plan of work, after discussions with project staff.

On June 26 and 27, one member of the team returned to Kitui to attend a workshop for all Program staff. One session was devoted to discussions and explanations on the new monitoring system, sampling procedure for selection of study population, and recording procedures. Several questions were raised, and problems in recording were discussed. The need for one extra person on each team to help with data collection was recognized, and a decision was made to hire one extra person on each team.

On July 31, 1981, work on the evaluation began. Preliminary preparations including review of all project documents and reports, discussions with USAID project staff, drafting of the scope of work, (Annex 1), and details of the plan of action were completed in Nairobi. The contract with Catholic Diocese of Kitui was executed and the team left for the field work on August 6, 1981.

#### B. Evaluation Methodology

It was decided to visit each centre in order to conduct interviews with project staff, programme beneficiaries, community members and government officials, review records maintained for statistical data needed for impact evaluation, and observe mobile clinics in action.

The itinerary was set up as follows:

Aug 6, 1980	- 6.30 a.m.	Leave Nairobi for Mutomo
Aug 8, 1980	- 2.30 p.m.	Leave Mutomo for Nuu
Aug 9, 1980	- 1.00 p.m.	Leave for Kimengao
Aug 10, 1980	- 9.00 a.m.	Visit Nguka clinic
	5.00 p.m.	Leave for Muthale
Aug 11, 1980	9.00 a.m.	Visit Kanyaa clinic
Aug 12, 1980	8.00 a.m.	Leave for Kitui. Hold discussions with project staff, visit Government hospital & meet officials. 2
	2.00 p.m.	Return to Nairobi

Interview Guides:

Two interview guides A & B were designed (Annex 1.) for data collection. Interview Guide A, for Project beneficiaries consisted of 13 questions to elicit attitudes and practices related to health, sanitation, water usage, personal hygiene, nutrition, and the impact of health education programs and its relationship to educational status.

Interview Guide B for project staff consisted of 10 questions designed to elicit opinions concerning the program's successes, failures, benefits and problems, besides staff commitment to the project and plans for professional development and advancement.

Clinic records were reviewed to collect statistical information. Impact of the project in terms of coverage was assessed for the District of Kitui and each team area.

Child Welfare Program

Child welfare clinic records for each six month period were reviewed and summary statistics on services provided. Case loads, immunization data and morbidity data for comparison with disease p

observed in the health surveys <sup>1/</sup> conducted in four Kitui District sublocations by medical students were all computed.

Antenatal program:

Records were reviewed and summary statistics for attendance rates, classification of new cases by risk and non-risk categories, and number immunized with tetanus toxoid were computed.

Nutrition surveillance

The nutritional status of children under five in the program for the six month period January to June 1981 was assessed from weight measurements recorded.

Clinic management information was obtained from records and discussions with project team leaders.

Transportation and vehicle maintenance data was obtained from the vehicle registers and discussion with the drivers of each vehicle

Information on project expenditure was obtained from records and statements, survey of current rates, and discussion with the project consultant and administrator.

SECTION II

Assessment of progress toward the sector goal

The project sector goal aimed at the improvement of the 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 System.

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<sup>1/</sup> Second Year Medical Students, ed. by M. Malone. Report on Health survey in Kawelu and Kivuni sublocations of Kitui district, August 1976 and Report on a survey in Kani and Kusengi sublocations Kitui District, Sept. 1978. University of Nairobi.

A first step to the assessment of the above goal requires a general description of the existing conditions in the District of Kitui. Demographic data for the District of Kitui used in the analysis of this report is given in Annex 2.

A. District of Kitui Background  
Geography and Demography-

Kitui is the second largest district in the Eastern Province of Kenya. It has a land area of 31,099 square kilometers and its rural population lives in 24,592 square kilometers. At the 1979 census its population was 454,283 with an estimated annual growth rate of 2.93%. Kitui District is divided in 5 Divisions, 27 locations and 134 sublocations. It had an overall density of 15/sq.km in 1979, with rural population densities ranging from 7 persons/km in the Eastern Division, 53 persons/km in Central Division, 10 person/km in the Southern Division, 45 persons/km in Mwingi and 10 persons/km in Kyuso. Population densities are lower in the Eastern, Southern and Kyuso divisions as the climate is drier and rainfall of less than 30 inches per year is very unreliable. The Central and Mwingi divisions are more populated as the rainfall is relatively higher and the land more productive.

Structure of the population and its culture

The Wakamba are a warm and generous people and constitute over 95 percent of the population of the District. They form an agricultural society and are neither rigid nor highly structured. Communities are organized in a village hierarchical system with appointed leaders. The 'harabee' spirit is very evident, with the people willing to cooperate in development efforts.

The society is male dominated, with women relegated to a subservient role chiefly for the purpose of child bearing and rearing, performing domestic chores such as fetching water and firewood and working on the farms. There is general acceptance of this role. Polygamy prevails and is generally encouraged and accepted. Attitudes toward polygamy are positive. Women appreciate the help and companionship of the many wives, living as neighbours in the same compound, and sharing the rigors of rural living.

According to the 1979 Census, the working group (15-59) were 195,000 or 45 percent of the district population leading to a dependency ratio of 1.2:1.

#### Socio-economic profile of the District

Cultivation of crops on small farms for subsistence, and keeping of livestock are the chief activities of 95 percent of the population. About 2 percent of the population are engaged in trade and commerce, and 1.6 percent in wage employment. Self employment and the informal sector occupy 0.4 percent of the population while 1 percent of the population, mostly male, work in salaried employment outside the District.

#### Health Services and Problems

Kitui has three hospitals (fourth closed) 9 health centres and 23 dispensaries. The map of the District of Kitui, Annex 2, shows the location of these facilities including the 64 primary care mobile clinics.

The Government opened 21 mobile clinics, which were closed down due to a financial crisis.

The major health problem could be regarded as the exploding population of the District estimated to reach 800,000 by the year 2000 A.D.

The Government's efforts at the promotion of MCH and family planning services are under utilized due to two main factors:

1. Services are not within the effective reach of the target population.
2. Ignorance and cultural attitudes, prevent the use of MCH and Family Planning Services.

#### Problems affecting the health of the People.

Water is scarce in most areas of the District. The Tana and Athi rivers are the only permanent rivers in Kitui and they form the northern and western boundaries of the District. These rivers have not been utilized sufficiently to supply water to the District for human and livestock consumption and irrigation.

The only rural water supplies are the Mutito/Mui water supply and the Ikanga/Mutomo water supply serving a small proportion of the population. Other sources of water supply are springs in the hills near Mutito, Mau and Endau of limited capacity, bore holes and rock catchments. Earthdams and subsurface dams along the Athi and Muritanyano rivers, and water holes in river beds dug by the people are the main sources of water supply. Rainwater when available is also collected for use.

#### Social Services

Access to social services such as medical services and schools is an acute problem. Girls are sent to primary school but are generally not encouraged to complete their education, as marriage or child bearing at an early age is the norm.

The lack of transportation and bad roads is the main reason for the inaccessibility to services. Areas most affected by these problems are the Nzambani, Kilambani and Yatta locations in the Central Division, most parts of the Mwingi Division, and the Eastern Division.

Road problems are compounded by the lack of an organized maintenance system and the lack of bridges in Kitui especially in the rainy season.

Bus services due to the poor condition of the roads are very unreliable and sporadic especially in the outlying rural areas.

#### C. Analysis of indicators

A second step in the assessment of the quality of life was the analysis of indicators measuring the health status of the people of Kitui and the related quality of life.

##### Reduction in mortality with emphasis on infant mortality

Reduction in infant mortality while recognised as an important indicator in improving the quality of life is very hard to measure given the current state of the art.

The District of Kitui makes every attempt to register births and deaths. However, at best only 50-75 percent of births and deaths are reported. Annex 2.7 gives a table of Births and Deaths with crude rates. Since 1973 the birth rate has nearly doubled. It is difficult to get an accurate pattern of death rates as mortality data are not maintained by age groups. In the National reporting of census data, there is no categorization by age groups.

Statistics maintained by the two mission hospitals, Mutomo, and Muthale, however, give details concerning deliveries and mortality data. Table 1 displays the comparison of births and deaths related to maternal cases for separate years before and after the primary care program.

Table 1

Comparison of births and mortality related to maternal cases for Mutoma hospital (1973, and 1980) and Muthale hospital (1975 and 1980) in percentages

	Muthale Hospital				Mutomo Hospital			
	1975		1980		1973		1980	
Deliveries	Number	%	No.	%	Number	%	No.	%
Normal	515	85.8	476	76.0	435	87.0	529	74.0
Abnormal	85	14.2	150	24.0	65	13.0	186	26.2
Mortality								
Maternal	3	0.5	1	0.16	2	0.4	1	0.14
Still births	29	4.8	25	4.0	10	2.0	16	2.2
Neonatal	21	3.5	19	3.0	24	4.8	33	3.2
Infant	54	9.0	55	8.8	30	6.0	45	6.3

In both hospitals the number of abnormal antenatal cases seeking hospital deliveries nearly doubled in 1980 which could be attributed to the antenatal care given by the mobile teams in these areas. The drop in the maternal mortality rate could also be attributed to antenatal care. However, it should be noted that there is no information whether these patients received antenatal care or not. It must be pointed out that the fee charged for deliveries (60 shillings for normal deliveries) is a deterrent for many of the poor to seek medical care.

There are no significant differences in the mortality figures before and after the PFC program. The high risk cases seeking hospital care could account for this pattern.

