社会開発調査部報告書

No. 52

The Study on Strengthening the District Health System in

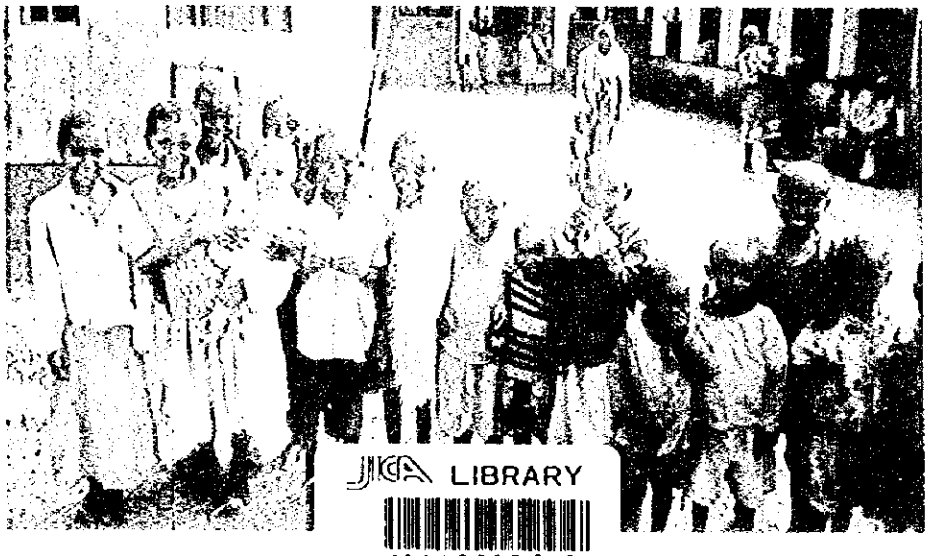
Final Report

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
THE MINISTRY OF HEALTH
THE GOVERNMENT OF THE REPUBLIC OF KENYA

The Study on Strengthening the District Health System in the Western Part of Kenya

Final Report

Summary



December 1998

Pacific Consultants International
IC Net Limited

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
THE MINISTRY OF HEALTH
THE GOVERNMENT OF THE REPUBLIC OF KENYA

The Study on Strengthening the District Health System in the Western Part of Kenya

Final Report

Summary

December 1998

Pacific Consultants International
IC Net Limited

The exchange rates used in the Study are:

US$ 1.00 = 59.57 Kshs

US$ 1.00 = JY 139.60

(as of the end of August 1998)

PREFACE

In response to a request from the Government of the Republic of Kenya, the Government of Japan decided to conduct a Development Study on Strengthening District Health System in the Western Part of Kenya and entrusted to study to the Japan International Cooperation Agency.

JICA selected and dispatched a study team headed by Dr. Katsuhide Nagayama of Pacific Consultants International to Kenya, four times between August, 1997 and December, 1998. In addition, JICA set up an advisory committee headed by Professor Takatoshi Kobayakawa, M.D., Ph.D., Tokyo Women's Medical College between August 1997 and December 1998 which examined the study from specialist and technical points of view.

The team held discussions with the officials concerned of the Government of Kenya and conducted field surveys at the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the promotion of this project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Kenya for their close cooperation extended to the study.

December, 1998

Kimio FUJITA
President
Japan International Cooperation Agency

December 1998

Mr. Kimio FUJITA
President
Japan International Cooperation Agency
Tokyo, Japan

LETTER OF TRANSMITTAL

Dear Sir,

We are pleased to formally submit herewith the final report of "The Study on Strengthening the District Health System in the Western Part of Kenya."

This report compiles the results of the Study which was undertaken in the Republic of Kenya from August 1997 through December 1998 by the Study Team, organised jointly by Pacific Consultants International and IC Net Ltd.

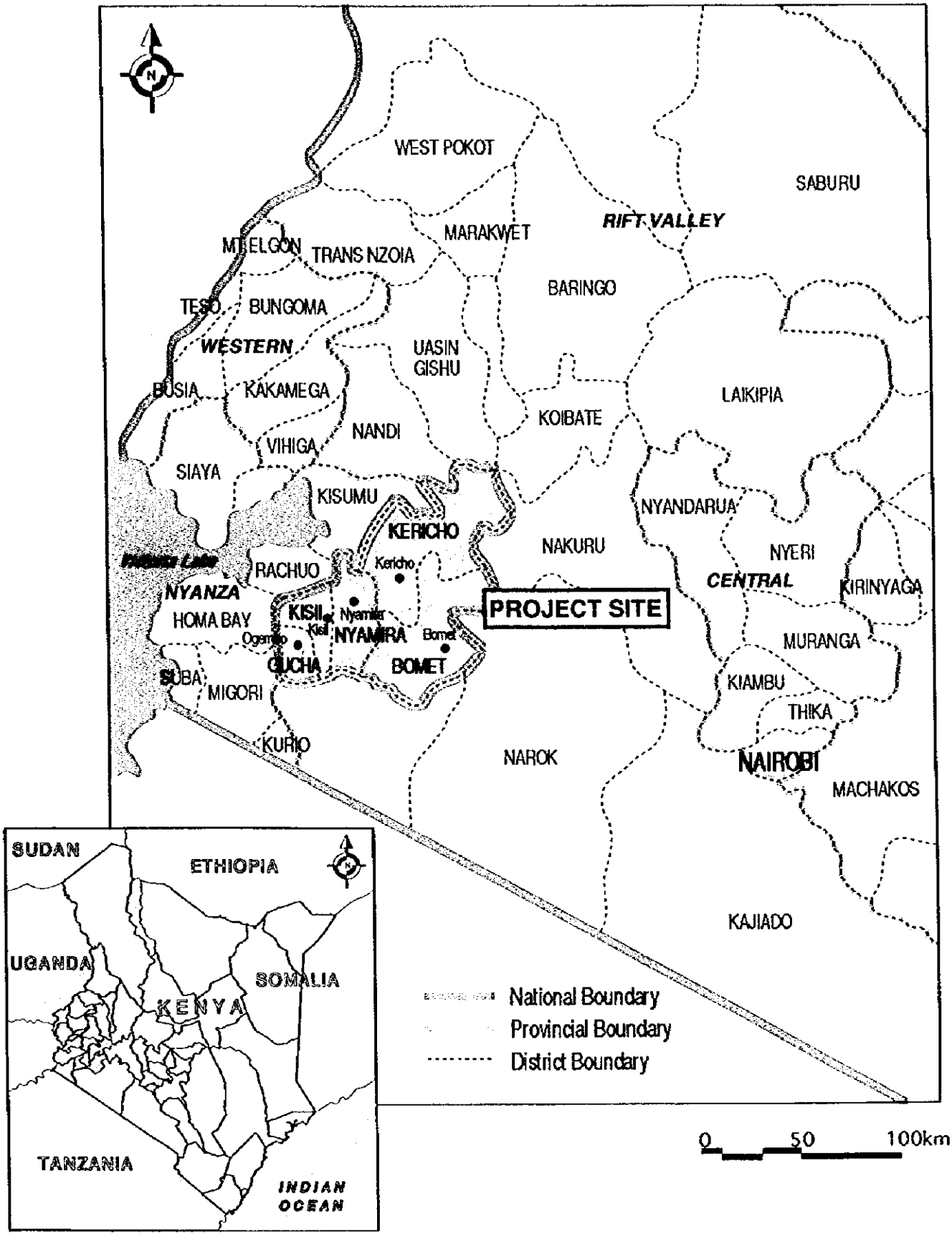
We owed a lot to many people for the accomplishment of the Study. We would like to express our sincere gratitude and appreciation to all those extended their kind assistance and cooperation to the Study Team, in particular, relevant officials of Ministry of Health, the Kenyan counterpart agency.

We also acknowledge all the officials of your agency, the JICA Advisory Committee, Embassy of Japan in Kenya and Ministry of Foreign Affairs.

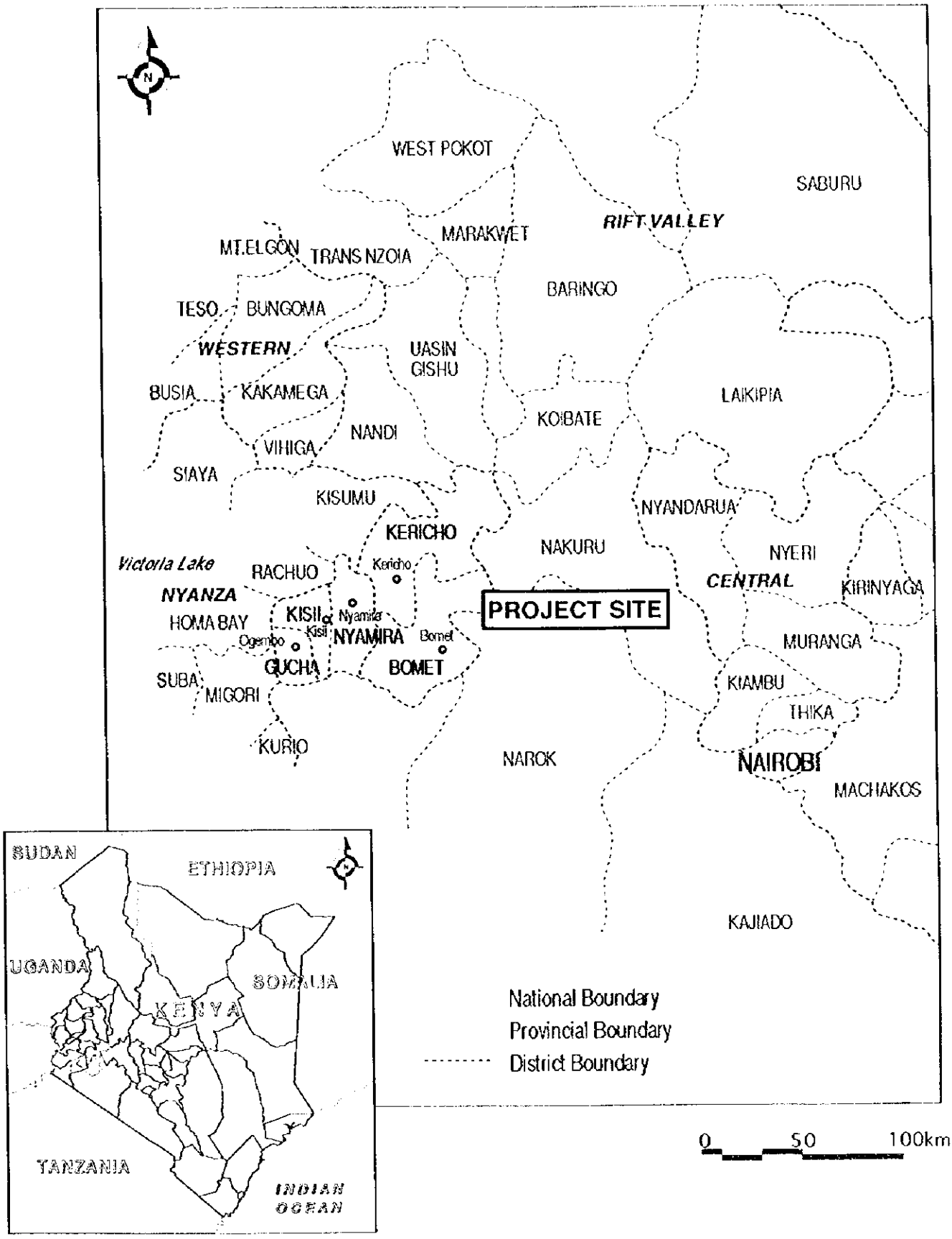
We wish the report really contributes to formulating appropriate polices and measures for improvement of district health service delivery systems by the Government of Kenya.

Very truly yours,

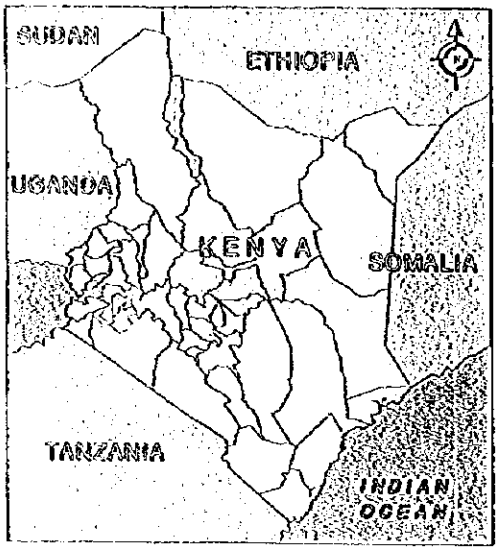
Dr. Katsuhide NAGAYAMA
Team Leader,
The Study Team for the Study on
Strengthening the District Health
System in the Western Part of Kenya



Location Map of Project Site



Location Map of Project Site



POPULATION DENSITY
(person/km2)

