
Chapter 11

Health Facilities and Equipment

11. HEALTH FACILITIES AND EQUIPMENT

11.1 CURRENT STATE OF HEALTH FACILITIES

11.1.1 Distribution of Health Facilities

The Study Area, with a population of about 2.7 million persons in 1997, has a total of 327 health facilities that are owned either by the government, private sector, NGOs, or missions. There are 29 hospitals, 72 health centres, and 226 dispensaries (Table 11.1).

a. District Hospital

Based on the MOH standard, at least one District Hospital (DH) should be located in every district. In the Study Area, there are 5 district hospitals, namely, Kericho DH, Longisa DH, Nyamira DH, Kisii DH, and Ogembo DH. The condition of each DH differs from one to another.

The services provided at the Ogembo DH's are limited to those of a H/C because it was designated as a DH only in 1997 when the district of Gucha was carved out from the Kisii district. Longisa DH in Bomet has started to provide in-patient services only recently, hence the number of in-patients at this hospital is still very few.

Kericho DH and Kisii DH were opened during the colonial period. They have played very important role as a referral hospital covering a big service population. In particular, Kisii DH serves the people not only from Kisii District but also those from surrounding communities such as Nyamira District. It caters to more than one million population.

b. Health Centres

H/Cs are unevenly distributed in the Study Area. Considering the service level in terms of the number of H/Cs per 100,000 people, the highest ratio of 4.3 is the one for Nyamira, while the lowest rates of 1.4 and 1.8 are for Bomet and Kisii, respectively. The average for the Study Area is 2.7 H/Cs per 100,000 people.

c. Dispensaries

If those owned by the private sector are excluded, then the dispensaries seem to be more evenly distributed than the H/Cs. The highest facility-population ratio of 8.4 is

for Kericho while the lowest rate of 3.2 is for Gucha. The average for the Study Area is 5.3 dispensaries per 100,000 people.

According to the "Definition and Categorisation of Health Facilities in Kenya", one dispensary should serve a community with a population of 10,000 - 15,000 persons. Based on this standard, the Study Area should have 190 - 280 dispensaries, compared to the present number of 220 (inclusive of non-public sectors).

Although the actual number of dispensaries in the Study Area is in accordance with the requirements, the distribution pattern seems to be uneven because most RHF were constructed by some communities based on their perceived needs only and not on a master plan.

Although the present number of dispensaries is assessed to be sufficient, the additional population of 720,000 that was estimated by the Study Team in the year 2005 would require the construction of 60 additional dispensaries.

Table 11.1 Distribution of Health Facilities by District

		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 ^{*1}	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 ones)		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 (km ²)		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 / KEIPET Field Survey

*1: H/H = House Hold

11.1.2 Condition of Buildings at Health Facilities

a. District Hospital

Both of the wards and OPD (Out-patient Department) in the **District Hospitals** are always crowded with patients. The actual conditions of the hospital buildings differ from each other. The following are brief description of the government district hospital.

Kericho DH

This hospital commenced operation in 1920's during the colonial period. It has been expanded several times. As a result of expansion, this hospital now consists of 26 independent buildings that are laid out not in an order manner. The flow of activities of patients, visitors, staff is not smooth. The actual condition of the buildings differs from one another. It is common to see water leakage, broken windows, damaged walls, ceilings and locks. Protection from soil being carried into the buildings is poor. A comprehensive renovation and/or rehabilitation of the buildings would seem to be necessary.

Longisa DH in Bomet

Longisa DH was built in 1992 with support from the Italian Government. This hospital has just begun to receive water since June of 1998 and has started in-patient recently. The number of in-patients is still very few, and the hospital building has been kept clean and relatively in good condition. However, there are some incomplete works are remained, such as construction of staff houses, approach way, and mortuary, and equip to Kitchen/Laundry.

Nyamira DH

This was built in 1973 as a comprehensive hospital facility with 230 beds. Its conditions are better than the other hospitals in the Study Area. However, water leaks from roof when it rains. Some pipes are clogged while others leak. A more workable building maintenance system is required for this hospital.

Kisii DH

Since this hospital commenced operation in 1916, its function has expanded several occasions. It consists of more than 20 independent building with a total floor area of 4,715 m². Some operational difficulties have developed as a result of a disordered growth. The flow of patients, doctors, and nurses are hardly smooth. With the disordered layout plan and unclosed fence, it is very difficult to control and manage

visitors. The OPD and most of the wards are often congested. Patients sometimes share beds. During a malaria outbreak, some patients slept on the floor and under the beds. A catchment population that goes beyond its district geographical borders compounds the problem of congestion.