### Reduction in Morbidity

The Kitui Primary Health Care Program has been effective in the reduction of several diseases. Muthale hospital morbidity data for 1975 show that 81 children were treated for measles, 61 for whooping cough, 1 for tetanus, 1 for polio, 2 for worms and 18 for marasmus, kwashiorkor and malnutrition. In 1980 there were 15 children with measles, 1 with tetanus, no cases with whooping cough or polio, and 34 with marasmus and kwashiorkor. The incidence of measles, polio, whooping cough and tetanus are no longer major childhood problems, while malnutrition still remains a problem.

Comparison of morbidity data for the month of May 1981, chosen at random, in all the clinics of the FHC with the data in the surveys done by the medical students of the University of Nairobi in the sublocations of Kauri and Musengo (1978) and Kawelu and Kiryumi (1976) show a reduction in several diseases. Table 2 displays the point prevalence rates for each of the sublocations and the FHC.

Among the FHC children no cases of polio nor measles were found. The only case of whooping cough occurred in a child not previously immunized. Worm infestations were significantly reduced, and could be attributed to the de-worming program. Every child is treated for worms at 6 monthly periods. The incidence of scabies was significantly reduced. This could be attributed to effective health education on hygiene. Despite the fact that water is scarce, the hygiene practices have considerably improved. The incidence of coughs and colds showed a very slight decrease while eye infections were still high. The incidence of malaria is a major problem, and according to reports from the Mutomo & Muthale hospitals the number of children very anemic and

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2/ Muthale Hospital Report 1975 - 1976, pp.12-15.

Table 2

Comparison of prevalence rates of specific diseases in children under 5 years of age in the Kitui Primary Health Care project (May 81) and sublocations of Kauri § Musengo (1978) and Kawelu and Kiviyuni (1976)

Disease	Point prevalence per 1000				
	Kitui Primary Health Care Project	Kauri	Musengo	Kawelu	Kiviyuni
	N = 4152	N=152	N=198	N = 66	N = 66
Polio	0	7	15	0	15
Eye diseases	56	33	25	136	120
Scabies	12	309	505	167	210
Cough/colds	252	289	389	303	290
Diarrhoea	76	86	55	45	60
Whooping cough	1	303	106	61	0
Measles	0	230	187	0	0
Worms	3	-	-	30	15
Fever	154	-	-	213	306
Malaria?					

The pattern of diseases among children in FHC program by Clinic Centres is given in Table 7; Annex 3.

severely ill from malaria have increased with a number of deaths resulting from severe anemia. Diarrheas remained a prevailing problem - lack of potable water, and the drinking of unboiled water was chiefly responsible for the high prevalence of this condition.

The mission hospitals have separate programs for the treatment and contact investigation of leprosy and tuberculosis cases. Any suspected case is referred to the special programs. In 1973 the Mutomo leprosy and TB project covered the south of Kitui mostly by safaris to 35 clinics. In 1980, the program covered 36 safari centres holding clinics once a month. In 1979 the Mutomo program treated a total of 754 leprosy cases with 54 new cases, and a total of 433 TB cases with 74 new cases. In 1980 the program treated 632 leprosy cases of whom 34 were new cases and 609 TB cases of whom 124 were new. In 1973 the Muthale hospital treated 1 case of leprosy and 9 of TB, and in 1980 15 cases of TB. The incidence of leprosy is dropping while tuberculosis is increasing. Reports from the doctors and nurses confirm this finding. They are finding fewer cases of leprosy and many more of possible TB. Malnutrition may be a strong factor in the increase of TB.

#### Nutrition Status

Malnutrition still persists. According to the survey done in 1976, and the growth surveillance data of the PHC children, there are no significant differences between the two groups, except for the Mutomo children. At Mutomo, only 17 percent of the children are underweight. However, the reason for this difference cannot be determined. Data was not broken down by age groups, and as children under one year of age are generally well nourished due to breast feeding, the difference could not be attributed to improved nutrition.

Table 3

Growth Surveillance: Harvard standard weight scale for children under five years of age by clinic centres and sublocations in percentages

Year, Location & Number	Harvard 80% and above	Standard 60-80%	Weight 60% and below
1981 Kimangao 1158	71.9	26.34	1.76
1981 Mutomo 1478	83.27	16.41	0.32
1981 Nuu 962	58.43	28.3	3.27
1976 Kawelu 57	70.2	29.8	0.0
1976 Kivyuni 62	69.4	30.6	0.0

Table 3 displays the percentage of children in each category of the Harvard weight scale for the three FHC centres and the sub-locations surveyed in 1976. Data from the Muthale team was discounted due to recording errors.

It should also be noted that the Kimangao and Nuu mobile clinic centres are located in drier areas with little or no water supply that makes the growing of crops for subsistence a big problem. Tables 8, 9, and 10 (Annex 3) display data on growth surveillance by clinic centres for each of the teams except Muthale.

#### Improvement in health practices of the people

The survey of project beneficiaries was designed specifically to elicit information concerning health practices, knowledge and changes in attitudes and behaviour patterns. Table 12, (Annex 3) displays the responses of the 60 women interviewed at three different centres. Together with data from clinic records the assessment of the extent of improvement in health practices was made.

The decrease in the incidence of scabies as displayed in Table 2, p.11 is evidence that personal hygiene practices have improved, despite scarce water supplies.

Bathing practices according to the survey responses show that 75 percent bathed daily, 18.3 percent every two-three days and 6.7 percent whenever water is available. Bathing is believed to be good for the health especially giving the body strength.

Pit latrines, as a method of sanitation are considered good for health by all the people surveyed. While 41.7 percent are using pit latrines, the 58.3 percent using open fields have not built latrines due to the shortage of finances or the lack of time as the men are too busy.

The majority (63.3 percent) either composted or burnt their garbage, while 36.7 percent still disposed of their garbage in the open fields.

The knowledge that water is a carrier of disease germs is lacking. In Muthale and Kimangao where livestock rearing is more common, animals use the same water source as the people. Bathing and washing clothes at the river is generally the custom. Drinking water collected from contaminated sources is not boiled.

The knowledge of disease causation and prevention is rudimentary among the majority. The use of the hospital or clinic services, when ill is considered the chief method of prevention. Immunizations are taken because it is what the medical people recommend. Primary school education made no difference to the knowledge of diseases or preventive measures, whereas, the 11.7 percent with secondary school education are better informed. Those with no education, believe that the supernatural, and the elements cause diseases.

The majority of mothers breast feed their babies upto one year of age. Those who stopped (10 percent) before the child's six months of age did so because of the lack of milk supply. Additional foods are introduced in the child's diet as early as two and between six months of age by 53.3 percent of the population. Foods introduced are porridge made of maize meal, sorghum or millet, followed by greens from the leaves of cowpeas or pigeon peas and tomatoes whenever available. Cows peas and beans are added to the diet after weaning. Eggs or meat are rarely eaten by the majority.

The majority (70 percent) grow food for their own use and only

sell whatever is in excess. When the harvests fail as in 1977-78 great difficulties are experienced in providing adequate diets. The last two seasons produced good harvests.

### SECTION III

#### Extent of Achievement of Project

##### Purpose

The purpose of the project was stated as "The provision of a mobile primary health care services to rural areas of Kitui which lacked Government and or mission services."

##### Project coverage

The Kitui primary health care project is providing health services to people who otherwise would not have access to such services. The four teams started their programs as scheduled and now cover a total of 66 centres. The Kimangao and Muthale teams are both operating a static clinic each. This service was started as it was felt that it was more convenient for the mobile teams to handle all the preventive work, rather than the Health Centre and Hospital staff in each place.

##### Project location

The map of Kitui District (Annex 2) displays all the medical facilities and the PEC mobile clinic centres. Duplication of facilities occur in a few centres where there are government dispensaries. These include, Mitha, Voo and Kanziko covered by the Mutomo team, Endan and Mui, covered by the Eun team, and Kyuso and Katse covered by the Kimangao team, besides the two static centres mentioned above at the Mission hospital & health centre. According to the team leaders the services are provided in the same areas as the government dispensaries, at the special request of the community. The government dispensaries, for a variety of reasons are not able to deliver the services.

Child Health Care Coverage

Table 4, displays the total population under five covered by the program as well as the different services provided, as a percentage for each sublocation and the District of Kitui. Table II, in Annex B, gives a summary of clinic services for each team in six month periods for the total duration of the project.

The program, at the end of 1980 covered 19.6 percent the District's under five population. Immunizations ranged from 9.6 percent to 17.9 percent rate of coverage for the different immunizations. Curative care was the largest part of the program.

Antenatal coverage

Table 5, displays the antenatal service coverage in each team area by the percentage of live births for the program duration.

A total of 29.9 percent of registered live births in Kitui District during the years 1978 to 1980 were covered by the PHC program. Of these, 23 percent received one tetanus toxoid immunization, and 5.6 percent the second dose.

Post-natal services are not given, as mothers do not recognize the importance of the service, and the team staff, already overloaded, do not see the practicality of providing such a service.

Family planning as a service was only provided by the Mutomo team. The other teams have plans for beginning this service in the near future. However, this service is restricted only to the natural method, due to the Catholic philosophy.

The method is inadequate considering the life styles and customs of the Wakamba people.

The Wakamba men, in particular correlate 'male supremacy' or

/...