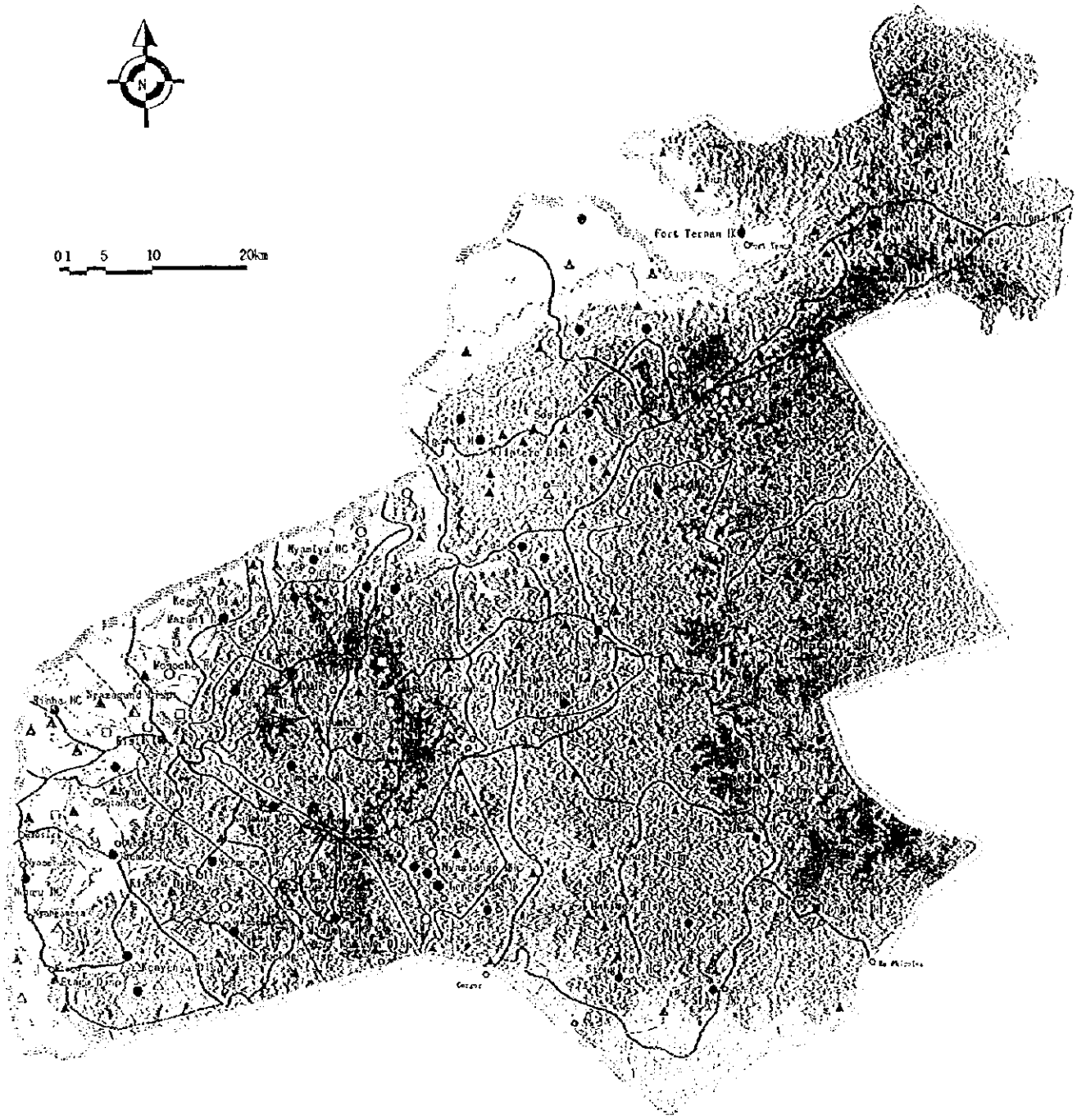
- 0~200
- 201~400
- 401~600
- 601~800
- 1000~

- Government Hospital
- Private Hospital
- Sub-District Hospital
- Government Health Center
- Private Health Center
- Sub-District Health Center
- Government Dispensary
- Private Dispensary
- Sub-District Dispensary

- District Boundary
- Division Boundary
- BOMET District Name
- Study Area

KERICHO
NYAMIRA
KISII
BOMET
GUCHA

0 1 5 10 20km



Distribution of Health Facilities in the Study Area

Executive Summary

1. BACKGROUND

In response to the request of the Government of the Republic of Kenya, the Government of Japan decided to conduct "The Study on Strengthening District Health System in the Western Part of Kenya" (hereinafter referred to as "the Study"). The Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, undertakes the Study in accordance with the relevant laws and regulations in force in Japan.

On the part of the Government of Kenya, the Ministry of Health (hereinafter referred to as "MOH") acts as the Counterpart Agency for the JICA Study Team, and coordinates with other related government agencies.

2. OBJECTIVES OF THE STUDY

(1) To establish a master plan which strengthens the district health system in the Study Area and to formulate an action program for priority projects/programs as a result of the master plan, and

(2) To conduct technical transfer to the Kenyan counter personnel in the course of the Study, in terms of methodologies on: a) surveys and analyses for strengthening of the health sector; b) people's participation in the planning process; and c) a PCM approach in identifying planning issues.

3. THE STUDY AREA AND TARGET YEARS

The Study Area is encompassed with five (5) districts, namely, Kericho, Bomet, Northern Kisii (Nyamira) , Central Kisii (Kisii) and Southern Kisii (Gucha). The master plan covers the time framework up to the year 2005.

Notes: Three Districts have been renamed since 1998: Northern Kisii from Nyamira; Central Kisii from Kisii and Southern Kisii from Gucha In this report, the old names are used for convenience.

4 MAJOR PLANNING ISSUES

The Study was conducted with particular emphasis on the following five (5) planning issues:

(1) Improvement of "District Health Service Delivery System"

(2) Strengthening of "Health Information System"

(3) Prioritization of Diseases and Critical Health-related Issues

(4) Efficient Utilization of Financial Resources

(5) Proposal of "Effective and Implementable Projects/Programs"

5. STUDY APPROACH

The Study employed a Local People's Participatory Approach in the planning process while promoting close relationship with local stakeholders as well as MOH officials. Different from the top-down approach, this approach is based on a feedback process: ideas, opinions and plans of the local people were picked, discussed and assessed through a number of workshops at the district level.

6. MASTER PLAN

(1) Overall Planning Goal

The national policy goal should be achieved on the practical ground. Hence, any regional context must be geared with the national health policy framework, being reflected by the local reality. Hence, the overall goal of the Study is:

"To promote and improve the health status of all people residing in the target area, materializing the effective, efficient and sustainable mobilization of all the locally available health-related resources".

(2) Social Framework

Rapid increases in the population is a focal issue for social welfare as well as some of vital health-related programs such as FP and KEIP. There seem to be a gradually decreasing trend, but it is at a minimal level. In the year 2005, the total population of the Study Area will be about **3.4 million**, compared to 2.7 million at present as of 1997, About 700,000 will increase in the Study Area from 1997 to 2005.

(3) Planning Objectives

The overall goal needs to be interpreted into practical strategies with longer-term perspectives. The master plan, therefore, addresses two (2) key planning objectives which should be materialized with some numerical targets as follows:

Objective A: To provide **all the residents** with universal **access to minimum promotive and preventive health cares (P/PHC)** as well as **curative services and upgrade the quality of service.**

Objective B: To strengthen **linkages with other sectors to facilitate Community Development** relating to Health Improvement.

(4) Strategies and Rational Interventions

In the line with the two objectives of the master plan, strategies and/or rational interventions are formulated to meet the planning objectives. These comprehensively cover all the areas for the improvement of the district health system. It should be noted that one strategy alone cannot be effective, but needs to be mutually related with another for the implementation.

In the strategies and/or interventions, the four (4) keywords of "Health Policy Reform", namely 1) Decentralization, 2) Rehabilitation of Existing Resources, 3) Community-based and 4) Sustainability, are incorporated.

For Objective A

To provide **all the residents** with universal **access to minimum promotive and preventive health cares (P/PHC)** as well as **curative services and upgrade the quality of service** by/through:

(A1) Enhance Health Services for Priority Diseases

(A2) Functionalize District Health Service Delivery System

(A3) Promote Linkages in Health Services for Target Groups between Private and Public Health Providers

(A4) Develop Programs for Continuing Education for Rural Health Personnel

(A5) Rehabilitate Existing Health Facilities and Equipment

(A6) Strengthen Financial Capability at District Level

(A7) Institutionalize Supervision and Monitoring for Quality Assurance

For Objective B

To strengthen **linkages with other sectors to facilitate Community Development** relating to Health Improvement through:

(B1) Encourage Community-based PHC Activities for Health Improvement

(B2) Facilitate Integration of Rural Roads, Water and Sanitation Improvement

(B3) Encourage Self-help Group Activities through Empowering Women

Proposed interventions are integrated in a number of projects, taking into account: 1) implementability; 2) effective project linkages; and 3) functional relations among proposed interventions, and consequently a total of 37 projects were identified.

7. PROPOSED PRIORITY PROGRAMS

(1) Criteria for Prioritization

The following qualitative criteria are applied for looking into the priority of the long listed projects:

- Supportive or synergistic interventions to on-going projects and programs in the line with National Health Reform Policies;
- Cost effective interventions that have been already recognized in the neighboring areas or past studies;
- Forming an important base for the future development; and
- Leading to the strengthening capacity building and the reinforcement of the public system.

(2) Proposed Priority Programs

Out of the comprehensively listed projects, five (5) programs meeting with the criteria are formed as priority programs to be urgently implemented towards the year 2005.

Since the district health system cannot materialize by single project alone, but requires an integrated and balanced manner of implementation with multi-dimensional projects covering the entire health system even in the short-term. To this end, five priority project packages are proposed in the district health system structure with three dimensions of "Priority Diseases", "Health Service Systems" and "Human Resource". The five are as follows:

1) Priority Disease Program:

Malaria Control Program, with a target to reduce its mortality and morbidity by 50% and 30% respectively of the 1998 level, is proposed as one of possible individual projects, much of which will be integrated into the other proposed projects. While, ARI and HIV/AIDS control programs are developed with a Reproductive Health and Child Health Project, much of which shall be integrated into the Rural Health System Improvement Project. Thus, particular emphasis is placed on two areas:

- Malaria Control Project; and
- Reproductive and Child Health

2) District Hospital Rehabilitation Program;

It was identified that deterioration of facilities and equipment hinders improving the quality of curative service provided at district hospitals. Our of four (4) district hospitals, the Kisii DH, which has a wider potential catchment area beyond its geo-political boundaries, needs to be comprehensively improved in facilities, equipment and laboratory to well-function as a higher referral medical facility. The Kericho DH should also be comprehensively improved/rehabilitated, while the Nyamira DH requires partial improvement in roofing.

To improve the quality services provided by DHs, the proposed project should include other two components in an integrated manner: strengthening of the current hospital management system; and development of a New Maintenance System. Rationalization of the current budgetary system of FIF (Facility Improvement Fund) based on the cost-sharing is essential.

3) Rural Health System Improvement Program

To strengthen the rural health system under the national policy of "decentralization, the most vital factor is to strengthen the planning and management capability of DHMB (District Health Management Board) and DHMT (District Health Management Team), since both are responsible for the devolution of health administration.

On the other hand, to improve the rural health services under limited resources available, it was proposed to improve **16** health centers as **Priority Health Centers** of which the substantial functions shall be strengthened in terms of malaria control and reproductive and child health care. The priority health centers shall function as intermediate referral facilities which contribute to release unnecessary congestion of district hospitals and as health information dissemination centers for communities in their service areas at the division level.

These were selected on the basis of geographical location, existing facility assessment, role in the locality, level of community involvement, etc. The process of identification was based not only on the objective criteria but it also involved discussions with local counterparts and the MOH.

4) Community-based Preventive/Promotive Health Care Program

The current national policy shift from curative service to preventive/promotive health care could not be materialized without facilitation of community-based health care and promotion of people's awareness of their health. For this purpose, the following projects are proposed:

- Provision of start-up material kits as a basis of revolving fund to support people's self-help activities;
- Support of income-generating activities related to health promotion by community groups such as women's group and youth group; and
- Establishing "School Health Programs"

5) District Health Service Continuing Education Program.

To increase the numbers of professional and technical staff, trained and deployed to each District, is not under the control of Districts, but in the responsibility of MOH Headquarters and Kenya Medical Training Center (KMTC). Each District is, however, responsible for:

- Supervision of continued education and development of all professional and technical staff, once they have been assigned to the District;
- Orientation, training and development in the skills of governance of newly appointed Management Board and Facility Committee members;
- Training and development of community-based health care managers and workers; and
- Orientation of staff from health-related Ministries and organizations, involved in inter-sectorial activities.

Nevertheless, in the last ten to twenty years such opportunities for up-dating have not been available to many health staff. This has resulted, together with other causes, in a decrease in the quality of care to unacceptably low standards. In order to move this bottle-neck, a continuing education system for rural health staff is proposed to be formulated at each district level in association with improvement of the budgetary and institutional systems to sustain the human resource development.

8. FOR THE IMPLEMENTATION

(1) Facilitation of the National Health Policy Reform

The health reform is underway by the Kenya Government with a new policy framework that under the critical budgetary constrain, resources should be more effectively allocated towards more cost-effective measures. The underlying principle of this framework is decentralization to upgrade local people's health status. All the proposed projects/programs are in line with this policy, therefore, further facilitation of the national health reform is a premise for their successful implementation.

(2) Expected Donors' Contribution and Aid Coordination

Experiences accumulated through previous and on-going projects and activities by donors should be utilized for the implementation of the master plan under necessary coordination. In this sense, the following donors' efforts need to be integrated with the proposed projects: 1) as for facilities and equipment, coordination is needed with the PMIU project assisted by DANIDA, the Population IV Project by World Bank and the Capacity Building Program by USAID; 2) as for community-based projects, learning and experiences from the Bamako Initiatives by UNICEF, the Rural Water Preservation Project by IFAD and some notable activities by NGOs such as AMREF, should be incorporated in the project design; and 3) the Japanese assistance to KMTC should be linked with the proposed district continuing education project.

(3) Direction of the Japanese Assistance

The proposed five (5) priority programs deserve to be a model project to facilitate capacity building at the district level which is a key of successful execution of the National Health Reform. Therefore, Japanese assistance with a variety of aid programs are highly expected to implement all the programs, taking into account the following aspects:

- In order to assure the sustainable operation of the projects, the assistance needs to be functionally complex with hardware, software and human-ware;
- The assistance needs to last during a certain period of time (at least more than 3 years) to materialize steady and sound improvement and/or reform at the district level; and
- Coordination and cooperation with other donors' programs should be promoted so that the donors' interests and experiences can be mutually utilized.