There are some ongoing projects at this hospital, such as the construction of new facilities supported by World Bank and relocation of the administration department. However, in order to upgrade its services, a comprehensive renovation and/or rehabilitation of the buildings would seem to be urgently needed.

b. Rural Health Facilities

The Ministry of Health is the final determinant of the standards to be followed in construction of all Government Rural Health Facilities, and Ministry of Public Works and Housing provides technical support. Other agencies, whether financiers or implementation agencies are normally bound by the standard described by the Ministry of Health.

The "Definition and Categorisation of Health Facilities in Kenya", which was drawn up by the Ministry of Health in 1991 in order to provide uniformity to all health facilities in the country, describes the functions, standard services, required staff and facilities for each type of facility (refer to 8.1 the Standard Health Package and Appendix 3). Based on the required facility described in this standard, Ministry of Public Works and Housing prepares the typical plan for each facility type.

In addition, the standard "Health Centre, August 1973", a World Bank Scheme published by the Ministry of Works in August 1973, shows designs of some individual small standard units that can be assembled in a variety of forms to build a health centre. The units can be developed into larger ones, called sub-health centre, when the need arises.

While most of the RHF's were constructed according to the some of those standards, there are some exceptions which were inherited by the Ministry of Health after they had already been constructed-say on a Harambee basis by the community. Following several types of facilities are recognized on RHF's in the Study Area.



- The standard type of the MoPW : Health Centres consists of several single story buildings that are connected by covered walkway. Between the main OPD building and MCH/FP, there is a waiting area and an inner corridor.
- Middle corridor type : This is also one of the MoPW's typical style. The main building which has a corridor in the middle, depends on roof lighting . The waiting area is well lighted and ventilated.
- World Bank scheme type : Most of the dispensaries are of this type. The new buildings reconstructed or expanded by PMIU are also mostly of this type.

Basically, the main building is consists of 3-4 rooms that have been extended over time.

- Harambee basis : This is the original style that has been modified in several ways, which have been built on Harambee basis by the community.

Table 11.2 Required Facility Components of H/C and DSP

Dept.	Components	MOH				PW			
		DSP		H/C		DSP		H/C	
		Type 1	Type 2	Type 1	Type 2	Type 4	Type 3	Type 2	Type 1
OPD	Consultation Rm.	3 rooms	4-6 rooms			2 rooms	2 rooms	5 rooms	5 rooms
/MCH	Treatment/Injection Rm.							2 rooms	2 rooms
	Laboratory			(5)				1 room	1 room
	Minor Surgery Rm.							1 room	1 room
	Pharmacy							1 room	1 room
	MCH								
	FP								
	Delivery Rm. inc. sterilisation Rm.								
	Maternity ward			8 beds					6 beds
	Kitchen / Laundry								
JPD	Female ward								2 beds
	Male ward			6-12 beds	12-24 beds		2 beds		2 beds
	Paediatric Ward								2 beds
	Isolation Ward								
	Staff house								

Note:  : Explicit requirement  : Implicit requirement

A number of the standards and guidelines, however, lack detailed description of specifications. Furthermore, most of the RHF's were built by the Harambee basis with hardly any guidance and instructions from experts. They were constructed with the use of concrete columns and timber truss. The walls are made of stones, bricks of concrete blocks whereas the roofing is either of GI corrugated or asbestos sheets.

The survey showed the following major findings:

- 1) Many RHF's have difficulty in providing standard health services because of lack of facilities. There are many designated H/Cs that are functioning only as DSP. Specifically, 13 out of 31 health centers that were visited could not assist mothers in delivering their babies because they do not have a maternity ward and the basic equipment.

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Staff house									

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- 2) Staff houses were not explicitly stated in the standards for RIIFs but were implied in other documents.
- 3) Some facilities are functioning sub-optimally due to operational problems such as lack of staff, equipment, supplies and lack of water supply, etc. (refer to 8.2 The Realities). For example, Koiwa H/C in Bomet has good facility and equipment enough for a SDH. However its function is limited to a dispensary level because of lack of water. Though Masimba H/C in Kisii has a water treatment system with elevated tank, it does not have piped water because the system broken down and has not been repaired.
- 4) Other common problems are as follows:
 - windows are broken;
 - door and window locks are broken;
 - roof leaks when it rains;
 - ceiling board is damaged and has molds;
 - water tank leaks; and
 - floor and walls have cracks.
- 5) The construction of some facilities were not completed.