TABLE 4

Child Welfare Services by percentage of population under five in each team sublocations and the District of Kitui: 1978-1980

Services provided	Kimangao		Muthale		Mutomo		Nuu		Total Number	Dr. of Kitui %
	Number	%	Number	%	Number	%	Number	%		
Child Welfare										
New	3644	27.7	6189	26.4	6767	27.5	2208	22.2	18,808	19.6
Revisits	15816	-	8556	-	26526	-	5102	-	56,000	-
Curative Care	3763	28.6	6358	27.1	23456	95.4	3904	41.1	46638	48.6
Immunizations:										
BCG	3097	23.5	4188	17.9	6524	26.6	1833	19.3	15,642	16.3
DPT 1	3699	28.1	4146	17.6	6902	28.1	2448	25.7	17,195	17.9
DPT 2	2255	17.1	3284	13.9	5656	23.0	1327	14.0	12,522	13.0
DPT 3	2112	16.1	2585	11.0	4183	17.0	890	9.4	9,770	10.2
POLIO 1	3590	27.3	4496	19.1	6536	26.6	2286	24.0	16,908	17.6
POLIO 2	2778	21.1	3054	13.0	4784	19.5	1145	12.1	11,761	12.3
POLIO 3	2054	15.6	not given		2892	11.8	846	8.9	5,792	6.0
MEASLES	1216	9.2	3051	13.0	3932	16.0	1034	10.9	9,233	9.6
NO. of Clinics held	250	-	185	-	435	-	173	-	1,043	-

Note: Percentages of under five population calculated as follows:

Kimangao 13155; Muthale 23,454; Mutomo 24569; Nuu 9501. District of Kitui 96000.

TABLE 5

Antenatal services in each team area by percentage  
of live births between 1978 to 1980 in Kitui District

Services Provided	Kimangaō	Luthale	Mutomo	Huu	Total	%
Antenatal care:						
New cases						
Risk	516	619	2430	562	4127	} 29.9
Non Risk	434	997	1683	370	3384	
Revisits						
Risk	721	873	3622	429	5645	
Non Risk	559	1289	2481	354	4683	
Immunization						
Tetanus 1	750	1399	3135	500	5784	23.0
Toxoid 2	329	521	1395	264	2507	10.0
Family Planning	-	-	1421	-	1421	5.6

Note: Live births registered in Kitui district for the years 1976-1980  
= 25153

'machismo' with the number of their progeny. Generally, around pay day, wives visit their husbands working outside the district, in order to collect money before it is spent. At these

visitations, it is highly unrealistic to expect the restriction of 'safe period' sexual relations.

Sexual relationships are not confined to married couples only. Pre-marital sex is common place and generally accepted. In fact, the ability of a woman to have children is an accepted criterion for marriage. The need for children, as a means of social security is strong, and many of the unwed women have children, and are generally accepted and looked after by their families.

Young girls, especially those pursuing a secondary school education are prime targets for pregnancy. Male admirers feel that it is in their best interests to keep the girls pregnant, as it fosters dependency. In some cases, in order to keep the scholastic competition from girls down, male companions pursue them, and get them pregnant. Eventually the girls drop out leaving the field clear for the boys.

Discussions with the more educated women at the clinics revealed a great deal of interest in learning about family planning. They are particularly desirous of spacing their families and to some extent limiting them. Five children were considered a good size for a family. There are many misconceptions about artificial methods of birth control. The women think that the men fear death to the mother or child as a result of family planning and hence will not cooperate. The women requested assistance in family planning, with the suggestion that community elders if involved in family planning education would be able to positively influence their husbands.

There is no doubt, that there is a great need for the provision of this service, focusing on the inclusion of both men and women. One strategy, would be to introduce the concept of family spacing with the resultant good health of both the mothers and the children.

#### Community Participation

Discussions and meetings with community leaders and the people were held at Mutomo, Muthale and Kimangao, to assess the extent of community participation and to identify problems and needs concerning health as perceived by the people. The team members were also interviewed to assess the extent of their efforts in promoting community participation.

The major problems as identified by the people are sanitation, water and the incidence of disease particularly malaria. A campaign to promote the building of pit latrines is underway in Mutomo. Their installation in both public places and in private homes is being encouraged, with the possibility of introducing fines for those who do not comply within a specified period of time. The successful completion of a pit-latrine project for a secondary school in Mutomo was reported. One of the leaders felt that the change to using pit latrines would be a slow process, requiring much education. However, discussions with the people at Muthale, showed them eager to use pit latrines, and it was lack of finances and time that slowed them down.

Throughout the district water is regarded as a major problem. While the people are vaguely aware of government projects to provide water, they do not foresee water supply in the near future. In the meantime, several attempts at temporary measures such as building earth dams and digging wells are underway, to improve the water supply.

However, technical expertise and guidance is sadly lacking, in furthering the people's efforts.

Malaria is recognized as a major problem, but there are no mosquito eradication plans, nor any clear ideas how the disease could be prevented.

The mobile clinic program is regarded as a very necessary and successful service, reaching people in remote areas with no other access to modern medical care. It was also observed that killer diseases like measles and whooping cough have disappeared.

While mobile services are greatly appreciated, there is a strong feeling that the people would like a dispensary, to provide every day service. The community people are willing to provide building materials and labour for such facilities.

The team members reported that in most areas, the community provided temporary building space for their clinics. Where there were problems, discussions with the village chiefs brought about positive results. However, the level of participation stops at the provision of temporary space. The team staff due to pressures of work have no time to focus on community participation. Such leadership not only requires time, but a well prepared staff to deal with community action and relations. This cannot be expected from the current local staff employed.

Community leaders also expressed the need to have more of their women trained in basic health skills to serve their communities.

#### Joint Planning with other Services

Before starting services at each of the different mobile clinics, team leaders surveyed the area and held meetings with village leaders to determine the extent of need. Some of the centres

were opened at the request of the Ministry of Health officials.

Good coordination exists between the mobile clinics and government medical facilities. Patients are referred and attended to as needed. The supply of vaccines from government continues, though shortages occurred during a few months.

The government has seconded a public health technician to work at the Mutomo Hospital. This person offers services to the mobile team when required. The seconding of nursing staff to work on the mobile teams is seen as a great need, as the mission hospitals cannot attract staff in competition with government long term benefits. Some discussion about this problem has taken place with government officials. It is felt that with a concerted effort, the seconding of government staff to the mission projects might be possible, even though bureaucratic channels are viewed as a major obstacle in the promotion of cooperation.

The government's efforts to run mobile clinics so far are unsuccessful, for a variety of reasons. Transportation problems, compounded with the lack of drug supplies and financial problems have plagued the mobile clinic program. Six mobile centres are currently run out of Kitui hospital. However, even though manned with highly qualified teams, these services are sporadic. The people are not able to count on the service, and in their turn, do not attend. The staff of the mobile teams are underutilized and frustrated.

Better cooperation between government and mission teams would be advantageous to both sides, and greatly enhance services to the communities. Community leaders feel that the government will not be able to take over the running of the mobile clinic programme for some time, and very much wish to see the continuance of mission services.

SECTION IV

Targeted Project Outputs

Mobile health delivery system

As discussed under target population and services provided, this particular output has been successfully achieved.

Baseline data surveys

This particular output was contingent on the service of medical students from the Nairobi of University. The arrangement made was a private one between the first consultant to the project, who also supervised the community health work of the students. Once the consultant left, there was no coordination between medical students and the PHC and the base line surveys were neglected.

The methodology planned for the evaluation was based on door to door household surveys, with the use of long detailed questionnaires. Much of this information would be of limited value. The survey not only is time consuming, but impractical and expensive.

Data for project impact evaluation could be designed by easier methods, using specific indicators, as will be discussed under the guidelines for the final evaluation.

Maternal and childhealth prevention

As discussed under project purpose, these services in terms of output have been successful.

Promotive and curative services

Curative services form a large part of the PHC services. This is as expected, and should continue. A comprehensive approach with the integration of curative and preventive services not only uses personnel effectively, but also encourages the beneficiaries to seek care. In some of the clinic areas where pressures of curative care are great separate teams are offering weekly services in addition to

the PHC clinic services.

Promotive services in the form of health education have been undertaken to some extent. Implementation has been slow due to the following reasons.

- 1) Lack of preparation and background of team staff, requiring training to conduct health education.
- 2) Large numbers attending clinics, requiring curative care and immunizations, while opportunities for teaching are neglected.
- 3) Rapid turnover of team staff requiring training and reorientation.

Despite these problems all clinics since 1981, are focusing on the health education program. Topics covered include basic hygiene, importance of vaccines, nutrition, prevention of worms and diarrhoea, antenatal care, malaria and its treatment.

The Paulo Friere approach as suggested in the program is not used. The use of this approach needs special training and the staff at best use the didactic method with questions encouraged at the end of their presentations.

Considerable interest on the part of beneficiaries was observed, and their needs are considered in the choosing of topics for discussion. The management of health teaching, is more or less individual to each team. The leadership of the Kimangao team, in this aspect of the program, is particularly innovative and successful. Smaller groups are given the talks, while other services are simultaneously provided. At Mutomo, talks are given at the end of clinic sessions, with poor attendance. At Muthale, the talks are successfully given to smaller groups. At Mui, health education is given, except when the work load is excessive.

Training and instruction for women's groups and community leaders

This aspect of the program is the weakest and lacks direction. Sporadic efforts have been made at the different centres, but with poor follow up. The planning and curriculum development have been done on an ad hoc basis.