ABBREVIATION

AFD	African Development Bank
AIDS	Acquired Immunodeficiency Syndrome
AIE	Authority to Incur Expenditure
ALS	Average Length of Stay
ARI	Acute Respiratory Infection
BCG	Bacilli de Calmette-Guerin
BFA	Budget and Financial Analysis
CBD	Contraceptives
CBHC	Community-based Health Care
CBS	Consumers Baseline Survey
CDD	Control of Diarrhoea Disease
CIDA	Canadian International Development Agency
CO	Clinical Officer
CPM	Capital Project Management
CSM	Cerebrospinal Meningitis
DALY	Disability Adjusted Life Year
DANIDA	Denmark International Development Agency
DCEC	District Continuing Education Coordinator
DCO	District Clinical Officer
DDC	District Development Committee
DFID	Department for International Development
DH	District Hospital
DHEO	District Health Education Officer
DHIS	District Health Information Officer
DHMB	District Health Management Board
DHMT	District Health Management Team
DMOH	District Medical Office of Health
DMS	Director of Medical Service
DPHN	District Public Health Nurse
DPHO	District Public Health Officer
DPT	Diphteria-Pertussis-Tetanus Vaccine
DSP	Dispensary
DTB	Department Tender Board
ECN	Enrolled Community Nurse
EDF	European Development Fund
EDL	Essential Drug List
EDP	Essential Drug Program
EEC	European Economic Community
FIF	Facility Improvement Fund
FINNIDA	Association
FP	Family Planning
FY	Financial Year
GOK	Government of Kenya
GTZ	Deutsche Gesellschaft fur Technische Zusammenarbeit
HC	Health Center
HCF	Health Care Financing
HECAFIP	Health Care Financing Program
HEROS	Health Sector Reform Secretariat
HESSP	Health Sector Support Program
HFC	Rural Health Facility Committee
HIMS	Health Information Management System
HMUs	Hospital Maintenance Unit
HPTC	Hospital Pharmacy Therapeutics Committee
IEC	Information, Education and Communication
JICA	Japan International Cooperation Agency
IPD	In-Patient Department
KAP	Knowledge, Attitude and Practice
KDHS	Kenya Demographic Health Survey
KEDL	Kenya Essential Drugs List
KEMRI	Kenya Medical Research Institute
KHCFP	Kenya Health Care Financing Program
KEPI	Kenya Expanded Program on Immunisation
KHPF	Kenyatta Health Policy Framework
KHRP	Kenya Health Rehabilitation Project
KMA	Kenya Medical Association
KMTC	Kenya Medical Training College
KNDP	Kenya National Drug Policy
KNH	Kenyatta National Hospital
MCH / FP	Maternal Child Health and Family Planning
MESD	Medical Engineering Service Division
MIS	Management Information System
MLG	Ministry of Local Government
MoPW	Ministry of Public Works
MSCU	Medical Supplies Co-ordinating Unit
MTB	Medical Tender Board
NASCAP	National AIDS/STDs Control Program
NGO	Non-governmental Organization
NHIF	National Hospital Insurance Fund
NPA	Non Project Assistance
NPHL	National Public Health Laboratory
OPD	Out-Patient Department
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
OTC	Over-the-counter Drug
PCM	Project Cycle Management
PHC	Primary Health Care
PHMT	Provincial Health Management Team
PHO(M)	Public Health Officer (Maintenance)
PHT(M)	Public Health Technician (Maintenance)
PIH	Pregnancy Induced Hypertension
PMIU	Unit
PMOHs	Provincial Medical Office of Health
POM	Prescription-Only Medicine
PTA	Pharmacy and Therapeutics Committee
PTPP	Part Time Private Practice
PVC	Voluntary Organizations
RHTC	Rural Health Training Centre
RHF	Rural Health Facilities
RTI	Reproductive Tract Infections
SAD	Stores and Distribution
SDH	Sub District Hospital
SDP	Service Delivery Points
SIDA	Swedish International Development Agency
STD	Sexually-Transmitted Disease
TBA	Traditional Birth Attendant
TEC	Technical Evaluation Committee
TFR	Total Fertility Rate
TOT	Training of Trainers
TT	Tetanus Toxoid
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Fund
USAID	U.S.Agency for International Development
VHC	Village Health Committee
WHO	World Health Organization
WB	World Bank

Table of Contents

1. CHARACTERISTICS OF THE STUDY AREA

GEOGRAPHICAL AND NATURAL

The Study Area covers part of Rift Valley Province and Nyanza Province, with the area of 7,200 square kilometers (1.25% of the total area of Kenya) mainly highland and mountainous area ranging from 1,000 to 1,800m above sea level (Highest: 3,000m). This geographical characteristic contributes to unique health problems in the area. In general, the area is considered as a high potential agricultural production territory, with an adequate amount of rainfall.

POPULATION AND SOCIAL

The area is densely populated (approx. 375 persons per square kilometer) where 2.7 million people (9.5% of the total population) live in highland and mountainous area (except for part of Bomet).

Trend of Population Growth: Based on the 1989 population census, the average annual population growth rate of the Study Area between 1989 and 1997 is 3.05%, higher than the national average of 2.3% (1994- 2000 World Bank Projection). Because of the preference of larger family size among the ethnic groups and low prevalence of family planning, which has been the national policy since 1960, the population density in the Study Area is very high.

Average numbers of household members by district fall in a range from 5.6 (Kericho) to 5.9 (Bomet), slightly larger than the national average of 5.2.

Regarding to the demographic structure, the age dependency ratios[1] are Kisii (include Gucha) – 104; Nyamira – 122; Kericho – 117; Bomet – 114, which are all, in general, larger than the national average of 107. Population pressure, especially the high rate of dependency ratio particularly attributed to ages under 15, would bring future insecurity due to a perpetual shortage of social infrastructure such as schools and health facilities, and lowering agricultural production due to inheritance of subdivided land.

The literacy rate of Kisii and Nyamira is higher than the national average, but women's literacy rate is lower in Bomet and Kericho.

ECONOMIC

Major economic activities are agriculture and livestock. Cash crops such as tea, coffee and pyrethrum, and staple crops such as maize and beans are the main crops grown in this area. The number of those engaged in agriculture is as much as 80% of the total labor force. The proportion of agricultural income is 41.5% in Kisii and 55.6% in Bomet, which is much higher than the national average of 29.9%.

The statistics of monthly income vary with survey base and thus makes it difficult to discuss precisely. Per capita income of the study area, although it varies widely among districts, falls between 50 and 60% of the national level. Taking the average household income, those are close to the national average, except for Nyamira.

PER CAPITA INCOME BY DISTRICT

District	Per Capita Income (above age 15)* Ksh / month	Average Household Income ** Ksh / month
Kericho	916	10,367
Bomet	1,015	11,265
Nyamira	887	5,607
Kisii	1,342	10,074
Kenya	1,847	9,696

Source: * Welfare Monitoring Survey 1994, ** 1994 Welfare Measurement Survey

[1] (population of the age under 15 plus the population of the age 65 above) / (population of the age 14 to 64)

ETHNICITY, RELIGION AND CUSTOMS AND BELIEFS RELATED WITH HEALTH

The study area can be divided into two groups in terms of the ethnic group: Kisii, Gucha and Nyamira Districts are inhabited predominantly by the **Gusii** ethnic group (a part of the Bantu ethnic group) and Kericho and Bomet Districts are inhabited mainly by **Kipsigis** ethnic group which is a ethnic group among the larger Kalenjin ethnic group (a part of the Nilotic ethnic group). Traditionally Gusii are agricultural people, and Kipsigis are pastoral people, but now both practice agriculture along with livestock participating in the cash economy.

Because of their different ethnic origins, there are many differences in customs and beliefs among Gusii and Kipsigis. But since both of them are patrilineal societies, live in neighboring districts, exchange information and goods, they have come to share some customs and beliefs such as a belief on the disease caused by "evil eye". As for the land inheritance system among Gusii and Kipsigis, when a father becomes old or dies, his land is divided equally among sons).

Since the British colonization period, Christianity has been propagated in the study area. Among Gusii, the Catholic Church, Seventh Day Adventist (SDA), Pentecostal Assembly of God (PAG), and Lutheran Church are the main denominations, and among Kipsigis, the Catholic, African Gospel Church, and African Inland Church (AIC) are the main denominations. Religion has a direct impact on people's attitude and practice related with health. For example, the Roman Catholic Church opposes the use of artificial family planning methods, and SDA opposes polygamy and alcohol/drug intake.

Both Gusii and Kipsigis practice male as well as female circumcision. Despite the government's condemnation of female circumcision due to the negative impact on women's health, it is still practiced in the study area, especially in the rural parts, while there is a declining trend in the urban area. In the study area, Maendeleo Ya Wanawake Organization (MYWO) and Seventh Day Adventist (SDA) are campaigning against female circumcision.

There are many beliefs and taboos, which influence people's health. Among them, a) pregnant women should not eat eggs and chicken to avoid babies too big for delivery (both among Gusii and Kipsigis); b) when the person with the "evil eye" looks at a child, small objects such as soil, flour, hair and finger-millet enter into a child's body, the child's abdomen becomes swollen, the child's temperature rises, and breathing becomes difficult. To remedy this, the child's body should be rubbed with the oil to remove the small objects from the body, and the parents often delay to bring the child to the hospital (both among Gusii and Kipsigis); c) the child with measles should not be referred to the hospital if the rash has not erupted, because if an injection is given before the rash comes out, the child will die (among Gusii); and so on.

Typical house in Kisii

Traditional house for Kipsigis

2. HEALTH STATUS OF THE STUDY AREA

HEALTH STATUS AND INDICATORS

Infant Mortality: Data is not available at district level. At provincial level, there is large difference between 46/1,000 live births of Rift Valley and 127/1,000 live births of Nyanza (National average 61).

Under-5 Mortality: Similar to the infant mortality, there is a difference between 61/ 1,000 live births of Rift Valley and 187/1,000 live births of Nyanza (National average 94). Child health status in Nyanza is therefore much worse than the Kenyan average.

Malnutrition under the age of 5: According to the result of survey from the district hospitals, child malnutrition has decreased. The proportion of under weight children, 10% in Kisii and the same level in Nyamira, has improved over the past 5 years. On the other hand, the rate in Gucha is 23%, which is still high and calls for measures such as guidance for nutrition improvement and financial support.

Immunization: From the existing data, the coverage rate of fully immunized children is 81% in Kisii (include Gucha), 74% in Nyamira, and 87% in Kericho/ Bomet. In general, the coverage rate is higher than the national average of 77%, except Nyamira.

LIVING ENVIRONMENT

Water Supply: Accumulated rainfall in the Study Area is around 1,200 – 2,000 mm per year, comparably higher than the amount in other areas and ground water resources seem to be potentially wealthy. However, the shortage of water supply, other than in some parts of Kericho, is very common. Water supply facilities with water purification is only available at major market towns of each district. The rest get drinking water from river, spring and rainwater. Over 80% of residents fetch drinking water from river and spring and that work is mainly the women's responsibility.

Sanitary Facility: A sewerage system is available in Kericho town, and ongoing sewerage projects in Kisii town and Suneka Market will be completed soon. The majority of the people use a pit latrine while the use of VIP latrine and pour flush is not common. More than 90% of households in Gucha, Kisii and Nyamira,have a toilet while the households in Kericho and Bomet have slightly less prevalence of toilet. The sewerage is not commonly utilized for compost in the Study Area.

Water source
(Spring)

Protected water source
(Spring)

3. DISEASE PATTERN

GENERAL PATTERN

The problem of disease pattern observed in the study area is that 50-65% of the total mortality among inpatients are due to malaria, AIDS, tuberculosis, ARI and immunizable diseases, which were identified as major diseases in advance by the study team. In particular, under the age of 5, these diseases account for 55-80% of total mortality (Tables 3.1 and 3.2). The disease pattern in the study area is not much different from that observed in Kenya as a whole. As is clear from the studies conducted in the past, the major characteristics of the disease pattern are the infectious diseases that could be contained by a combination of cost effective interventions.

Though the health status of the study area supposedly reflects the environment where infectious diseases are prevalent, and the problems of human and social production, the districts do not have the institutional capacity to collect and analyze and formulate the health indicators which contribute to district health planning.

HIGHLAND MALARIA

The study area is part of the area where highland malaria is prevailing, with significant seasonal change. Furthermore, the residents are exposed to risks that could lead more serious conditions if combined with chronic malnutrition, pregnancy and in combination with non-infectious diseases such as anemia.

The ratio of severe cases of malaria which need to be hospitalized has increased recently. It is suspected that the efficacy of chloroquine as the first line drug which is still currently used, is becoming less.

Annual Trend: The number of reported cases vary through the years: the cases range from about 200 to 250 thousand per year from 1992 – 1996 in Kisii District. While the number of consultations has remained stable, the number of admissions seems to be steadily increasing not only in Kisii District but also in Nyamira District. This could be attributed to either a worsening of malaria cases (because only severe cases are admitted), ineffectiveness of treatment prior to seeking assistance from the district hospital, patients' preference for hospitals, or all of the above.

Seasonal Trend: As expected, the cases of malaria increase with the wet season. From 1994 to 1997, the number of cases started to increase in April and peak in June or July Since rainy season came earlier this year in 1988 as a result of El Nino phenomenon, the number of cases reached 2,000 in February and in March compared to those in the previous year of only 300-600.

Prevalence among Children: The JICA survey conducted in July 1998, among all schoolchildren, with or without fever, between 6-8 years old and pre-schoolers (under the age of 5) in Kisii District revealed two interesting findings:

One, the overall positivity rate is 36% with *Plasmodium falciparum* (rate of 35.2%) being the most common type, followed by *Plasmodium malaria* (2.6%) and finally by *Plasmodium ovale* (0.6%).

Two, children of all age groups can be affected; even children under the age of 1 showed parasites in their blood. Three, there seems to be no or extremely low new malaria infections that should be expected during the winter-dry season because the number of mosquitoes (i.e. *Anopheles gambiae and Anopheles funestus)*, their parity, longevity, sporozoite rate, and effective bites for transmission are very low.

CHILD HEALTH

Four other conditions that threaten the health of children in the Study Area are pneumonia and other acute respiratory infection (ARI), measles, diarrhoea, and malnutrition. There are at least three major reasons why do they continue to threaten children's lives.

One, the caretakers of children seem to be helpless. They seem unaware of simple home-based interventions that can protect their children from getting these four conditions. They are not familiar with signs and symptoms that would merit early referral, particularly of ARI and diarrhea, to authorized health facilities.

Two, the health system is functioning sub-optimally. Some staff are also unfamiliar with the clinical protocol for management of ARI. In fact, only half of the dispensaries surveyed use the guideline for diagnosis. Limited diagnostic examination capabilities in their facilities, and shortage of antibiotics for the low percentage of fully immunized children worsen the situation.

Three, some children in the Study Area are simultaneously suffering from several risk factors such as low birth weight and anemia.

These four conditions are, by themselves, threats to one another. Malnourished children with measles would be in a more precarious state when complications like pneumonia and diarrhea set in.

ARI occupies 20 to 30 % of cases at out-patient departments and is the second leading cause of death after malaria. It is necessary to assess the factors which lead to deaths in cases of ARI, such as causing microbes, resistance to commonly used antibiotics, delay of referral, etc.