Records of the training programs have not been maintained, except for brief statements in the six monthly reports. According to the reports and interviews with team members the following activities have taken place at the centres:

Mutomo:

In June 1978, a workshop was held on leadership training for team members and some local women leaders.

A group of 4 married women without education from Kyamatu received training for 3 days in July 1979, with follow up for 3 members in September and 2 in October and November.

In June 1980, six women received two sessions of 5 days each and 7 received four sessions of 5 days on basic health care, nutrition, basic hygiene and home remedies. Follow up for these participants was found difficult, and not done. The programs included women from remote areas, and was residential.

In August 1980, forty traditional midwives were contacted and invited to attend a week long workshop on antenatal care, delivery techniques and care of the new born. Only 14 attended daily, while the others due to long commuting and transportation problems could not attend. The team staff organized the program, and felt it was successful.

In June 1981 a 5 day intensive course on basic health care was given to a group of 8 women at their request. Four were from an

area not covered by mobile clinics. Two members were literate, and it is hoped that with further training and follow up these members could do basic work in their villages. Two of the trainees are traditional midwives.

There is some evidence that the traditional midwives are profiting from the instruction. They are more aware of abnormal signs, and are referring more cases for hospital deliveries.

#### Muthale:

In June of 1980, eight women were given a three day course on basic health.

A simple local-style brick house has been constructed with the aid of the local community for accommodating women for training courses.

In July, August and September 1980, seven women were given five day sessions with a one day follow up in November.

#### Kimangao:

In 1980, twenty women leaders were given four lectures on health. In 1981, 8 traditional midwives and 10 women leaders attended monthly discussion sessions on antenatal care, delivery, and other topics selected by the women.

#### Nuu:

At this centre, no training programs have been organized.

#### School health

The Kimangao centre has chosen 10 schools, where simple health measures are discussed on a monthly basis.

In Mutomo, the third and fourth form secondary school students are given instruction on antenatal care and delivery at their request.

### Family Planning

The Catholic Diocese of Kitui conducted a workshop for three weekends beginning in 1979 and ending in 1980. Twenty-four women from the team areas including teachers, and a few chosen by the village leaders participated. However, the training only dealt with the natural method of family planning.

## SECTION V

### Program inputs

#### Personnel

Each team has been fully staffed with a team leader, two enrolled midwives, three helpers and a driver since the beginning of the project. Since July 1981 an additional helper was added to help with records and the sample survey.

At the beginning of the project, there was a supervisor with public health training, who also functioned as team leader at Mutomo. She is away for a year, and on her return will continue with the project.

There has been considerable turnover of all staff since the beginning of the project. The length of stay has been between a month to a year and a half, averaging around 7 months, on the project.

Team leaders are all foreigners trained as nurse midwives. They are all dedicated and conscientious workers, motivating their team staff. They have been working under great odds with very low qualified local staff, and a great deal of on-the-job training and supervision for team members has been accomplished.

In the opinion of the team leaders, the program has done the people of the remote areas a lot of good. They also feel that the training of community women has been shortchanged and would like

to concentrate on this aspect of the program in the future.

The enrolled midwives on each of the teams, while enjoying the challenge of the work felt it was tiring and hard work. The safaris on bad roads, long hours without breaks, made them feel that a year of such service would be enough. They all wished to enter into government service to enjoy better benefits in the form of long term security.

Problems identified with the mobile clinic service were the lack of opportunity to practice midwifery, and the non-recognition of their experience by government agencies.

The Mutomo team in particular found the long hours very tiring. They did not take any breaks, but worked on until the clinics closed. They felt they could not eat while the patients waited, as they could not offer the patients food, nor could they all take time off to eat together.

At Mutomo, the helpers were student nurses, and they joined the safaris in rotation. They generally did the health education, and helped as required.

At all the other clinics, helpers are either nurse aides, or village girls with education at the primary level completed, or secondary school drop outs. These helpers were trained on the job by the team leaders. They also seemed to enjoy the work, and were convinced that they are helping the communities. Stability in this category of worker seems to be more assured.

At Muthale, where the helpers are nurse aides, the difficulty of low salaries and the lack of housing facilities or allowances was pointed out as a problem.

Tasks performed by the aides varied at each clinic according

to their training and length of service. Most of them kept the patient records, wrote down complaints, ordered vaccines, dispensed vaccines and gave health talks besides directing and guiding patients to the service.

Drivers of all the teams had the longest service. They were very content and happy with their jobs, and enjoyed the safari work. The drivers at all but Muthale, helped with clinic work like taking weights and recording them, as well other clerical duties. They felt very much part of the team, and took pride in their work.

All their vehicles were well maintained, and small maintenance jobs were looked after by them. They all wished to continue with the program. The driver at Muthale wishes to learn more skills and participate in clinic activities. They were the most satisfied employees of the program.

All the local team members were of the opinion that safari work was a great need and a successful program. The enrolled midwives would work for a year, but would encourage their friends to join the program.

The team spirit of the staff was particularly strong. All the team members expressed the wish to participate in more educational programs in order to better their skills.

#### Equipment

Necessary equipment in the form of drugs and supplies, and capital equipment were all purchased from grant funding sources, and have been adequate for the program operations.

#### Local resources

The government of Kenya has provided vaccines for the program with occasional shortages. However, no particular problem in this regard is experienced.

The mission provides housing for team leaders and enrolled midwives and office space and storage facilities. At Mutomo, the hospital mechanic does repairs on the vehicles.

#### Vehicle operation and maintenance

Vehicle problems have been very few for all the teams, and they have been able to get substitute transport in the case of the vehicle needing servicing or repairs on clinic days. General servicing is done once in three months, and generally on non-clinic days. Driving on bad roads is hard on the vehicles. The range of mileage is around 1061 km at Nuu, 1679 km at Mutomo, 2249 km at Muthale and 2715 at Kimangao in the period of one month covering 16 clinics each.

The Mutomo team landrover, purchased in 1978 is at the end of its usefulness, and money has been provided by CODEL to purchase a new vehicle. The administrator is in the process of purchasing a new vehicle.

Due to rains causing very poor road conditions, clinics in the Mutomo, Kimangao, and Nuu areas are cancelled from time to time.

#### Travel and per diem

Funding is provided to team members for in-service education and attending meetings. In June of 1981 all teams held a workshop at Kitui for in service education.

#### CODEL funding support

A break down of costs for the year 1980 is given in Annex 4 and the cost of services per recipient for the year was calculated. Total recipients for services in 1980 were 84,203, and the cost per recipient was K.Shs.21.58 of which K.Shs.9.13 was from the CODEL grant and K.Shs.12.45 was from non-CODEL sources, the vaccines being the most expensive part of the program.

Section VI

Guidelines for the final evaluation

Great difficulties were experienced with the monitoring and evaluation system designed at the beginning of the project. While the objectives were sound, the methodology was inherently weak. The assumption that data collection and analysis would be done by the medical students of the University of Nairobi was the underlying problem.

In the first phase, there was no formal agreement for such a procedure with the University of Nairobi. The whole programme hinged on the good-will and coordination of the project consultant who also supervised the medical students. It was also assumed that the service would be low cost, as it would be part of the student's learning experience. Besides being educationally unsound, it was dependent on identifying students willing to undertake such projects. Needless to say, since the consultant left the project the whole system collapsed.

The collection of data by household surveys is both time consuming and expensive and requires a number of personnel. The value from such information is marginal in relation to the personnel needed, time, and expenses. While base line surveys have their place, data collection in coordination with the decennial census data would be most appropriate and useful. Such a plan needs to be discussed with the appropriate government agencies.

The following modifications are suggested for the monitoring and evaluation system of the Kitui Primary Health Care Programme.

Instead of base line surveys, 10 clinics with large clinic attendance rates are to be chosen by the team leaders of each team, totalling 40 clinics for the study.

Beginning June 1981, a random selection of 30 children will be made from new cases at each of the forty clinics, totalling a population of 1200. A duplicate health record should be kept, to monitor child's health, and an additional data sheet attached (Annex 5). This information will monitor change in behaviour in mother's attitudes concerning environmental health, nutrition, practices and disease prevention.

An additional helper is proposed for each team to help with additional interviews and recording.

Similarly, a population of 1200 will be chosen at random from new antenatal patients under five months of pregnancy at each of the clinics. Duplicate antenatal records with supplementary data sheets (Annex 5) are to be maintained.

The antenatal data sheets will give patterns of infant mortality, delivery problems, family planning and postnatal care. Environmental health and nutrition will be elicited from the supplementary data sheets.

Detailed analysis of data are to be done by the evaluation team undertaking the final evaluation.

#### Clinic records

Several clinic records are kept, and contain valuable information for monitoring project implementation and impact. Antenatal/Post Natal Information has been modified (Annex 5) to cut down recording, and to maintain patient records, given out to the patients to keep. This practice was suggested at the November evaluation and is supported. Experience in many developing countries has shown that the mother will care for records, once she has learned of their importance. A strong polythene envelope 10 c.m longer than the card is a must, to protect the record. The small charge of 50 cents for the initial record, and

the practice of charging Kshs. 1.00 for lost records is a good practice to cut down losses. The keeping of the modified antenatal records will alleviate keeping other entries in a register, as is currently practiced. Summary data at the end of six month periods could be maintained separately. New records need only to be started every six months.

Clinic record charts for child records as proposed in the original evaluation guide should be continued, with the following modifications:

On the immunization summary sheets delete column on vaccinations, and include a column for booster doses for D.P.T., Polio, and Tetanus toxoid.

Morbidity data is kept in a clinic register. A more careful assessment of each child's condition should be made and classification entered, with summary information at the end of each clinic.

Nutrition assessment summary charts are to be broken down into the age group categories with totals and percentages for the three intervals on the Harvard weight scale.

Currently, no records are maintained on health education. At the end of each clinic, the topic discussed, number of talks given, and number attended need to be recorded on clinic summary sheets. Similarly, a register for training activities should be maintained at each centre, with all activities recorded, including meetings and discussions held with the community people.

Data on inputs as maintained should be continued, on costs, vehicle maintenance, equipment purchased etc.

The six monthly reports, while containing very useful information, should consider the following modifications. Under curative care, children registered under FET should not be included. Addition of a table on summary morbidity data, for new cases and old cases is recommended.

Nutrition is still a big problem, and as expected, dietary practices are slow and difficult to change.

Mothers seeking antenatal care have increased, but there is no programme for postnatal care and follow up of the newborn. Family planning education was carried out only at the Kizomo centre using the natural method.

Health education programmes are done at each clinic and cover basic hygiene, disease causation and prevention.

Training of community people has been on an ad hoc basis, with little or no follow up activities.

Transportation and vehicle maintenance has been a strong point in the programme and highly successful.

Clinic drugs and the provision of equipment and supplies have all been managed successfully with government providing the supply of vaccines with occasional shortages.

Staffing suffered a great deal of turnover. The programme's local staff, particularly find the demands of the job, and lack of long term benefits, reason enough to change jobs. There is the desire for more inservice education.

Environmental hygiene in respect to sanitation has progressed with the installation of pit latrines and positive attitudes toward its implementation.

Water is a big problem. Women walk distances ranging from 1 km to 20 km to fetch water, which is a time consuming activity.

Statistical returns for population under five should be calculated from census data estimations for the sublocations served in each team.

A serious attempt is to be made to get data on deliveries of the Antenatal cases under PFC supervision.

At the final evaluation surveys of randomly chosen project beneficiaries will be conducted to assess change in attitudes and health practices.

The final evaluation will require a team of two evaluators to do field work, conduct interviews and make observations, besides analysing survey data and writing the report. Approximate time required will be a period of 6 weeks to 2 months.

### Section VII

#### Summary, Conclusions and Recommendations

The primary goal of providing services to areas without any medical care has been achieved by the PFC.

The PFC team members are dedicated and conscientious workers. Their achievements despite many obstacles need to be commended.

Immunization programmes and curative and prophylactic care have reduced morbidity of specific diseases such as measles, whooping cough, tetanus and scabies. Malaria and diarrhoea still remain major problems, while tuberculosis is on the increase.

Mosquitoes are a menace with no existing plans or programmes for their eradication. The form of malaria attacking particularly young children is becoming more virulent causing many deaths.

Many people of the community are very appreciative of the mobile clinic services and are willing to participate and assist in the programme activities in order to increase and improve services to their areas. They are of the opinion, that the government is not in a position to take over the provision of such services, and would like to see the PHC services continue.

#### Recommendations

The PHC services should continue to operate the maximum of 16 clinics <sup>for</sup> each team. Services provided at static centres at Nithale and Kizangao should be discontinued.

The PHC programme is beginning to operate at full capacity, and as such funding by outside agencies should be provided for its continuance.

More support in the form of technical assistance will enhance the programme, and make it a model for replication.

The government agencies currently do not seem to be able to cope with the immediate task of running such a programme, and as such more coordination between mission and hospital programmes should be encouraged.

Further evaluation of government programmes needs to be done, to identify strengths and weaknesses, and how best services could be coordinated.

In the organization of child health clinics, the child examination should be done by the most qualified staff with instructions for treatments, medications etc., deputed to the helpers. This will facilitate morbidity classification, and more careful child supervision.

Care should be taken not to give BCG vaccine in combination with other live virus vaccines (Polio and Measles). A four to six week interval is necessary.

To concentrate on better care, child health visits need to be cut down. Mothers should be instructed to bring the children whenever they are sick. After the immunizations are completed, children progressing satisfactorily need to visit once in three months.

All patient records could be given to the mothers to keep with special instructions on their importance. Strong polythene bags 10 c.m longer than the cards should be supplied to protect the records. Duplicate records for the survey cases should be maintained at the clinics.

A special effort should be made to start a programme for postnatal care, with delivery follow up, and the collection of birth statistics and infant mortality data.

As family planning is an identified major need, given the constraints of catholic philosophy, and particular problems of the people, further discussion and alternative strategies need to be found.

Tetanus immunization for antenatals need not be repeated for every pregnancy. After the series is completed a booster is required once in ten years. Antenatal mothers should be encouraged to keep their records for subsequent pregnancies.

Training programmes for community people require a more coherent plan, curriculum and follow up. This programme requires better qualified staff on the teams. Current highest level of local staff is the enrolled midwife. A community health nurse on each team is a minimum requirement to emphasize training and education programmes.

Active participation of the community in the provision of health care needs to be encouraged by more discussions with the community members.

Staffing is a major problem with mission hospitals. Special efforts should be made by the Catholic Secretariat to negotiate with the appropriate government agencies to get recognition for mission services, provide a system or a fund for long term benefits, and whenever possible send staff to work in the mission programmes.

The salary scale for helpers needs to be examined, in light of comparable government scales and benefits.

In-service education for all team members, on a weekly basis at the team centres needs to be emphasized. Team leader meetings for discussions and programme guidance need to be held at least once every two months along with the programme consultant and administrator.

Workshops for all team members need to be organized once every 6 months.

The evaluation methodology has been modified while the objectives remain the same. Most of the data collection will be done by the team staff, with a team of evaluators doing the analysis of data, limited interviews and observations for the final evaluation. Details are discussed under section VI of this paper.

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9. Morley, David: Pediatric Priorities in the Developing World. Great Britain. Butterworths, 1973.
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Annex 1

Scope of Work and Interview Guides for  
evaluation

Scope of Work for the Mid-Term Evaluation of the Mitui  
Primary Health Care Project

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

A. Assessment of the sector 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 System" in terms of the degree of achievement attained 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 diphtheria 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.

In the event that data for measuring progress is unavailable, recommendations and procedures for use of appropriate indicators and data collection methods will be designed.

B. The extent to which the project purpose "The provision of a mobile primary health care services to rural areas of Mitui which lacked government and/or mission medical services" is attained 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 the recognition of women leaders in community health work.

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 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 instruction 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 and where necessary additional resources or cutbacks will be recommended in the following:

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

E. Guidelines for the final evaluation

In light of the fact that the original project evaluation was based on the participation of medical students, which did not materialize, a revised evaluation procedure for the final evaluation will be designed, with the view to incorporating data collection techniques by each of the mobile teams. Methods for implementation will be explained to the staff concerned.

F. A written report of the mid-term evaluation will be submitted in the required number of copies.

B. Interview guide for Project Staff

1. How long have you worked for this project?  
Less than 6 months                      6 months - 1 year  
1 - 2 years                                      2 years and over
2. Do you like the work?              Yes                      No
3. What aspects of the work are good?
4. What are the problems?
5. How long would you consider working for the project?
6. Would you like to work for the government?  
Yes                                      No  
If yes why?
7. In your view, how are the people benefiting from mobile clinics?
8. What are the disadvantages of mobile clinics?
9. How could the services be improved?
10. Would you like to have additional training/classes?

A. Interview Guide for Project Beneficiaries

1. Have you gone to school? What level have you completed.  
None                      Primary                      Secondary
2. How many people do you cook for?  
1-5                      5-10                      10+
3. How many debs of water do you use daily  
1-2                      3-5                      5+
4. How far do you walk to collect water  
Less than  $\frac{1}{2}$  mile                       $\frac{1}{2}$  to 2 miles  
2-5 miles                      5 + miles
5. Do animals drink at the same place you take water  
Yes                      No
6. Do you grow vegetables for your own use?  
Yes                      No
7. What do you do with your garbage?  
Pit                      Burn                      Throw in shamba
8. Where do you defecate?  
Pit latrine                      Field
9. How often do you bathe your children?  
Daily                      every 2-3 days                      Whenever water is available
10. How are diseases caused?  
No knowledge                      Some knowledge                      good knowledge
11. How are diseases prevented?  
No knowledge                      some knowledge                      good knowledge
12. How long do you breastfeed your baby?  
4 - 6 months                      up to 1yr                      up to 2 yrs                      over 2 years
13. When do you start additional foods?  
2-6months                      6 to 9months                      over 9 months

Annex 2

Selected Demographic Data for the District  
of Kitui

Map of Kitui District showing medical facilities  
and mobile clinic centres

Demographic data - Kitui District

2.1. Demographic profile of the District.

1969 census population 342,953  
1979 census population 464,283

2.2. Estimated annual growth rate:

1969 to 1978 - 2.60%  
1978 to 1983 - 2.93%

2.3. District population projections by age groups  
1978 to 1983 in thousands.

Age groups	1978	1979	1980	1981	1982	1983
All ages:	432	445	459	472	485	499
0 - 4	90	93	96	99	101	104
5 - 12	85	88	91	93	96	99
13 - 16	37	38	40	40	41	43
15 - 59	195	201	207	213	219	225
60+	17	18	19	19	20	20

2.4. Projected population by regions, area and density 1978

Division	Estimated population	Area in sq.Km	Density per sq. km.
Central	140,934	2640	7
Eastern	45,437	5736	53
Southern	70,789	7148	10
Mwingi	101,881	2231	45
Kyuso	69,083	7032	10

Source: Ministry of Economic Planning and Development. Kitui District  
Development Plan 1979 - 1983. Nairobi, January 1980.