Although it is difficult to know the prevalence of vaccine preventable diseases covered by **EPI**, data from KEPI shows that the coverage of vaccination among infants in the study area varies from 20 to 50 % in 1996, (KEPI, 1998) which is far less than expected. Measles is one of top 10 causes of mortality for under 5-year old children. It is expected that the number of deaths caused by measles and other diseases are not well reported. EPI has to be strengthened and a needs assessment made of coverage as well as cold chain.

Malnutrition is also important as well as the infectious diseases described above. It is difficult to grasp the real picture of nutritional status of people in the study area, but we have estimated that 10% of children attending under 5 clinic are under-nourished. Malnutrition itself causes only 2 to 3 % of deaths. However, the problem should not be neglected as the prevalence of malnutrition which is not a direct cause of death or do not appear in any statistics may be higher. Considering that malnutrition affects vulnerability to infectious diseases and severity of the diseases together with the future expansion of population and relative food shortage, food security should be one of the priority policies.

REPRODUCTIVE HEALTH

Reproductive Health and Maternal Health should be focused on in a sense that they affect a large proportion of the population and that they have close linkages with the health problems.

Maternal Mortality: The risk of dying due to the process of pregnancy, childbirth and puerperium is reportedly 300 to 500 per 100,000 live-births in the Study Area. The highest risk is seen in Kisii District, about 1.5 times higher than that for all the districts.

Deaths due to antepartum haemorrhage and pregnancy-induced hypertension (e.g. eclampsia) could have been avoided if the traditional birth attendants (TBAs) or staff of rural health facilities have been trained to detect early signs and symptoms and refer promptly. Another indicator of poor antenatal services in the Study Area is the high rate of stillbirths. About 50% of the deliveries are at home.

Excess Fertility and Family Planning: Among women of reproductive age in the Study Area, 13% have yet to hear and know about at least one family planning method. Of those who know, only 54% are actually practising. The most common method is the injection of Depo-Provera in as much as it is done only once every six months and can be done even without the knowledge of the husband. Condom seems not so popular. Rare cases of vasectomy were reported.

There is a need for even early teenagers, boys and girls, to have family planning knowledge to plan the family life by their choice as well as to know how to prevent HIV/STD infections and to control population expansion.

EMERGING AND RE-EMERGING DISEASES

(1) HIV/AIDS

The ratio of HIV positive is not higher than the ones of other areas; however, considering that 50% of TB patients have AIDS, the ranking of cause of death could be higher than the current rank. The study area is located between two towns that have high HIV positive ratios and is likely to have rapidly increased cases of HIV/AIDS in the future.

National AIDS/STDs Control Program has been prepared at the national level. At the district, AIDS

coordinators have been appointed and drawn up action plans and initiated some activities. However, they have encountered different types of problems in the implementation, that is, 1) Some people are still uneasy in openly discussing HIV/AIDS; 2) AIDS education has not been introduced; and 3) As for testing, some people would prefer not to know about it, since they are conscious of the stigma attached to HIV-positive patients. One program that has not been started in the Study Area is the community-based or home-based care for AIDS patients.

(2) Tuberculosis

There is an increasing trend in the number of tuberculosis patients seen in all the hospitals surveyed. This could be partly attributed to the successful MOH National Leprosy and Tuberculosis Program that is being assisted by DANIDA. However, some local health authorities opined that some of those cases could have been related to the spread of HIV.

More than 50% of TB patients admitted to Kericho District Hospital are HIV positive and 70-80% are HIV positive at Kaplong Mission Hospital. If HIV continue to spread unabated, therefore, the number of TB cases might accelerate so much stretching the capacity of the national program.

(3) Yellow Fever

Yellow fever is another disease that may cause potential peril as it did in 1992 and 1993 in the districts next to Kericho. Since then the Ministry of Health, in collaboration with WHO and KEMRI, established a sentinel surveillance system in the Rift Valley Province that involves 18 health facilities in nine districts. The surveillance system has been expanded to include other sentinel sites. Some health facilities in the Study Area have also been involved. In 1994 and 1995, the system confirmed ten (10) cases, seven of which were from areas not known to have been affected during the 1992-1993 epidemic. MOH intends to continue the ongoing immunisation of children 6 months and older in the endemic and adjacent districts.

Congestion of inpatient male ward
(Kisii DH)

Malnutrition of children
(Nyamira)

TABLE 3.1 CAUSES OF MORTALITY AMONG THE GENERAL POPULATION

Kisii District (Nov. 1996 - Oct. 1997)			Kericho District (Feb. 1997 - Aug. 1997)			Bomet District (Jan. 1997 - Oct. 1997)		
1. Malaria	1,178	33.2%	1. Malaria	371	30.5%	1. Malaria	355	21.2%
2. Pneumonia	387	10.9%	2. Tuberculosis	92	7.6%	2. Pneumonia	146	8.7%
3. Tuberculosis	376	10.6%	3. Accident	83	6.8%	3. Cancer	86	5.1%
4. Accident	253	7.1%	4. Pneumonia	75	6.2%	4. Tuberculosis	82	4.9%
5. Heart disease	213	6.0%	5. Anaemia	73	6.0%	5. AIDS	57	3.4%
6. Anaemia	171	4.8%	6. AIDS	44	3.6%	6. Anaemia	44	2.6%
7. Cancer	155	4.4%	7. Cancer	36	3.0%	7. Malnutrition	38	2.3%
8. AIDS	145	4.1%	8. Diarrhoea	24	2.0%	8. Meningitis	26	1.5%
9. Stroke	74	2.1%	9. Heart disease	19	1.6%	9. Stroke	24	1.4%
10. Diarrhoea	72	2.0%	10. Stroke	18	1.5%	10. Asthma	22	1.3%
11. Tetanus	48	1.4%	11. Tetanus	6	0.5%	11. Measles	20	1.2%
12. Measles	21	0.6%	12. Measles	1	0.1%	12. Tetanus	6	0.4%
Others	452	12.8%	Others	373	30.7%	13. Others	772	46.0%
Total	3,545	100%	Total	1,215	100%	Total	1,678	100%

TABLE 3.2 CAUSES OF UNDER-FIVE MORTALITY

Kisii District (Nov. 1996 - Oct. 1997)			Kericho District (Feb. 1997 - Aug. 1997)			Bomet District (Jan. 1997 - Oct. 1997)		
1. Malaria	1,049	59.9%	1. Malaria	124	29.1%	1. Malaria	67	21.5%
2. Pneumonia	216	12.3%	2. Pneumonia	60	14.1%	2. Pneumonia	34	10.9%
3. Anaemia	94	5.4%	3. Malnutrition	45	10.6%	3. Malnutrition	20	6.4%
4. Measles	65	3.7%	4. Anaemia	29	6.8%	4. Measles	13	4.2%
5. Malnutrition	62	3.5%	5. Prematurity	23	5.4%	5. Anaemia	9	2.9%
6. Meningitis	29	1.7%	6. Tuberculosis	9	2.1%	6. Meningitis	5	1.6%
7. Accident	28	1.6%	7. Measles	6	1.4%	7. Prematurity	4	1.3%
8. Tuberculosis	27	1.5%	8. Accident	4	0.9%	8. Asthma	3	1.0%
9. Prematurity	22	1.3%	9. AIDS	3	0.7%	9. AIDS	2	0.6%
10. Diarrhoea	22	1.3%	10. Meningitis	3	0.7%	10. Accident	2	0.6%
11. Others	137	7.8%	11. Heart disease	3	0.7%	11. Cancer	2	0.6%
			12. Others	116	27.2%	12. Others	150	48.2%
Total	1,751	100%	Total	426	100%	Total	311	100%

Sources: Kisii, Kericho, and Bomet District Civil Registrars

4. FINDINGS ON MALARIA FROM THE SURVEYS

OUT-BREAK MECHANISM

A series of the JICA surveys revealed that three major factors contribute to worsening the situation of highland malaria:

- People's misperception about causes of malaria;
- Incomplete treatment; and
- Delay of countermeasures to outbreak.

People's Misperception about Causes of Malaria

Insufficient dissemination of appropriate Information about Malaria over the people is one of the critical factors. Based on the KAP surveys on Malaria, it was identified that local people are greatly prejudiced or distorted by wrong and/or short knowledge about malaria, and this tends to deteriorate the situation of endemic/epidemic malaria in the Study Area.

- Contaminated water and fatty food are considered as causes of malaria. People perceive that it is technically difficult for people to employ all the preventive measures that effectively deal all the causes;
- First action taken to deal with malaria is taking anti-febrile drugs, e.g. Panadol;

It was found that insufficient awareness also influences people's practices about malaria. According to the Case Management Survey, a large numbers of malaria patients (around 25 to 35 % depending on accessibility to health facilities) visit health facilities after 4 days from the emergence of sickness, even though most of them malaria[2];

[2] The Malaria KAP Survey was carried out by applying a different method of interview. According to the results of KAP Survey, approximately 75% of the sampled people take a certain action for treatment within two days. This difference between the results of case management study and KAP surveys can be attributed to different survey methods.

Incomplete Treatment

According to the Case Management Survey, less than 20 % of malaria patients re-visit rural health facilities to complete treatment. Incomplete treatment is likely to increase the mortality we well as continuous epidemic. There are several reasons why the number of cases of incomplete treatment for malaria is increasing:

- According to the Epidemiological Survey of Drug Resistance in Central Kisii District by JICA, about 40 % of all the sampled children were found to be carriers of malaria parasites.
- There are no drug resistance monitoring and follow-up services conducted for patients who are treated by only single dose of chloroquine, even though it is widely perceived that chloroquine resistance malaria prevails in the Study Area[3].
- Chloroquine is still primary first-line drug in the Study Area. SP is used as the second line drug, but only limited numbers of people who re-visit rural health facilities are treated by SP.
- Many malaria patients take only anti-febrile even though they suspect malaria from symptoms.
- There are no clear-cut standards or guidelines for the reference to higher level facilities, particularly for complicated malaria.

Delay of Preparation for Outbreak of Malaria

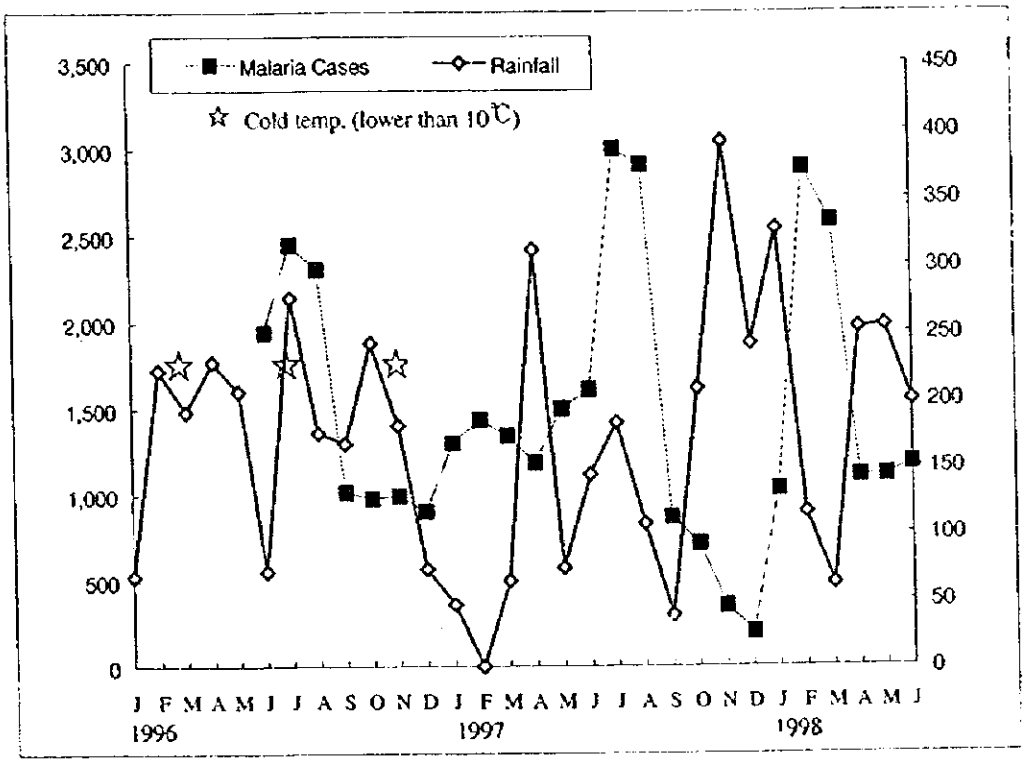
It was found that fluctuation of malaria cases in the Study Area is highly related with meteorological changes. Most of malaria outbreaks tend to occur in two or three months after the rainfall increase (under the condition that there are not very cold days after the increase of rainfall).

[3] In the drug resistance survey through in-vivo, treated malaria positives were followed for 28 days. No sign of malaria with SP and Aamodiaquine resistance was found in the survey.

Knowing such a characteristic, irregular outbreaks (January of 1998) and regular outbreak (May to August of every year) are able to be foreseen and prepared before two or three months by taking into account the amount of rainfall. Strategic countermeasures may be prepared before the outbreak in terms of enhancement of awareness to people, vector control and logistic preparation for health facilities.

In practice, however, conventional preparation of countermeasures starts after occurring outbreaks and results in delayed preparation, shortage of anti-malaria drugs in most of rural health facilities, increase of cases of incomplete treatment and decrease of people's confidence in rural health facilities.

FIG. 4.1: FLUCTUATION OF MALARIA CASES IN KISII DISTRICT HOSPITAL AND RAINFALL



SUMMARY OF MALARIA SURVEYS (BY JICA STUDY TEAM)

Survey A: Medical Services Seeking Behavior of Malaria Patients

Survey B: Case Management in Medical Treatment for Malaria Patients

Survey C: People's Knowledge, Attitude and Practice (KAP) on Malaria and Market of the Goods for Malaria Prevention

<Objectives>

To identify the current status of available medical services, in particular, for malaria patients in order to support the formulation of adequate programs of anti-malaria medical services in the Study Area.

<Survey Methodology>

Survey A:

A total of 284 patients (including 136 diagnosed of malaria) were interviewed at 7 selected health facilities, i.e. 2 district hospitals, 4 health centers and 1 mission hospital.

Survey B:

Interview with medical/clinical officers and nurses in 10 medical facilities were conducted. And a total of 2,790 samples (including 995 diagnosed of malaria) were taken from clinical records from medical facilities for case management analysis.

Survey C:

Two methods, Focus Group Discussion (FGD) and Household Survey (HHS) were employed for KAP Survey. At each survey site, one FGD by male attendant only and the other solely by female were conducted. As for HHS, 10 households per survey site were visited. In total, 20 FGDs and 100 HHSs were conducted for KAP survey.

Market survey was conducted by visiting 2 shops in the surveyed community to look into the availability of goods for malaria prevention and treatment at the locality.

<Summary of Major Findings>

Survey A: Medical Services Seeking Behavior of Malaria Patients

(1) Major symptoms of the malaria patients[4] were headache, fever and vomiting.

(2) Among the malaria patients interviewed, 68% could suspect malaria before visiting health facilities.

(3) When they suspect malaria, the most common home-care is self-medication.

(4) For the malaria suspecting patients (patients/patients' family guessed that the sickness was malaria), significant number of people prefer to take only anti-febrile drugs, e.g. Panadol or Actions as a first step.

(5) Fifty percentiles of the total sampled patients visit health facilities 2 days from the day they show symptoms (all patients including malaria patients).

Survey B: Case Management in Medical Treatment for Malaria Patients

(1) Out of all treatment of malaria cases, 35% recorded the usage of chloroquine tablet and syrup (for patients of mild malaria), 56% recorded usage of chloroquine injection (for patients with vomiting) and 8% recorded combination of chloroquine and SP (for patients of severe malaria).

(2) Use of SP (Fansidar) seemed to be increasing at health facilities as second-line drug. However this depends on whether the patients explain correctly (or not) previous treatment of malaria. In other cases, only single dosage of chloroquine was used, leaving possibility of incomplete treatment.

(3) There is no follow-up care for patients treated by chloroquine only.

(4) Very small number of patients were referred, i.e. 0.4% of all outpatients and 0.4% of all malaria patients.

[4] Malaria patients were decided upon through both clinical diagnosis and microscopic diagnosis.

(5) Since most health centers and dispensaries do not have microscopes, there are no clear criteria for referring malaria patients to higher medical facilities.

Survey C: People's Knowledge, Attitude and Practice (KAP) on Malaria and Market of the Goods for Malaria Prevention (see Supporting Discussion 4, chap. 5 for more details).

(1) A considerable degree of misperception and confusion on the causes and symptoms of malaria is identified. People in the Study Area almost automatically perceive various kinds of physical disorder such as diarrhoea, vomiting and abdominal pain as symptomatic of malaria. This confusion and misperception of symptoms is translated into the confused perception as to what caused malaria like contaminated water and fatty food.

(2) People prefer services at 'modern' facilities to those of traditional means. Herbs are not widely and frequently used for the treatment of malaria or other physical disorders. Neither are often visited Traditional Birth Attendants. Contrary to the view widely believed, the services by herbalists are not necessarily cheap.

(3) Many people hop around different Health Care Facilities (HCFs) without revisiting the HCFs visited before, once they perceive the services given are inappropriate. The first degree of determinant to decide where to seek for treatment is the perceive severity of the diseases. When perceives not to be severe, people seek cheap measures like buying tablets at shops nearby. When perceived to be severe, people are ready to go to HCFs even though costly and the distance is far.

(4) Preventive measures for malaria are not much practiced. This is mainly due to the misperception of causes of malaria; given the range of factors perceived to be able to cause malaria, one needs to employ not only mosquito repelling tools but also a wide coverage of measures to prevent malaria, including water treatment and food preparation.

<Summary of Discussions>

Survey A and B:

People's awareness about malaria is still insufficient and enhancement of health education should be necessary in family, community and health facilities.

Diffusion of correct information about malaria is very important for case management. Because actual case management depends much on patients explanation about his/her history of treatment.

Distance and transportation cost to go to medical facilities affects, to some extent, visiting frequency and delay in reporting sickness. However there are significant numbers of people who hardly visit health facilities or reluctantly, even though they can walk to medical facilities.

Enhancement of microscopic and accurate diagnosis of malaria patients is necessary, including proper recommendation to higher health facilities.

Strengthening management of individual patient's record and enhancement of follow-up for malaria and other patients is necessary.

Follow-up services, particularly for the patients treated by single dose of chloroquine can reduce incomplete treatment and prevalence of patients testing positive for malaria.

Survey C:

People should be advised to stick to the HCFs once visited so that curative capability of each HCFs can be examined. This educational steps needs to be done in line with the enhancement of the curative capability of each HCFs and the streamlining of referral system.

The misperception and confusion about the symptoms and causes of malaria must be corrected. Educational campaign should be carried out in conjunction with the stimulation of sanitary/hygienic practices and nutrition intake among people.

Crucial point is enhancement of people's purchasing power. Given the low level of cash income and the diminishing assets, their leverage as to choice to go for treatment and to practice preventive measures is considerably limited.

Further in-depth study shall be recommended as to what is actually happening around herbalists and TBAs. This realization of their services and potentialities, as alternatives to the modern medical services, could change not only attitudes of policy makers and influential persons to perceive the traditional practitioners negative, but also attitudes of people to disclose their real usage of these traditional practitioners.

Medical services seeking behavior survey
(C. Kisii)

5. DISTRICT HEALTH SURVICE DELIVERY SYSTEM

MANAGEMENT ISSUES AT DISTRICT LEVEL

The roles and procedures among DHMTs, DHMBs, and rural health facilities are neither clear-cut nor shared among these important organizational actors. Hospital Management Board (HMB) is now in consideration to be fully responsible for the running of the district hospitals. In this context, there is a need to clarify the roles and responsibilities for the DHMB, HMB, and DHMT.

Planning is the weakest part of DHMT, and little planning is undertaken, even concerning vertical programs such as STDs, FP and Control of Diarrhea / Diseases (CDD).

Management tools and information for monitoring the performance of the programs such as area maps, catchment areas and women's childbirth age are poorly compiled at facilities. This implies that a quality assurance mechanism is not working within the facilities and the quality of services has never been assessed by a third party, nor has a feed-back mechanism been established yet.

Information and communication are essential to provide support, supervision and development of rural health facilities. However, means of communication and transportation is very limited at almost all health facilities. Communication between DMOH and Rural Health Facilities, in many cases, depends on personal comings and goings by chance. The survey on "Communication Channel" conducted by the Study Team revealed that a simple request took 8 ~ 23 days to reach rural facilities. Therefore, there exists a remarkable deficiency in communication.

SUPPLY OF HEALTH SERVICES

High population growth rate, newly emerging infectious diseases such as AIDS, and re-emerging diseases represented by tuberculosis and chloroquine resistant malaria are likely to raise the demand for health services. But different approaches to these conditions are also required, in addition to expanding the services. However, the health services provided by the government are not meeting the needs perceived by the people in terms of the health care delivery system and the quality of services provided. Although many people in the study area are utilizing the services provided by traditional healers and private health facilities and, in fact, they have more alternatives, there does not exist a system which guarantees the quality of services.

Health facilities in Kenya are classified into hospitals, health centers and dispensaries. However, the services to be provided at each level are not necessarily provided. The most cases of referral from lower facilities are the ones which requires laboratory examinations, operations, or special treatment.

At community level, people still depend on herbalists or traditional healers (those account for 90% of traditional health providers) who provide care based on traditional manners and costumes, or witch doctors. Buying OTC drugs from shops and treatment at private practitioners are also usual treatment choices. While the traditional healers are registered with the Ministry of Education, Science and Culture, their activities are not included in the services or community based programs of the MOH, therefore, no relationship is established.

Eight organizations are providing mobile-clinic services in the Study Area. Those providers are all the Mission or NGOs but not Government providers. There used to be mobile-clinic services provided by the Government, but had to be abandoned due to severe shortage of funds for fuel and vehicle maintenance.

REFERRAL

The under utilization of lower facilities and the congestion of district hospitals are the logical result of referral function problems. With 24 sampled facilities, the average number of referrals per month by health centers (10 patients) is almost the same as that by dispensaries (11 patients), but more than that by hospitals (1 patient). Thus, the referral system is not functioning as expected Seeking a chest X-ray is the major reason for referral besides other laboratory

diagnosis. Feedback of referred cases from upper facility to lower facility rarely occurred.

The major constraint in the referral system is the fact that health service providers are unable to provide the services required. Lack of communication and transportation facilities for referral is also a core factor.

On the demand side, patients have not been informed of the hierarchical referral system. More importantly, bypassing of lower-level facilities have been observed for more pragmatic reasons such as physical accessibility through public transportation (Matatu). Although services at the dispensaries are for free, and the consultation fee at the hospitals would be cheaper if they have referral letters, many patients prefer to go directly to the hospital. Considering the cost of transport from one health facility to the other and the limitation in services at rural health facilities, patients find that going directly to the hospital is more cost-effective in the long-run. The effectiveness of economic incentives for patients to follow the referral system has further been reduced with the imposition of cost-recovery measures in some dispensaries.

LOGISTICS

Logistics and distribution of drugs and medical materials follows a "push" system that is controlled by the central MOH, except for contraceptives for family planning. On the contrary, logistics of private health facilities is the "pull" system, since drugs are supplied as necessary. The government has formulated guidelines for the review of the essential drug program. However, weak management capability by those in charge of distribution and storage, as well as lack of transport, hampers the functioning of the logistics system as a whole.

This important gap in the logistics system causes a lack of drugs, in general, and over-supply and under-supply of particular drugs.

HEALTH INFORMATION SYSTEM (HIS)

All interviewed personnel who are in charge of district medical information and medical records, pointed out a current HIS problem referring to an absence of feedback from the MOH headquarters. It obviously reduces their incentive to perform collection and compilation of the data timely and accurately, thereby leading to a limit or constraint of the analytical capability at the district level.

The reporting rate of health-related data is generally low. It is observed that the MOH headquarters has never received a complete set of data from all the health facilities for any one year. As a result, few of the data collected are utilized for planning and management at district level or at health facilities.

6. HEALTH FINANCING

NATIONAL HEALTH BUDGET

Total spending on health care in Kenya is about US$ 12 per capita, of which about half comes from government, with 2/3 of the rest from private spending and 1/3 from external donors. Most of the donor spending is on development projects, leaving approximately $6 per capita to fund recurrent costs of government services. At the district level, this budget is closer to 2-3 dollars, or 120-180 Kshs per capita. This is well below the WHO-estimated level of $12 needed to finance a basic minimum package of curative and preventive/promotive services.

FINANCIAL GAP

Studies estimate that the MOH health services are underfunded on average by about 44% of current spending, somewhat higher at rural health facilities, and somewhat lower at hospital inpatient and outpatient levels. While personnel are underfunded to an extent and represent the largest gap in absolute terms, the *relative* underfunding of other critical inputs such as drugs, maintenance, transport, and medical supplies, is greater still. As a result of this mix of inputs, the efficiency of MOH curative operations is perhaps only 70% of what it could be with a more optimal combination. The solution for this problem is to either add resources selectively, reallocate existing resources, or both. With staffing costs averaging 88% in district hospitals in the district area, this is the most likely area from which to reallocate expenditures to non-personnel items.

COST-SHARING

It is unlikely that the government budget for health can be increased over the near future. Neither is it probable that donor assistance will increase. Private expenditures on health are low compared to neighboring countries, and are currently channeled into financing MOH services through the cost-sharing program, but present revenue generation contributes only 5% of the total budget, or about 15-20% of the non-wage budget, at hospitals and rural health facilities in the Study Area. A doubling of the contribution of cost-sharing is feasible by gradually raising fees to the levels originally planned, and by improving the collection and expenditure of the funds, especially to reduce leakage. At the same time, it will be necessary for equity reasons to raise the level of waivers from the present 1-5% to perhaps closer to 20% so poor people will not be burdened excessively by fees. Objective data that would help to assess affordability is available from some NGO hospitals in the study area.

FIF-PHC ALLOCATION

Over the longer term, there should also be a reallocation of resources from curative to P/PHC, to strengthen the most cost-effective preventive and promotive and community-level interventions. It was originally planned that curative expenditures should remain constant while cost-sharing and donors should provide most of the increased financing for P/PHC. Re-examination of the current 75/25 FIF/PHC division of cost-sharing funds might be necessary to accomplish a significant shift toward P/PHC.

DISTRICT FINANCIAL AUTHONOMY

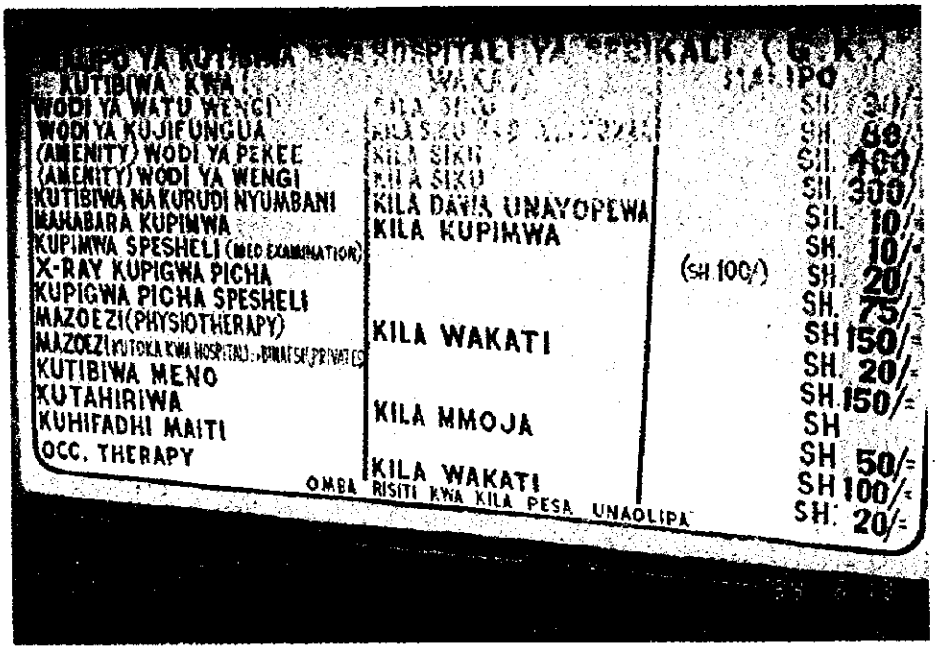
Fortunately, the trend toward decentralization enables a greater autonomy of the districts to make decisions about such matters as the cost-sharing parameters and managing and budgeting to shift available resources away from hospital personnel and toward rural health services functions. Mission hospitals operate at higher efficiency than MOH district hospitals, at lower cost due to lower staff ratios (39% of total costs), especially for nurses. Improving the efficiency of existing hospital staff by supplying drugs, supplies, maintenance, continuing education, and transport, will make the improvement in efficiency and productivity possible. It is thought that a necessary condition for this is to improve the conditions of service to make it more attractive for qualified staff to be posted to rural facilities. Investment in staff housing and continuing education will be required, along with the same kinds of essential recurrent inputs which are now missing. At the same time, the better service they will be able to provide

will reduce the workload at the hospitals, making it more possible for fewer hospital staff to provide the necessary inpatient and outpatient services.