2.5. Populations in sublocations served by the mobile clinics according to the 1969 and 1979 census.

Kimungao:	1969	1979
Zatse	13,643	13,592
Ngomeni	13,681	16,150
Mvukoni	16,013	22,182
Tharaka	4,537	6,173
Tseikuru	7,956	10,616
	<hr/>	<hr/>
Total	55,830	68,713
	<hr/>	<hr/>
Mithale:		
Matinyani	18,333	26,200
Migwani	26,333	35,068
Mitonguni	25,585	35,213
Mringi	22,100	26,026
	<hr/>	<hr/>
	92,351	122,507
	<hr/>	<hr/>
Mitomo:		
Ikansa	19,841	22,991
Imtha	13,230	19,226
Kanziko	8,988	11,472
Kisasi	19,800	22,765
Kitha	5,725	7,127
Voo	8,358	10,696
Yatta	12,353	19,395
Yatta B <sub>2</sub>	12,134	4,220
Zomba	8,200	10,943
	<hr/>	<hr/>
Total	108,659	128,335
	<hr/>	<hr/>

Nuu	<u>1969</u>	<u>1979</u>
Endau	6,178	8,009
Nui	7,204	9,539
Mtito	6,408	9,547
Nuu	8,072	11,589
Zombe	8,200	10,943
Total	<u>36,062</u>	<u>49,627</u>

2.6. Calculation of children under five in each team area based on national distribution in the 1979 census.

Total population in Kenya: 15,327,061

Population in the 0 - 4 year age

group: 2,843,405

Percentage of total population: 18.6

Growth rate in Kitui district between 1978 to 1983 is estimated at 2.93%.

Estimated under five population in 1980 for each team area is as follows:

Kimungao	:	13,155
Mithale	:	23,454
Mtomo	:	24,569
Nuu	:	9,501
Kitui District		96,000

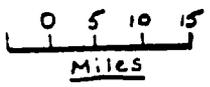
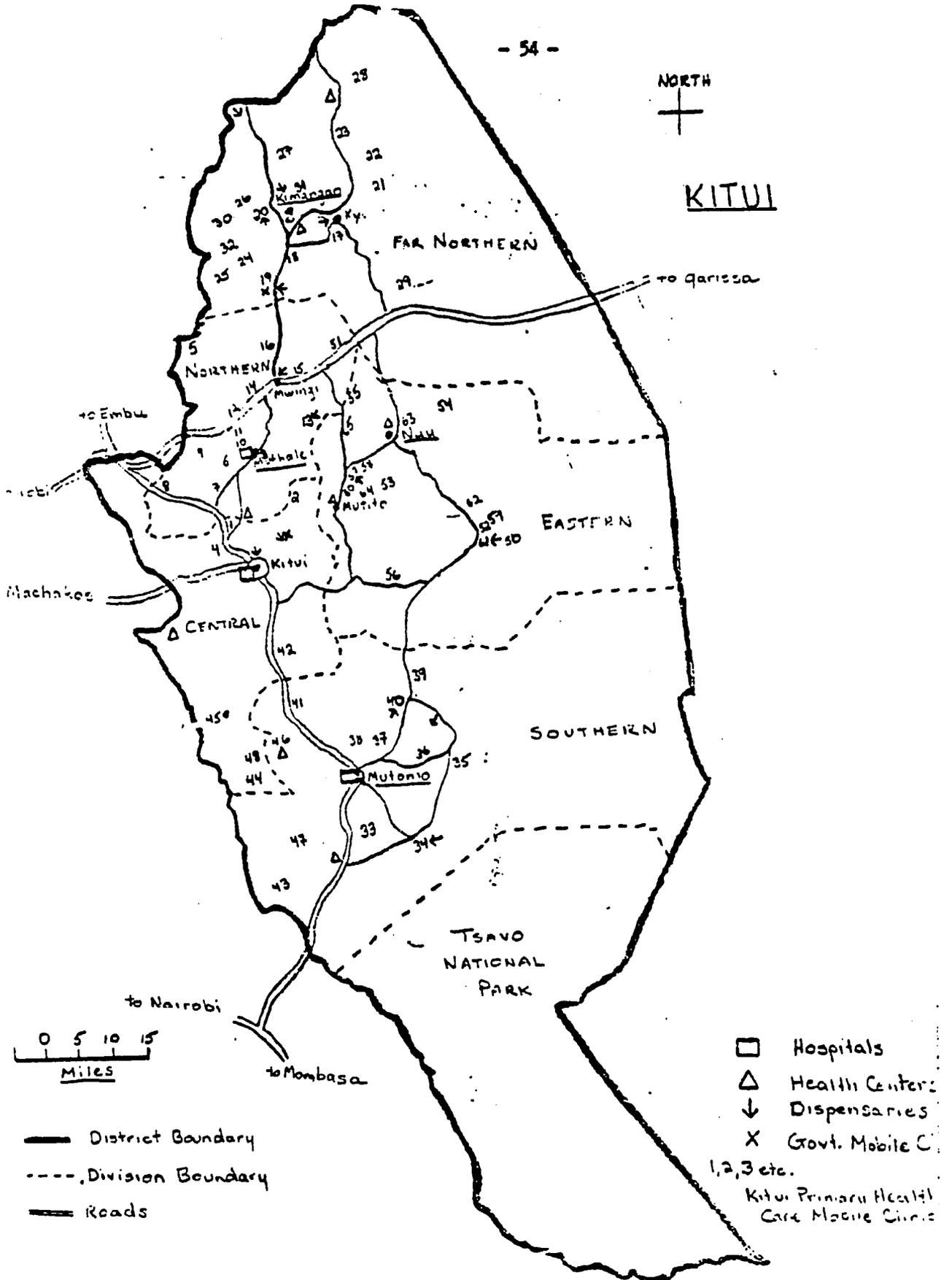
2.7. Births and Deaths Registered in Kitui District  
Estimated population and Crude Birth and Death rates  
1973 - 1980

Year	Estimated population	Births	Crude Birth rate	Deaths	Crude Death rate per 1000
1973	380,035	4140	11	253	1
1974	389,992	4285	11		
1975	400,054	4166	10	565	1
1976	410,456	4312	11		
1977	421,127	6475	13	976	2
1978	432,000	8035	19	1,083	3
1979	464,283*	9477	20	876	2
1980	477,885	7641	16	886	2

Note: Estimated population calculated from 1969 census  
population of Kitui = 342,953 and growth rate =2.60%  
\* 1979 census data - growth rate 2.93%



# KITUI



- District Boundary
- - - Division Boundary
- Roads

- Hospitals
- △ Health Centers
- ↓ Dispensaries
- X Govt. Mobile Clinics
- 1, 2, 3 etc.
- Kitui Primary Health Care Mobile Clinic

Kitui Primary Health Care Mobile Clinics  
as of December 31, 1980

<u>KIMANGAO:</u>	<u>Clinics</u>	<u>Location</u>
	1. Musavani	Tseiikuru
	2. Mthangani	Tharaka
	3. Masyungwa	Mwukoni
	4. Tyaa - Muthalo	Katse
	5. Nguku	Katse
	6. Kyuso	Mivukoni
	7. Ukasi	Ngomeni
	8. Maseki	Mivukoni
	9. Katse	Katse
	10. Nduuni	Ngomeni
	11. Kamwongo	Mivukoni
	12. Kandwia	Mivukoni
	13. Ngunguni	Katse
	14. (Kimangao) - static	Mivukoni
	15. Syambyu	Katse
	16. Musosya	Katse
	17. Mitamisyi	Ngomeni
<u>MUTHALE:</u>	18. Kathumulana	Mutonguni
	19. Kakeani	Mutonguni
	20. Kiseveni	Mutonguni
	21. Kivou	Mwingi
	22. Mutonga	Matinyani
	23. Karyaa4	Migwani
	24. Kwaluu	Migwani
	25. Thana	Migwani
	26. Nzawa	Migwani
	27. Thitani	Migwani
	28. Kakumuti	Matinyani
	29. Nzeluni	Mwingi
	30. Mbondoni	Mwingi
	31. Katutu	Mutonguni
	32. Itumbi	Mwingi
	33. Muthale - static	
<u>MUTONGO:</u>	34. Voo	Voo
	35. Kanziko	Kanziko
	36. Kanyongonyo	Yatta
	37. Kalivu	Ikutha
	38. Kinakoni	Voo
	39. Chaango	Voo
	40. Kasaala	Ikutha
	41. Syomonyu	Yatta
	42. Kissuni	Yatta
	43. Mutha	Mutha
	44. Ikanga	Ikanga
	45. Kisasi	Kisasi
	46. Kavisuni	Yatta
	47. Monguni	Ikutha
	48. Kyanatu	Zombe
	49. Kathythoka	Mutha

MUTITO (Huu):

	<u>Clinic</u>	<u>Location</u>
50.	Lasaya	Endau
51.	Mutiangome	Huu
52.	Mikuyuni	Miambani
53.	Kabati	Zombe
54.	Wingeni	Engau
55.	Kalitini	Mui
56.	Mwitika	Zombe
57.	Mui	Mui
58.	Nyaani	Huu
59.	Twambui	Endau
60.	Yoonye	Mutito
61.	Endau	Endau
62.	Makuka	Zombe
63.	Kavindu	Huu
64.	Kawala	Mutito
65.	Lundi	Mui

**Annex 3**

**Selected Indicators showing Patterns of  
Diseases, Growth, Services provided, and  
Attitudes to health.**

Table 7

Pattern of diseases in children below 5 years of age by Clinic Centres; May 1981

Disease	Kimungao		Mithale		Mitoco		Ruru		All Clinics	
	No of complaints	%								
Upper Respiratory infections New	73	5.1	34	3.3	52	4.0	16	4.2	175	4.2
Repeats	351	24.4	207	20.0	235	18.1	80	21.1	873	21.0
Ear infections	N 2	0.1	1	0.1	0	0.0	0	0.0	3	0.07
	R 25	1.7	8	0.8	4	0.3	3	0.8	39	0.9
Pertussis	N 2	0.1	0	0.0	0	0.0	0	0.0	2	0.05
	R 3	0.2	0	0.0	0	0.0	1	0.3	4	0.1
Eye infections	N 15	1.0	13	1.3	10	0.8	2	0.5	40	1.0
	R 112	7.8	20	1.9	72	5.5	9	2.4	213	5.1
Diarrhoea	N 15	1.0	8	0.8	19	1.5	13	3.4	55	1.3
	R 87	6.1	35	3.4	113	8.7	24	6.3	259	6.2
Intestinal Parasitic worms	N 0	0.0	0	0.0	0	0.0	2	0.5	2	0.05
	R 5	0.3	3	0.3	0	0.0	1	0.3	9	0.2
Urinary infections	N 0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	R 0	0.0	0	0.0	4	0.3	0	0.0	4	0.1
Dermatitis	N 6	0.4	7	0.7	8	0.6	6	1.6	27	0.7
	R 64	4.5	31	3.0	30	2.3	19	5.0	144	3.5
Scabies	N 0	0.0	0	0.0	8	0.6	0	0.0	8	0.2
	R 1	0.06	2	0.2	37	2.8	0	0.0	40	1.0
Fever/Malaria?	N 21	1.5	8	0.8	47	3.6	33	8.7	109	2.6
	R 145	10.1	43	4.2	233	17.9	110	29.0	531	12.7
Injuries	N 0	0.0	0	0.0	1	0.08	1	0.3	2	0.05
	R 9	0.6	2	0.2	2	0.2	1	0.3	4	0.3
Satisfactory	N 89	6.2	170	16.4	41	3.2	0	0.0	300	7.2
	R 413	28.7	443	42.8	384	29.5	58	15.3	1299	31.3
Total patients	N 233	15.5	241	23.3	186	14.3	73	19.2	723	17.4
	R 1215	84.5	794	76.7	1114	85.7	306	80.8	3429	82.6

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Table 8

Kimungao -Growth Surveillance: January - June 1981: by clinics in percentage

Mobile Clinics	Harvard Standard		
	80% and above	60-80%	below 60%
Kamwongo	77.98	21.25	0.77
Dandda	70.18	28.65	1.17
Datso	70.54	28.74	0.72
Kimungao	73.85	24.82	1.33
Maseki	62.35	35.15	2.50
Masyungwa	68.04	31.24	0.72
Mitamsyi	76.18	23.82	-
Misavani	58.78	34.48	6.74
Misosya	57.91	37.07	5.02
Nimuni	81.22	18.68	-
Ngunguni	60.07	37.48	2.45
Nguku	73.15	26.65	0.2
Nthangeni	67.28	31.24	1.48
Syambyu	63.77	34.05	2.18
Tyaa-Nithale	59.75	38.63	1.62
Ukasi	65.98	32.78	1.24
All clinics	71.9	26.34	1.76

Table 9

Mitomo Growth Surveillance, January - June 1981; by Clinics in percentages

<u>Mobile clinics</u>	<u>Harvard Standard</u>		
	<u>80% and above</u>	<u>60% - 80%</u>	<u>60% and below</u>
Chaango	70.65	28.43	0.92
Danga	91.65	8.35	-
Kalivu	87.17	12.83	-
Kanyongonyo	86.68	12.92	0.4
Kasiko	89.92	9.37	0.71
Kasaala	85.07	14.65	0.28
Kathythoka	77.74	21.14	1.12
Kavisuni	80.33	17.48	2.19
Kinakoni	80.54	19.31	0.15
Kisami	95.06	3.88	1.06
Kisani	92.5	7.38	0.12
Kyamata	71.92	26.32	1.76
Monguni	85.6	13.56	0.84
Mutha	87.48	12.07	0.45
Somonyu	74.6	25.4	-
Voo	75.48	20.3	4.22
All clinics	83.27	16.41	0.32

Table 10

New Growth Surveillance January - June 1981 by Clinics in percentages

<u>Mobile Clinics</u>	<u>Harvard Standard</u>		
	<u>80% and above</u>	<u>60% - 80%</u>	<u>below 60%</u>
Endau	82.25	15.55	2.2
Imasaya	50.68	47.22	2.1
Kabati	66.1	33.2	0.7
Kalatini	82.02	15.7	0.28
Kawindu	64.08	18.77	17.15
Kwala	77.22	25.43	0.35
Lundi	62.12	37.4	0.48
Makuka	75.3	21.64	3.06
Kikuyuni	54.18	42.25	3.57
Mitiangome	67.48	27.77	4.75
Nritika	68.47	27.13	4.4
Rui	74.46	21.88	3.66
Ryasi	64.37	34.65	0.98
Rwambui	72.08	24.64	3.28
Wingemi	53.75	40.9	5.35
Yonye	81.3	18.6	0.04
All Clinics	68.43	28.3	3.27

Table 11

Summary of Clinic Services by six month periods for each team: 1978 - 1980

	<u>KINANGAO</u>				<u>MUTHALE</u>		
	July-Dec 1979	Jan-June 1980	July-Dec 1980	Total	Jan-June 1980	July-Dec 1980	Total
<b>Child Welfare</b>							
New cases	1,171	1,544	929	3,644	4,569	1,620	6,189
Revisits	2,035	7,175	6,606	15,816	4,217	4,339	8,556
Curative care	1,009	1,041	1,713	3,763	2,828	3,530	6,358
<b>Immunisations</b>							
BCG	1,171	1,262	664	3,097	2,732	1,456	4,188
DPT # 1	1,197	1,477	1,025	3,699	2,704	1,442	4,146
DPT # 2	400	1,000	855	2,255	2,040	1,244	3,284
DPT # 3	379	933	800	2,112	1,491	1,094	2,585
Polio # 1	901	1,653	1,036	3,590	3,035	1,461	4,496
Polio # 2	525	1,350	903	2,778	1,998	1,056	3,054
Polio # 3	not given	1,229	825	2,054	not given	not given	-
Measles	309	309	598	1,216	1,995	1,056	3,051
<b>Antenatal care</b>							
New cases risk	151	129	236	516	355	264	619
Non risk	123	100	211	434	656	341	997
Revisits risk	125	218	378	721	349	524	873
Non risk	96	169	294	559	659	630	1,289
<b>Immunization Tetanus</b>							
Tetanus # 2 <sup>nd</sup>	166	203	381	750	690	709	1,399
Tetanus # 1	54	98	177	329	200	321	521
No. of clinics held	66	92	92	250	93	92	185

Note: Risk and non risk cases for the periods August 1978 to June 1979 are estimated.

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Table 11 cont.

<u>Services provided</u>	<u>M U T O M O</u>					Total	<u>MMU</u>		Total
	Aug-Dec 1978	Jan-June 1979	June-Dec 1979	Jan-June 1980	July-Dec 1980		Jan-June 1980	July-Dec 1980	
<b>Child Welfare</b>									
New cases	994	1,401	1,086	1,645	1,641	6,767	1,605	603	2208
Revisits	3,279	4,581	4,758	6,604	7,224	26,526	2,099	2,203	5,102
<b>Curative Care</b>	4,094	6,166	4,285	6,511	2,400	23,456	1,957	1,947	3,904
<b>Immunizations:</b>									
BCG	869	1,289	1,284	1,506	1,576	6,524	1,284	599	1,833
DPT # 1	936	1,287	1,452	1,587	1,640	6,902	1,758	690	2,448
DPT # 2	769	684	1,515	1,364	1,324	5,656	813	514	1,327
DPT # 3	711	419	807	1,115	1,131	4,183	447	443	890
Polio # 1	884	771	1,795	1,518	1,568	6,536	1,607	679	2,286
Polio # 2	799	357	915	1,280	1,433	4,784	614	531	1,145
Polio # 3	not given		186	1,361	1,345	2,892	433	415	846
Measles	501	961	823	688	959	3,932	603	428	1,034
<b>Antenatal Care</b>									
New cases risk	200	460	419	749	602	2,430	375	187	562
Non risk	150	400	340	454	339	1,683	210	160	370
Revisits risk	300	621	606	1,112	983	3,622	202	227	429
Non risk	263	400	516	661	641	2,481	180	174	354
<b>Immunization Tetanus # 1</b>	197	458	998	665	817	3,135	329	171	500
Tetanus # 2	99	86	466	317	405	1,393	136	128	264
<b>No. of clinics held</b>	76	93	85	91	90	435	88	85	173