ALTERNATIVE FINANCIAL SOURCES

Alternative and supplementary financing sources could be found within the study areas, although at present these would require more time to develop than the sources already discussed. However, they would serve two valuable purposes: 1) to provide some services at the household or community level in communities with limited access to health facilities; and 2) to redirect private expenditure from ineffective forms of treatment and self-medication to more effective kinds of treatment.

- **Prepayment or Insurance Programs**: The NHIF is already one of the most comprehensive in Africa, but because of its regulations it is difficult for MOH patients and hospitals to get reimbursed. This problem is being worked on. Some other prepayment schemes have been tested in association with NGO hospitals. There is limited willingness to pay for such schemes in rural areas.
- **Local Community Financing Programs**: Bamako Initiative, which involved CHWs and drug supplies, is the largest and best known, and will be re-started next year with an orientation towards nutrition. Others have included community pharmacies. In addition, many dispensaries have been built with self-help funds.
- **Local Taxation**: Most districts have a local business tax which is meant to provide municipal services, but in the study area is not used for health services. In addition, a Tea Cess and taxes on other produce is collected and used to maintain services associated with agricultural production, mainly roads.



Medical services price list
(Kisii DH, June 1998)

7. HEALTH FACILITIES

HEALTH FACILITIES OF MOH

(1) Health Facility Service Level

Health facilities are the centers for the provision of health care services and the unit for considering appropriate distribution and allocation of the facilities. The population per facility reaches 16,000, which roughly meets the criteria defined by MOH. However, there is variation in this figure among the districts, ranging from 12,000 people per facility in Kericho to 36,000 in Gucha district.

7.7% of the study area and 5.5% of its population do not have access to health care services, by the definition which takes into account the factors such as lack of transport, topography and tension between ethnic groups.

Even in the area with access to health facilities, there exist many facilities which fail to provide the required services, due to a variety of factors, for example, deterioration of facility and equipment, shortage of staff, lack of water, etc. In addition, there is much mal-distribution of functional services.

The conditions of existing health facilities is different from one district to another. Kisii District Hospital, for example, needs to be comprehensively renovated as it suffers from degradation of the whole hospital facilities and insufficient scale, while the Bomet District Hospital has a major defect in the system of water supply.

(2) Planning Issues on Health Facilities

MOH has defined the standard of the required health services, staff and facility equipment for each facility level in the "Definition and Categorization of Health Facilities". However, inadequate guidance and supervision at planning and construction stage and/or lack of funds have resulted in significant difference in the conditions of health facilities. There also exist many facilities which are not functioning as required, due to defect of water supply system or shortage of staff. Half of the total number of health centers located in the Study Area offer maternity service, which is defined as one of the major functions to be attached to health centers.

Existing facilities have not been well-maintained due to the problems inherent in the current maintenance management system, including shortage of budget and staff. Although each district hospital has a Hospital Maintenance Unit (HMU), the Unit has few trained staff who can conduct facility maintenance work and no staff for maintenance of equipment. Ministry of Public Works and Housing (MPWH) is responsible for facility maintenance, but the complicated and lengthy process of administration from permission to disbursement of funds and lack of staff and skill hampers conduct of necessary maintenance work. As a result, many facilities and equipment are left broken. Strengthening of maintenance management system is a major issue in this area.

Financial system essential to support maintenance work does not exist. The budget allocated for maintenance is only 0.23% of the total budget and only 1800 to 2800 Ksh per hospital are allocated to maintenance work for three months. A comprehensive change in distribution of Facility Improvement Fund is required.

As for dispensaries, the PMIU project promotes renovation of facilities and development of staff (PHT(M)) to realize preventive maintenance. However, limited content and length of training programs, relatively low quality of training staff and shortage of funds prevents the project from completing the repair of facilities and training programs.

It is essential in planning phase to standardize the requirement of each health facility level, taking into account the balanced geographical distribution with the emphasis on the facility functions. There is also the need to take measures for the problems observed at each district hospital.

MEDICAL EQUIPMENT

The majority of equipment in the study area has been used for a considerable time period, for example, more than 15 years on average in the case of

Kericho district hospital. The functioning of equipment has deteriorated as well. The deteriorated equipment is not repaired or replaced periodically, as it depends on assistance of donors in most cases. As spare parts are rarely supplied, the majority of equipment is left broken and un-repaired.

The function and number of medical equipment influences the quality and quantity of health care services. Each health facility which is a component of referral system, needs to be provided necessary equipment as well as human resources to function as required.

As in the case of facility maintenance, maintenance of equipment has problems to be solved: improvement of recognition of maintenance work by management personnel and establishment of a new maintenance system which addresses the responsibility for maintenance by equipment users and enhanced knowledge among maintenance staff.

In the new maintenance system, there is the need to formulate an equipment development plan at district, incorporating the future vision of each health facility. In addition, the plan should include clear demarcation of the maintenance work of each section of the health facility, better understanding on appropriate use of equipment among equipment users, and preventive maintenance by maintenance staff. Review of current maintenance system should be a precondition for supply of new equipment.

ACCESS TO RURAL HEALTH FACILITIES

The means of access to health care services are: 1) facility based approach where people visit health facilities; 2) outreach approach where health care service providers visit communities; and 3) community participation approach where communities take care of part of health care services. The mass campaign approach disseminating information and knowledge through broadcasting is not implemented in the study area.

The majority of the services currently being provided in the study area are facility based services. 50-80% of users walk to health facilities and 7-25% use public transport. Outreach and community participation services are limited to KEPI and sanitation activities and the number of those covered by these approaches is very small.

To increase the number of users, measures need to be taken to clarify the problem inherent in inaccessible areas, as well as to improve the quality of services provided.

WATER AND SANITATION

Supply of safe water and prevention of contamination are the most important issues in environmental sanitation in the Study Area. Diarrhea continues to be one of the top causes of morbidity in the study area, although its mortality is declining. A variety of measures are being implemented through the support of the government and NGOs. The measures include expansion of piped water and sewerage systems, water supply by small-scale pump, promotion of spring protection, rain water catchment, boiling water for drinking and construction of latrine.

Ensuring conservation and usage of safe water in each household is the most important to improve the sanitary situation, as well as strengthening facilities and management systems for water supply. The household survey revealed that people have not received enough education on sanitation. Sanitary education and promotion of better behavior in terms of sanitation need to be strengthened.

TABLE 7.1: DISTRIBUTION OF HEALTH FACILITIES BY SERVICE LEVEL

		KERICHO	BOMET	NYAMIRA	KISII	GUCHA	TOTAL
Area	Km^2	2,524	2,611	879	645	657	6,231
Population	1997	597,698	583,799	587,942	489,481	436,464	2,695,384
No. of H/H	1996	98,769	106,855	67,557	94,640	68,261	436,082
Avg. H/H size	1996	6.5	6.4	7.2	6.4	6.4	6.5
Pop. Density	Prs/Km^2	237	224	669	759	664	433
Population	2005	771,021	770,195	733,222	606,702	540,988	3,422,128
Pop. Density	Prs/Km^2(2005)	305	295	834	941	823	549
No. of Health Facilities							
Hospital	GOK	3	1	1	1	0	6
	NGO/Mission	1	2	0	2	1	6
	Private	5	2	0	0	0	7
	Others	1		4	3	2	10
	Sub-total	**10**	5	5	6	3	29
Health Center	GOK	9	7	9	7	7	39
	NGO/Mission	2	1	7	1	4	15
	Private	0	0	0	1	1	2
	Others	7	0	9	0	0	16
	Sub-total	**18**	8	25	9	12	72
Dispensary	GOK	49	37	15	19	13	133
	NGO/Mission	5	3	7	5	4	24
	Private	42	0	6	5	2	55
	Others	2	0	12	0	0	14
	Sub-total	**98**	40	40	29	19	226
Total	GOK	61	45	25	27	20	178
	NGO/Mission	8	6	14	8	9	45
	Private	47	2	6	6	3	64
	Others	10	0	25	3	2	40
	Total	**126**	53	70	44	34	327
Health Facility Service Level Per 100 thousand People							
	Hospital	1.7	0.9	0.9	1.2	0.7	1.1
	H/C	3.0	1.4	4.3	1.8	2.7	2.7
	Dispensary	16.4	6.9	6.8	5.9	4.4	8.4
(Dispensary Excp. priv. & N/M one		8.5	6.3	4.6	3.9	3.0	5.5
Population Per Health Facilities							
	Hospital(GOK)	199,232.7	583,799.0	587,942.0	489,481.0	-	449,230.7
	H/C(GOK)	66,410.9	83,399.9	65,326.9	69,925.9	62,352.0	69,112.4
	Dispensary(GOK	12,197.9	15,778.4	39,196.1	25,762.2	33,574.2	20,266.0
	Total(GOK)	9,798.3	12,973.3	23,517.7	18,128.9	21,823.2	15,142.6
Inaccessible Areas							
	No. of Places	3	3	3	2	5	16
	Area (km2)	158	120	78	29	77	462
	Population	26,755	25,032	23,935	20,980	60,424	157,126
	% of TL Pop.	4.1%	3.7%	4.9%	3.5%	13.9%	5.5%
	% of Area	6.3%	7.8%	9.1%	4.5%	11.7%	7.4%

Source:MOH and JICA Study Team

8. HUMAN RESOURCE

HEALTH STAFF

Total number of health staff in the study is reaches approximately 5,000 (53% of staff for governmental facilities, 30% for private, 18% for NGO/Missions) and is far less the required level. 56% of the total health personnel are assigned to inpatient service at hospitals and 44% for outpatient and public health service at hospital, health centers and dispensaries. Considering the number of patients in the study area, there is a shortage of staff for inpatients service: 25 medical doctors, 10 clinical officers and 229 nurses are needed; For outpatient and public health services: 68 medical doctors, 88 clinical officers and 525 nurses are in short supply.

SHORTAGE IN STAFF FOR RURAL HEALTH

The smaller health facilities suffer especially from an acute shortage of staff. Half of the health centers do not have any clinical officers and less than six nurses per health center on average (in most cases, only one enrolled nurse) manage to provide health services, though clinical officers are assumed to be assigned to all health centers. This led to the failure of health facilities to meet the standard of health services to be provided, administration and management. Especially the problems are found in medical records, diagnosis, laboratory examination, health information management, planning and supervision.

MAL-DISTRIBUTION OF HEALTH STAFF

While districts have the power to deploy and transfer staff (except for medical doctors and nurses) and to conduct continuing education, the recruitment, supply, employment and deployment of the staff is not within the control of the districts. Lack of staff is acute among major health care staff such as medical doctors and nurses and technicians for facility maintenance. Furthermore, the lack of the staff is more serious at lower facility level and the problem is becoming worse. The opportunities for continuing education is limited and biased towards senior staff and the types of the programs are also biased.

NEEDS FOR CONTINUING EDUCATION

Programs which targets health care workers and community health workers highly need to be devised at district level to provide the opportunities of continuing education. Most of MOH health staff have not had chances to participate in any continuing education or refresher training program after their graduation.

Nurses

9. COMMUNITY AND SOCIAL BACKGROUND

PEOPLE'S KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) ON DISEASES

Local people's knowledge on the causes, treatment and prevention of diseases is found to be very limited, especially in the rural areas and among mothers with low educational background. They are strongly influenced by traditional beliefs and customs and many people seek remedies both in modern medicine and traditional medicine, depending on the availability of and the access to health facilities.

Although many mass campaigns related to health have been conducted through posters and radio, they have been unable to change people's attitude and practice effectively, because many people do not believe what they just hear from the radio or see on the poster. For example, although we can find many posters on AIDS in the study area, many young people do not relate the message of these posters with their sexual behaviors. They usually learn new information from their peer group, so it is important to increase personal communication activities such as peer-to-peer education to effectively convey health-related messages.

Nowadays, people become educated through the school system and familiar with modern medicine, and they prefer to either buy medicine at the local pharmacy or go to the health facilities as their first choice of health-seeking action. But when the modern medicine is not so effective or when they suffer from the certain diseases which are believed to have social causes, many people visit traditional healers. Especially when they suffer from unusual misfortunes such as worsening chronic disease like cancer, acute disease, unfamiliar disease, successive deaths of family members or cows, wife's infertility, stillbirths and miscarriages, deaths of children, and sexually transmitted diseases (STDs), they tend to think these are caused by superhuman powers and visit traditional healers.

MEDICAL ANTHROPOLOGICAL ISSUES

Local people's traditional view towards the disease among Gusii and Kipsigis is that the disease is one of misfortunes which befall people, and it is not only the disorder of his/her body but also the result of the disturbed harmony between people and the world by some superhuman power. When people become sick, they used to treat disease not only by using traditional herbal medicines but also by identifying and expelling superhuman power (such as witchcraft and dead man's spirits) through traditional rituals.

In the study area, there are still many traditional healers such as herbalists, traditional surgeons, traditional birth attendants (TBAs), fortune tellers, and witch doctors, and, except TBAs, they have not been involved in official primary health care activities. But where the access to health facilities is bad, they are the important health resources to the local people. There are many well-respected traditional healers (especially herbalists), and they expressed their interest in learning modern medicine and collaborating with health personnel. Unfortunately there are some quacks among self-styled traditional healers who want to earn money by cheating the people.

Since people use modern medicine and traditional medicine in parallel, it is important to redefine the relationship between modern medicine and traditional medicine, find new ways of mutual collaboration between the two, and improve the quality of service by traditional healers through training and official licensing. It will be useful to organize a training workshop for traditional healers in order to teach modern medicine and promote mutual collaboration between traditional healers and health personnel, as well as to facilitate traditional healers to organize themselves into a professional association which registers traditional healers, encourages information exchange among the members, establishes the quality standards of traditional healers, organizes regular training for traditional healers, and issues licenses in collaboration with the MOH.

SOCIAL AND GENDER ISSUES

The perspective of social and gender aspects gives insight into the development of health services. It also identifies the disadvantaged people who do not have access to health services and shows constraints of the services based on the facilities. The aspects of the social and gender also reveal alternative approaches and programs to support community-based health activities.

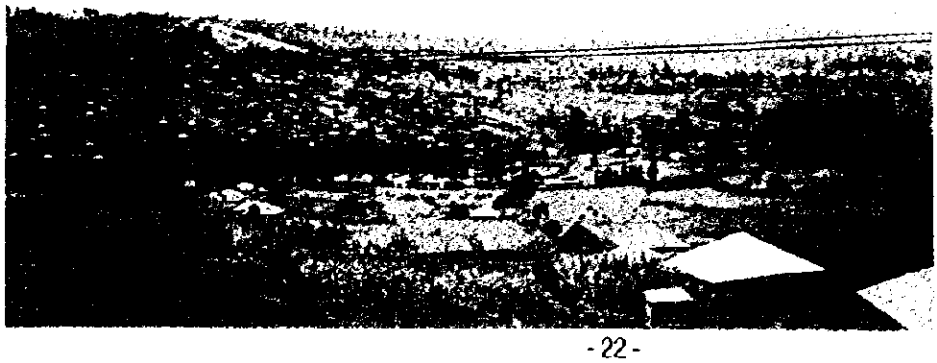
Traditionally, both the Gusii and the Kipsigis are patriarchal societies in which men predominantly make decisions at community and household levels. While women perform a vital role in creating healthy households, such as weaning babies and caring children, women's limited control over resource allocation and decision making power may result in negative influences. For example, it is reported that parents take their children hospitals too late and husbands spend money for alcohol rather for nutritious food.

Female circumcision targeting girls aged between 8 to 12 years old is pointed out as a cultural practice which may affect women's health. The increasing poverty level also limits people ability to visit health facilities and to have proper nutrition and access to safe water.

In the Study Area, there are various community-based self-help groups formed by women, youths, farmers, schools and missions. Their activities are for general rural development and aiming at job creation and income generating activities. Although health oriented activities are not their main objectives, there is a high potential and a need to diversify and integrate their activities into health promotion activities.

Women's groups are well organized compared with other self-help groups and are high potential agents for future projects and programs for upgrading living standards. To utilize experiences of women's group activities for home economic improvement and health improvement activities, appropriate supports and training opportunities should be provided. When a program to encourage women's participation is formulated, consideration of the limited time and the heavy labor burden of rural women should be made.

Women Group members (Kericho)



Typical landscape in Kisii (hilly, densely populated, sub-divided holding of land)

10. LOCAL ISSUES ON NATIONAL HEALTH REFORM POLICIES

HEALTH POLICY REFORM

The Ministry of Health (MOH) has difficulties in providing all the necessary health care services under the current conditions where the demand for health care is increasing but the resources are constrained. Based on this recognition, the MOH formulated Kenya's Health Policy Framework to set the framework of the health care services to be realized, and the pattern of future health development in Kenya. Health Sector Reform, now being implemented by the MOH, is the strategy that aims to improve access to efficient and effective health services, to distribute resources to the cost effective programs, and to direct organizational efforts towards improving the health status.

Those central policies can be summarized as follows.

1. Decentralization: The Reform envisages decentralization, which promotes the transfer of the responsibility and authority of planning, management, monitoring and supervision of health care delivery from the central government to the provinces and the districts.

2. Cost Effective, Essential Curative and Preventive Service: The resource shall be directed to the needy areas through reduction of the Ministry's share from 50% to 40% on curative care focusing on target group and expansion of primary health care. The development of an essential health package is also promoted.

3. Consolidation, Rehabilitation and Maintenance: Further reduction in the construction of new government facilities and a focus on consolidation, rehabilitation and maintenance of existing ones, based on need and their cost effectiveness in delivering health care.

4. Health Manpower: Strengthening the role of the District Health Management Team and reorientation, retraining and redevelopment of health manpower to meet the projected manpower demand and resource availability.

5. Prevention and Control of HIV/ AIDS and STDs: All necessary efforts, including prevention of HIV infection, counseling, social and economic support to patients and family, research and financial and managerial support will be promoted.

6. National Drug Policy: A National Drug Policy shall be adopted and implemented in the area of rational use and quality of drugs, local production, development of essential drugs for veterinary service, and production of a five-year implementation plan.

7. Health Management Information System: District planning and management capability shall be promoted through strengthening the Health Management Information System.

ISSUES AT DISTRICT LEVEL

When the national health reform policies are translated into the local reality, they hold several local issues to be resolved at the district level as follows:

(1) Delay in Organizing District Institutions for Decentralization

District Health Management Board (DHMB) was established as the decision making body for directing district health management and District Health Management Team has been organized as the implementing body for district health services. One of the major issues in the Reform is the revitalization of the health care service delivery system through decentralization. Although the transfer of responsibility and authority for financing, recruitment, and deployment of the staff, are envisaged in the Reform, the process has been slow.

(2) Shortage in Personnel Capability in Planning and Management

Though the planning of health development plans and the implementation and evaluation of programs are the basis for district health development, district health management teams (DHMTs) have attended few training sessions for those activities. In addition

to lack of experience of planning and management at district level, the management and support system remains poor, as is observed in the weak support and supervision to health facilities and the health information management system. Strengthened management systems including for activities at facility level and health information management system, as well as strengthened ability of DHMTs, are essential to realize sustainable health programs and projects.

(3) No Sustainable Financial System

The health financing system should be organized to strengthen the finance of health service at district level or provincial level. Along with the central movement, the revision of fee schedules within the cost sharing (20 Ksh. per a consultation) and the effective redistribution of facility improvement fund should be established within the district. In the long term, resources shall be shifted from hospitals to rural facilities, and to cost-effective P/PHC.

(4) Poor Integration with District Development

As health development plans have been already incorporated in *District Development Plans 1997-2000* of the districts in the study area, they need to be well coordinated in their health plans including donor-assisted projects for water and sanitation and facility maintenance.

Discussion between JICA Study Team and District Health Management Team (Kericho)

11. PLANNING FRAMEWORK

OVEALL PLANNING GOAL

The national policy goal should be achieved on the practical ground. Hence, any regional context must be geared with the national health policy framework, being reflected by the local reality. Hence, the overall goal of the Study is:

"To promote and improve the health status of all people residing in the target area, materializing the effective, efficient and sustainable mobilization of all the locally available health-related resources".

OVERALL UNDERSTANDING OF THE DISTRICT HEALTH SYSTEM

People's health must be a basic need to be assured by the Government to build the sound society and economy. The district health system, therefore, is recognized as one of sub-systems functionally incorporated into the entire socioeconomic system to meet people's needs and demands based on the actual health status.

Planning rationales of the district health system is composed of three (3) domains of discussions: those on the supply side, the demand side and channel/access of both sides.

For the planning rationales of the supply side, the health service delivery system needs to be structured with stratified levels of facilities which should be functionally inter-related with referral functions. This is a principal planning concept to seek a functional system under a condition that limited resources must be allocated equally over the people to meet with different needs. And, in order to functionalize this, the health service supporting system needs to be strengthened. The health supporting system is composed of technologies and management capabilities attached to or related to human resource and finance.

For the demand side, on the other hand, users' attitude is of more importance. It is required that all people are educated and/or informed of correct and accurate knowledge of diseases, preventive measures against infectious diseases and appropriate ways to get access to health services. This is another essential requirement to minimize economic loss in the society as well as uplift the people's quality of life by themselves.

The third planning concern is with "health service access" or how to connect with both supply and deemed sides. Transportation, information dissemination channels/means, educational systems need to be assured for the district health system.

PLANNING OBJECTIVES OF THE MASTER PLAN

The overall goal needs to be interpreted into practical strategies with longer-term perspectives. The master plan, therefore, addresses two (2) key planning objectives which should be materialized with some numerical targets as follows:

Objective A: To provide **all the residents** with universal access to minimum promotive and preventive health cares (P/PHC) as well as curative services and upgrade the quality of service.

Objective B: To strengthen linkages with other sectors to facilitate **Community Development** relating to Health Improvement.

SOCIECONOMIC FRAMEWORK IN 2005

POPULATION INCREASE RATES

Rapid increases in the population is a focal issue for social welfare as well as some of vital health-related programs such as FP and KEIP. The population growth rate during the period between 1989 and 1997 is thought to be **3.05%** p.a. from the district data. This is a considerably high rate, compared with the national average of 2.3%. There seem to be a gradually decreasing trend, but it is at a minimal level. In the year 2005, the total population of the Study Area will be about **3.4 million**, compared to 2.7 million at present as of 1997, which shows a **3.03%** growth during the period between 1997 and 2001 and a **2.81%** growth during the period between 2001 and 2005. About 700,000 will increase in the Study Area from 1997 to 2005.

ECONOMIC GROWTH PROJECTION

During the period between 1990 and 1995, Kenya performed a bit low economic growth in terms of real GDP, that is, 2.5% p.a. on the average. The National Development Plan 1997-2001 has launched a considerably ambitious growth target, **5.9%** p. a., to be led by a strong growth in the industrial sector. The contribution of the agricultural sector is projected at a minimal level, 4.4% p.a., therefore, its share of the national GDP eventually will fall down.

There is no available regional break-down, but the Study Area is mostly based on agriculture, and 50-60% of the income are thought to come from the agricultural sector. Although the drastic industrialization will hardly take place in the Study Area because of its less comparative location advantage in the future, the local economy is expected to be stably growing, led by cash-cropping outputs in the agricultural sector. As a result, it is projected that the economy will grow at **4-5%** p.a. If the economic growth is less than the population growth rate, eventually the area cannot escape from the current poverty level in terms of per capita, thereby resulting in worsening the people's health status.

TABLE 11.1 PROJECTED FUTURE POPULATION (2001 AND 2005)

						Growth Rate		
	1989	1997 (Estimated)	1999 Projected *	2001 Projected *	2005 Projected**	1989-97 (% P.A)	1997-2001 (% P.A)	2001-2005 (% P.A)
Bomet	437	585	626	670	766	3.67%	3.52%	3.37%
Kericho	463	598	637	677	767	3.23%	3.23%	3.18%
Kisii	747	926	977	1,031	1147	2.72%	2.72%	2.60%
Nyamira	471	591	588	657	712	2.80%	2.80%	2.03%
Total	2,119	2,699	2,828	3,035	3,392	3.07%	3.03%	2.81%

Source Projection * : District Plan ofEach
Porjection **: based on a Cohort Analysis by the JICA Study Team

12. STRATEGIES FOR PLANNING OBJECTIVES

In the line with the two objectives of the master plan, strategies are formulated to tackle with the current problems prevailed in the Study Area. These comprehensively cover all the areas for the improvement of the district health system. It should, however, be noted that one strategy alone cannot be effective, but needs to be mutually related with another for the implementation.

FOR OBJECTIVE A

To provide **all the residents** with universal access to minimum promotive and preventive health cares (P/PHC) as well as curative services and upgrade the quality of service by/through:

(A-1) Enhance Health Services for Priority Diseases

(A-2) Functionalize District Health Service Delivery System

(A-3) Promote Linkages in Health Services for Target Groups between Private and Public Health Providers

(A-4) Develop Programs for Continuing Education for Rural Health Personnel

(A-5) Rehabilitate Existing Health Facilities and Equipment

(A-6) Strengthen Financial Capability at District Level

(A-7) Institutionalize Supervision and Monitoring for Quality Assurance

FOR OBJECTIVE B

To strengthen linkages with other sectors to facilitate Community Development relating to Health Improvement through:

(B-1) Encourage Community-based PHC Activities for Health Improvement

(B-2) Facilitate Integration of Rural Roads, Water and Sanitation Improvement

(B-3) Encourage Self-help Group Activities through Empowering Women

FIG. 12.1 REQUIRED CONDITIONS FOR PLANNED STRATEGIES

		Improvement		Capacity Building	
	Strategies	Physical	Institutional	Management	Technical
Objective A					
A-1	Enhance Health Services for Priority Diseases	XX	XXX	XXX	XXX
A-2	Functionalize District Health Service Delivery System	XXX	X	XXX	XX
A-3	Promote Linkages in Health Services for Target Groups between Private and Public Health Providers	X	XX	XXX	X
A-4	Develop Programs for Continuing Education for Rural Health Personnel	XX	X	XXX	XX
A-5	Rehabilitate Existing Health Facilities and Equipment	XXX	-	XXX	X
A-6	Strengthen Financial Capability at District Level	-	XXX	XXX	X
A-7	Institutionalize Supervision/Monitoring for Quality Assurance	X	XX	XXX	XX
Objective B					
B-1	Encourage Community-based PHC Activities for Health Improvement	X	XX	XX	XX
B-2	Facilitate Integration of Rural Roads, Water and Sanitation Improvement	XXX	-	XXX	X
B-3	Encourage Self-help Group Activities through Empowering Women	-	XX	XX	X

Notes: The number of "X" stands for the level of requirement, i.e., XXX: strongly required; XX: considerably required; and X; somewhat required.

13. RATIONAL AND POSSIBLE INTERVENTIONS

(A-1) PRIORITIZE DISEASES AND HEALTH SERVICES

<Direction >

The prioritized health services and programs targeting important diseases in the study area should be planned and implemented in order to focus the limited resource on the most efficient and effective health care services and programs which are needed by the residents in the study area.

The following are identified as the diseases or programs to be prioritized until 2005:

- Highland Malaria;
- Acute Respiratory Infection (ARI);
- Child Survival Program (Nutrition, Anemia, Immunization);
- Reproductive Health; and
- Tuberculosis.

<Prerequisite/Target>

There are already national vertical programs for major infectious diseases. Health services to be provided at each facility level have been already standardized by the central MOH. The master plan targets on the prioritization of the diseases to be tackled and the health programs which meet the needs in the study area, and the identification of the strategies to strengthen the standardized health services at the district level.

Since highland malaria is strategically controllable, if appropriate measures and interventions are undertaken, the target may be addressed that the morbidity and mortality shall be reduced by half of those at present.

<Visions on Project / Program >

(1) Improvement of Epidemiological Information and Knowledge

Implementation of epidemiological surveillance to support the logical strategies in the targeted area; such as surveillance of drug-resistant malaria, causal agents of pneumonia, HIV prevalence among antenatal clinic attendants, etc.

(2) Promotion of Monitoring and Surveillance System for Disease Control Programs

(3) Improvement of Diagnostic Capacity for the Prioritized Health

Identification of the targeted health facilities and health personnel for the prioritized diseases, and improvement of their diagnostic capacity.