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TABLE 12

Survey of Beneficiaries on Selected Health Related Topics

1. Educational level:	<u>None</u>		<u>Primary</u>		<u>Form I-IV</u>		<u>Adult</u>	
	N	%	N	%	N	%	N	%
Mutomo	20	100.0	0	0.0	0	0.0	0	0.0
Muthale	8	40.0	5	25.0	6	30.0	1	5.0
Kimangao	12	50.0	6	30.0	1	5.0	1	5.0
<b>Total</b>	<b>40</b>	<b>66.7</b>	<b>11</b>	<b>16.3</b>	<b>7</b>	<b>11.7</b>	<b>2</b>	<b>3.3</b>

2. Number cooked for:	<u>1-5</u>		<u>5-10</u>		<u>10+</u>	
	N	%	N	%	N	%
Mutomo	5	25.0	13	65.0	2	10.0
Muthale	5	25.0	11	55.0	4	20.0
Kimangao	4	20.0	14	70.0	2	10.0
<b>Total</b>	<b>14</b>	<b>23.3</b>	<b>38</b>	<b>63.4</b>	<b>8</b>	<b>13.3</b>

3. Debes of water used daily:	<u>0-2</u>		<u>3-5</u>		<u>5+</u>	
	N	%	N	%	N	%
Mutomo	10	50.0	8	40.0	2	10.0
Muthale	13	65.0	3	15.0	4	20.0
Kimangao	11	55.0	7	35.0	2	10.0
<b>Total</b>	<b>34</b>	<b>56.7</b>	<b>18</b>	<b>30.0</b>	<b>8</b>	<b>13.3</b>

4. Distance travelled:	<u>less than 1/2 mile</u>		<u>1 - 2 m</u>		<u>2 - 5 m</u>		<u>5+</u>	
	N	%	N	%	N	%	N	%
Mutomo	5	25.0	4	20.0	6	30.0	5	25.0
Muthale	6	30.0	10	50.0	3	15.0	1	5.0
Kimangao	8	40.0	5	25.0	4	20.0	3	15.0
<b>Total</b>	<b>19</b>	<b>31.6</b>	<b>19</b>	<b>31.5</b>	<b>13</b>	<b>21.7</b>	<b>9</b>	<b>15.0</b>

5. Animals drink at water source:	<u>Yes</u>		<u>No</u>	
	N	%	N	%
Mutomo	3	15.0	17	85.0
Muthale	17	85.0	3	15.0
Kimangao	7	35.0	13	65.0
Total	27	45.0	33	55.0

6. Vegetables grown for own use:	<u>Yes</u>		<u>No</u>	
	N	%	N	%
Mutomo	20	100.0	0	0.0
Muthale	11	55.0	9	45.0
Kimangao	11	55.0	9	45.0
Total	42	70.0	18	30.0

7. Disposal of Garbage:	<u>Compost/Pit</u>		<u>Burn</u>		<u>Open Field</u>	
	N	%	N	%	N	%
Mutomo	9	45.0	4	20.0	7	35.0
Muthale	8	40.0	5	25.0	7	35.0
Kimangao	10	50.0	2	10.0	8	40.0
Total	27	45.0	11	18.3	22	36.7

8. Defecation:	<u>Pit latrine</u>		<u>Field</u>	
	N	%	N	%
Mutomo	6	30.0	14	70.0
Muthale	11	55.0	9	45.0
Kimangao	8	40.0	12	60.0
Total	25	41.7	35	58.3

9. Bathing practices:	<u>Daily</u>		<u>2-3 days</u>		<u>when water available</u>	
	N	%	N	%	N	%
Mutomo	12	60.0	4	20.0	4	20.0
Muthale	19	95.0	1	5.0	0	0.0
Kimangao	14	70.0	6	30.0	0	0.0
Total	45	75.0	11	18.3	4	6.7

10. Knowledge of disease causation:	<u>None</u>		<u>Some</u>		<u>Good</u>	
	N	%	N	%	N	%
Mutomo	11	55.0	9	45.0	0	0.0
Muthale	9	45.0	11	55.0	0	0.0
Kimangao	9	45.0	11	55.0	0	0.0
Total	29	48.3	31	51.7	0	0.0

11. Knowledge of disease prevention:	<u>None</u>		<u>Some</u>		<u>Good</u>	
	N	%	N	%	N	%
Mutomo	7	35.0	13	65.0	0	0.0
Muthale	10	50.0	10	50.0	0	0.0
Kimangao	8	40.0	12	60.0	0	0.0
Total	25	41.7	35	58.3		

12. Breast feeding practices:	<u>4-6 months</u>		<u>7 - 1 yr</u>		<u>Under 2yrs</u>		<u>Over 2</u>	
	N	%	N	%	N	%	N	%
Mutomo	1	5.0	5	25.0	13	65.0	1	5.0
Muthale	1	5.0	4	20.0	15	75.0	0	0.0
Kimangao	4	20.0	2	10.0	12	60.0	2	10.0
Total	6	10.0	11	18.3	40	66.7	3	5.0

13. Start of additional foods	<u>2-6 mths</u>		<u>7-9 mths</u>		<u>Over 9 mths</u>	
	N	%	N	%	N	%
Mutomo	9	45.0	10	50.0	1	5.0
Muthale	14	70.0	6	30.0	0	0.0
Kimangao	9	45.0	11	55.0	0	0.0
Total	<u>32</u>	<u>53.3</u>	<u>27</u>	<u>45.0</u>	<u>1</u>	<u>1.7</u>

**Annex 4**

**Breakdown of Programme Costs - 1980**

Cost of Services per recipient for 1980

I. Total number of recipients:

This figure for the year 1980 was derived from number of patients given service:

Child welfare

New cases	14,156
Revisits	41,347
Antenatal: new	5,348
Revisits	7,401
Health training recipients	99
Total	84,203

II. CODEL grant:

a) Transportation vehicle depreciation costs for 1 year on 3 year useability :

Purchase 1 L/Rover (1978)	Kshs. 90,000.00
Price of 1 L/Rover (1978)	Kshs. 46,000.00
Landrovers: 2 L/Rover (1979)	Kshs. 358,000.00
Total	594,000.00

Depreciation for 1980 = 198,000

b) Clinical equipment depreciation costs:

Clinical equipment purchased in 1979	=	27,000
Clinical equipment purchased in 1980	=	106,500
Total	=	133,500

Depreciation for 1980 = 133,500 = Kshs. 44,500

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c) Recurrent expenditures for salaries, drugs, medical supplies, transport maintenance, petrol, and licences and incidental expenses

January - July 1980 = 283,835

July - December 1980 = 242,428

Total costs	=	Kshs. 198,000
		44,500
		283,835
		242,428
		<u>768,763</u>

Cost per recipient from COEEL grant	<u>768,763</u>	=	Ksh. 9.13
	84,203		

III. Non CODEL Costs

a) Vaccines for 1980

Prices for vaccines were obtained from Hoch Pharmaceuticals and Nairobi Hospital.

Vaccines used in 1980 were as follows:

BCG - 11029 doses at Kshs. 30.90 per dose = Kshs. 340,796

DPT - 28,931 doses at Kshs. 51.55 for 15 doses  
= Kshs. 99,426.20

Polio - 27,328 doses at Kshs. 341.40 for 50 doses  
= Kshs. 186,595.60

Measles - 6639 doses at Kshs. 40.75 per dose = Ksh. 270,539.25

Tetanus toxoid - 5747 doses at Kshs. 12.95 per dose  
= Ksh. 74,423.65

Total = Ksh. 971,781.00

b) Housing and Office Space

4 team leaders + project consultant at Ksh. 500 per month  
= Ksh. 30,000

8 enrolled midwives at Ksh. 300 per month = Ksh. 28,800

Office space and storage facility (5 rooms, one in each  
team headquarters and Kitui)  
at Ksh 300 per month = Ksh. 18,000

Total = Ksh. 76,800

Total Non CODEL costs = Kshs. 78,800 + Ksh. 971,781

= Ksh. 1,048,581.00

Non CODEL cost per recipient = Kshs. 12.45

Cost per recipient for 1980 =  $\frac{1,817,344}{84,203}$  = Kshs. 21.58

84,203

Annex 5

Modified Data Gathering - Instruments for the Final Evaluation

CLINIC: \_\_\_\_\_

ANTENATAL/PRE-NATAL INFORMATION

YEAR: \_\_\_\_\_

DATE

NO.

NAME

1st visit  
E.D.D.

Risk

Hos-Rick

Re-Visits

1st 2nd 3rd 4th 5th 6th

Total No.  
of visits

1st dose  
2nd dose

Tetanus  
Tox.

Transfer

Abortion

Delivery

Miscarri-  
age

Type

Hosp/H.C.

Postnatal  
visit

Livebirth

Still-  
birth

Birth-  
weight

Newborn Info.

BEST AVAILABLE DOCUMENT

KITUI PRIMARY HEALTH CARE PROGRAM

NAME \_\_\_\_\_

Childwelfare Card - Supplementary Information

CLINIC \_\_\_\_\_

	Arm Circum. - Cm	Head Circum. - Cm	Anemia mod./severe	Spleen Palp. (fingers)	Breast Feeding	Taking Iron	Taking Chloroquin	No. Cooked for	Jobs of water daily	Fit to urinate at home	SUPPLEMENTARY FOOD							RECORD OF ILLNESS
											Ferriago	Eggs	Fruits	Tinned Milk	Cil	C.R.S. Food	Other	
July 1981																		
August																		
September																		
October																		
November																		
December																		
January 1982																		
February																		
March																		
April																		
May																		
June																		

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KI... PRIMARY HEALTH CARE PROGRAM

Ante-Natal Card - Supplementary Information

CLINIC \_\_\_\_\_

Name \_\_\_\_\_

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

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