(4) Strengthening of Preventive and Promotive Health Care Activities:

Strengthening of programs on anemia and nutrition targeted to children and pregnant women, and the control of the prioritized disease incidences in collaboration with NGO's preventive and promotive programs.

(A-2) FUNCTIONALIZE DISTRICT HEALTH SERVICE DELIVERY SYSTEM

<Direction>

District health service delivery system should be revitalized in order to improve the health status in the study area. In order to increase the utilization of the service and improve the quality of the service, the phased revitalization strategies will be implemented by reducing the congestion at district hospitals as well as by making the referral system function.

<Prerequisite/Target>

Demand for health service: Taking into account the current level of health service in the study area and the increased demand for health service based on the projected population increase in the year 2005,

the number of outpatients is expected to increase by 30%.

Improvement of the core facilities: By improving the efficient operation of the existing health facilities, they should absorb 10% more patients, and 80% of the increased demand should be absorbed at health centers and dispensaries by strengthening the capacity of rural health facilities (RHFs).

Maximum utilization of the existing health facilities: Emphasis should be put on rehabilitation and improvement of the existing health facilities and the efficient allocation of the already available resources.

<Vision on Project / Program>

(1) Strategic Capacity Building of Priority Rural Health Facilities

A number of "Priority Health Centers" will be selected and established in the study area by 2005, based on the existing facilities and equipment, the role in the locality, the geographical location, the level of active participation by the community, and so on. These core health centers should be strengthened in order to function as the meddle-level referral health facilities between the district hospital and rural health facilities as well as to enhance the whole district health service delivery network.

(2) Standardization of Rural Health Care Services at Each Facility Level

Tentative package of health care services should be standardized in order to promote the quality of health care services at each facility level and expand the improved services.

(3) Capacity Building of District Hospitals with Emphasis on Referral Functions

(Refer to A-5)

(4) Establishment of A Network of Health Facilities and Health Personnel

District-level human resource development should be promoted in the district hospitals and the core health centers. The training offered will include the development of community leaders who can promote primary health care activities, the mobilization of the community groups and the development of their management capacity, the upgrading of technical knowledge of health personnel to improve the quality of the health service in the district.

(5) Strengthening of the Referral System

In the core health centers, diagnosis capabilities of laboratories should be improved and the appropriate knowledge of drugs should be promoted. Especially the following present constraints in the referral system should be tackled as the priorities:

- Strengthening the capacity of laboratories in the district hospitals and the core health centers;
- Improving transportation and communication;
- Establishing economic incentives for referral; and
- Educating the efficiency of the referral system.

(6) Improvement of the Logistic System

In order to establish the appropriate and efficient logistic system, the comprehensive logistics improvement program should be implemented in order to tackle the following issues:

- Improving transportation;
- Conducting the training on the appropriate use of drugs;
- Establishing the supply system which corresponds to the demand at the district level (from the "push" system to the "pull" system); and
- Establishing the effective health information system (HIS) (Refer to A-7).

(7) Extension of Health Care Services to Inaccessible Areas and People

Inaccessible areas and those who do not have access to health care services should be identified and the outreach program should be formulated and implemented to provide them the access to the comprehensive health care services.

(A-3) PROMOTE LINKAGES IN HEALTH SERVICES FOR TARGET GROUPS BETWEEN PRIVATE AND PUBLIC HEALTH PROVIDERS

<Direction>

The disadvantaged groups and strategically important groups for health development should be identified and the cooperation between private and public health providers should be promoted in order to deliver these groups the prioritized health services for the major diseases in the study area. The areas for the cooperation will include the AIDS prevention and control, immunization for children, malaria prevention and control, family planning, disaster management, health information system, and so on.

<Visions on Project/Program>

(1) Provision of Health Care Services to Those without Access

Activities of NGOs and mission hospitals in the study area should be grasped. Outreach services to those with the limited access should be supported and extended in collaboration with NGOs and mission hospitals.

(2) Development of Joint Training Programs

Participation in training programs organized by government, missions and NGOs should be permitted and promoted by both sides. Government, missions and NGOs should cooperate in developing training programs for the common issues such as health information, measures for epidemic disease and improvement of medical capability.

(A-4) DEVELOP PROGRAMS FOR CONTINUING EDUCATION FOR RURAL HEALTH PERSONNEL

<Direction>

The programs for continuing education at the district level should be implemented. The target groups for re-training will be all health personnel in the district and community health workers.

<Prerequisite >

It is assumed that necessary health personnel and artisans in the district level are trained in the national level and provided to the districts continuously and properly. It is also necessary to strengthen the decision making power at the district level on budgetary allocation and personnel management in staff position and reallocation in order to control the out-flow of the trained health personnel to the outside of the district and to accumulate the know-how of re-training.

< Visions on Project/Program>

(1) Strengthening of Capability to Develop and Implement Continuing Education Programs

Committees for preparation of continuing education programs should be established within DHMTs, district hospitals and core health centers to assess the needs for the continuing education. Continuing education programs should be developed for each facility and personnel type based on this needs assessment.

(2) Retraining on Technical Capability of Health Personnel

Training programs for health personnel based on the level of the health facility and occupational category should be provided in the core health centers. Training manuals should be also developed for each facility level and occupational category by accumulating the experiences and evaluation of these training.

(3) Quality Control and Management Capability of the Staff

Training programs for quality control of health care services and management of health institutions and facilities should be provided to all the staff in order to promote team spirits and collaborative work at the work place.

(4) Introduction of "Training Programs for Health Facility Management Committees"

Training programs to improve the administrative capability of health facility management committees and the technical capability of community-based health workers and practitioners communities should be introduced to strengthen the community-based health care approach.

(A-5) REHABILITATE EXISTING HEALTH FACILITIES AND EQUIPMENT

<Direction>

The plan is to design improvement of access to functional health system by proper planning of facility distribution as well as rehabilitation of health facilities. Thus includes redirection of community activities for construction and renovation of rural health facilities in coordinating with prioritized strategies.

The plan is to design replacing spoiled equipment and supplementing necessary equipment, to maintain the essential health care services and improve the function of referral system.

<Prerequisite>

(1) The list of prioritized facilities for renovation and expansion in the Plan shall be coordinated with the existing District Development Plan 1997-2000.

(2) While there is MOH's standard for facilities regarding a new construction of facility (i.e. One facility per 10,000 population and a construction standard by level), there need to set a more comprehensive standard since a functioning of facility depends on the other factors such as community support, availability of staff and logistics.

<Visions on Project/Program>

(1) Standardization of Facility Improvement in consideration of Regional Differences

While community involvement is encouraged for improvement of rural health facility, the standard should be applied to facility development from planning stage. The lower ratio of facility per population and inaccessible area shall be prioritized for facility development.

(2) Improve and Rehabilitate Hospital Facilities and Equipment

The level of rehabilitation of hospital facility and replacement of medical equipment varies widely among hospitals. Facilities that need comprehensive improvement and rehabilitation:

Kericho District Hospital: Comprehensive facility rehabilitation and replacement of essential diagnostic medical equipment

Kisii District Hospital: Comprehensive facility rehabilitation and replacement of essential diagnostic medical equipment

While, facilities that need partial improvement and rehabilitation:

Longisa District Hospital (Bomet): Urgent installation of water supply system (Implementation plan exists) and replacement of medical equipment.

Nyamira District Hospital: Minor rehabilitation of building and facilities, and replacement of diagnostic medical equipment.

(3) Rehabilitation of Rural Health Facilities

A stepwise program shall be formulated on the common problems against functioning of rural health facilities such as water supply system, building or rehabilitation of staff houses. A number of potential health centers shall be strengthened by the year 2005 as "Priority Health Centers" where provide required quality services including basic functioning of intermediate referral to district hospital.

(4) Establishment of New Maintenance System for Facilities and Equipment

There is the need to establish a new maintenance system at district level. This includes formulating a maintenance plan for equipment and facility, securing annual budget for maintenance, shifting the authorization of expenditure on maintenance to local entity and formulating mechanism for daily maintenance targeting users and maintenance staff.

(A-6) STRENGTHEN FINANCIAL BASIS AND MANAGEMENT CAPACITY AT DISTRICT LEVEL

<Direction>

To secure sustainable provision of quality services, the financial basis will be strengthened, and an appropriate budgeting and financial management capacity will be improved at district level.

<Prerequisite>

Health Sector Reform should be implemented further in the area of autonomy and self-reliant financial scheme at district level. Authority to reallocate resources granted to DHMB

<Visions on Project/Program>

(1) Review of the Current System of " Cost-sharing"

It is necessary to design and implement a decentralized management system that facilitates increased fee collections (Fee collection rate accounts for 30% only), better protection for the poor, and increase reimbursements through National Hospital Insurance Fund, including training of revenue staff.

(2) Encourage Community-financing Programs for Upgrading Quality of Living as well as PHC activities

It is recommended to establish capacity to effectively coordinate and support community financing activities, possibly through relationships with existing schemes such as Bamako Initiative, Tenwek Hospital, and other NGO activities.

(3) Restructuring of the Current Resource Allocation based on "Budgetary Monitoring"

It is necessary to improve resource allocation and cost control by developing a " bottom-up" district-level budgeting and financial monitoring system to establish priority expenditure areas and insure that resources are available for them.

(A-7) INSTITUTIONALIZE SUPERVISION AND MONITORING FOR QUALITY ASSURANCE

<Direction>

To improve the quality of health care services, the plan shall institutionalize the cycle of planning, implementation and monitoring. DHMTs need technical capacity enough to be able to formulate district health development plan, to monitor and supervise the facilities, to strengthen health information management system to support DHMTs' planning and management and to incorporate the function of facility management. Appropriate local planning and management method should also be mounted to facilities.

<Prerequisite>

Concrete support and promotion of decentralization described in Health Sector Reform Policy is prerequisite for strengthening district health management. Collaboration and support on this policy should be shared from Central level to peripheral levels.

<Visions on Project/Program>

(1) Development of Planning and Management Capability of DHMTs

As a team of technical professionals being responsible for district health care, DHMTs should be trained to improve the planning and management capability, including understanding of epidemiological information, objective setting, program management, and support for lower facilities.

(2) Development of Health Information System on Management of Patients, Drug Stocks and Supplies

Collection, utilization and reporting of health and management information is strengthening at selected facilities (for instance: priority health centers) so that facilities will be involved in the part of quality assurance and district health planning process. An additional role like a sentinel survey site for important infectious diseases can be considered for future development at those facilities.

(3) Supervision for Improving Health Care Services

Quality control of health care services and management programs within facilities should be introduced to improve the capability to manage daily activities. Periodical supervision and monitoring by DHMT also be mounted.

(B-1) ENCOURAGE COMMUNITY-BASED PHC ACTIVITIES FOR HEALTH IMPROVEMENT

<Direction>

To encourage a wide variety of community-based programs for PHC activities to extend sustainable health care education to communities and foster

community leaders through supports of human resource development program and community-financing programs.

<Prerequisite>

The policy shift to "preventive and promotive health care" stipulated in the national health reform should be progressed under a broad recognition of the importance of "community-based PHC activities" among all national, provincial and district officials.

<Visions on Projects/Programs>

(1) Promotion of Public Awareness for Health

Correct knowledge of infectious disease, preventive measures against malaria at household level, family management of health and nutrition, child health and taboo to be changed, etc., should be enlighten and disseminated among all members of communities through "Local Radio Broadcasting Program"; and Periodical opening of "Community-Health School" at educational facilities, encouraging participation of community health workers, TBAs, school teachers, women groups, youth groups and other health-concerned people.

(2) Encouragement of Community Movement

Community-based people's movement and/or community campaigns should be promoted, involving community health workers and school teachers, for instance:

- "Renovation of Our Living Environment" focusing on toilet use, consciousness of safe water and fixing of window for room;
- "Food Diversification Keeps Our Health" especially for children and maternal women; and
- "Be Preventive of Malaria", promoting use of pyrethrum coils and bed-nets as well as cutting undergrowth to mitigate mosquito breeding places.

(3) Introduction of Community-financing Program for PHC Activities

Focusing on promotion of malaria preventive activities and child health, a multi-purpose community-financing program should be established at some model communities such as a type of "Bamako Initiative Program". Generalization of the program shall be undertaken after reviewing the implementation of the model programs.

(B-2) FACILITATE INTEGRATION OF RURAL ROADS, WATER AND SANITATION IMPROVEMENT

<Direction>

In order to achieve comprehensive improvement in living, health and sanitation environment, the plan coordinates with road development programs and promotes the extension of programs of water supply and sanitation facilities.

<Prerequisite>

Self-help development activities should be initiated by community itself to improve its living environment and sanitation.

The local road improvement project shall aim to provide road access to all communities and remove the existence of "inaccessible areas".

<Visions on Projects/Programs>

(1) Facilitation and Coordination of Local Roads Improvement Program

The local road improvement projects being or to be undertaken by District Road Offices, Ministry of Public Works, need to be coordinated with the improvement of accessibility to rural health service facilities, taking into account the priority to 1) provision of roads to inaccessible areas; and 2) networking the rural health facilities with passable roads even in wet season.

(2) Improvement of Service Routes of 'Matatu"

In association with the Road Improvement, the public transport service system by "Matatu" should be improved in its constant operation, service routes and fare systems.

(3) Expansion of Water Quality Monitoring

The currently on-going water quality monitoring activities are limited to main water streams. This program should be extended to water resources at all local communities, organizing a "Community Water Quality Surveillance Team" under DHMT jointly with

Water Development Department. The team shall provide appropriate advice of alternative safe water source for all communities.

(4) Improvement of Safe-water Supply Systems

A comprehensive program for rural water development and management system improvement should be initiated on the long-term perspectives. As an urgent action, at least all RHFs should have any system of water supply.

(B-3) ENCOURAGE SELF-HELP GROUP ACTIVITIES THROUGH EMPOWERING WOMEN

<Direction>

The programs for improving women's capability in terms of household management and education should be incorporated into the activities of existing community organizations and NGOs to promote better living environment and health activities.

<Visions on Projects/Programs>

(1) Support of NGOs and self-help group activities to encourage women education for house management and health

(2) Promotion of Peer Education and Group Education Activities: Peer education activities through exchange of information among peers should be promoted in the areas of AIDS/STDs education. Development of group leadership and support of group activities should be promoted, targeting NGOs, school children group and office groups.