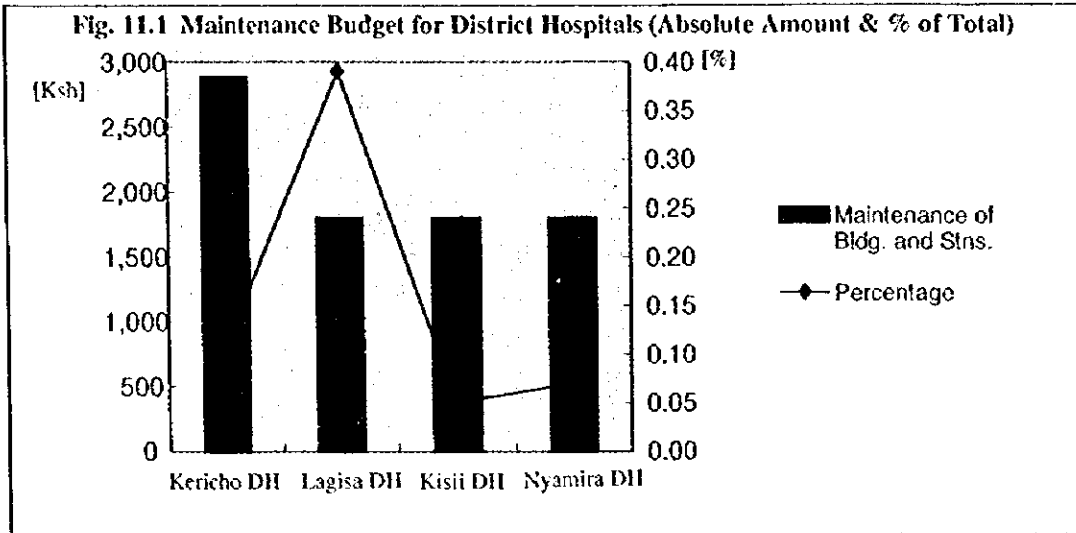
11.1.3 Maintenance System for Infrastructure

Under the current institutional system, even tiny repairs can hardly be undertaken timely and effectively because of certain bureaucratic procedures on requesting for permission and budgeting. Almost all the health facilities in the Study Area have many kinds of problems (e.g. broken window, water leakage, and damaged lock) that are left unrepaired because of several reasons below.

a. Shortage of Funds Appropriated for Each Facility

Hospitals:

One source for maintenance is from the recurrent budget of MoH that is remitted every 3 months. The total amount of the budget appropriated for each hospital is reportedly as little as Kshs. 1,800-2,800. As a percentage of the total facility appropriation, this maintenance budget is equivalent to only 0.11% of Kericho DH, 0.39% of Longisa DH, 0.07% of Nyamira DH, and 0.05% of Kisii DH budget. The average for all the DHs in the Study Area is less than 0.1%. In comparison, Tenwek Mission Hospital allocates about 11% of its total budget for maintenance.



Source: JICA Study Team

The FIF is another source of fund for maintenance. Out of the total collection from cost-sharing, 75% is allocated for operational expenses, 25% of which usually goes to maintenance. In case of the Nyamira Hospital, the amount appropriated for maintenance is only approximately Kshs. 64,000 per year, or Kshs. 5,300 per month.

Rural Health Facilities:

RHF's also have a chronic budgetary problem. Minimal funds are allocated for their maintenance. Only 0.4% of the total budget appropriated to RHF's is used for maintenance work in each district. The budget is evenly allocated among all facilities, regardless of the number of users or scale of the facility.

Financial arrangements are normally made on a quarterly basis. The budget for repair work is arranged on request. This financial system is one of the reasons why much damage is left without repair.

b. Attributes of the Maintenance System

The current administrative system for building maintenance is very bureaucratic and complicated. It takes a long time because it is a back-and-forth process between the district and central levels, as well as between MoPW and MoH.

While maintenance of health facilities is the responsibility of MoPW, the staff could carry out daily or minor maintenance work in the hospital. In fact, Public Health Officer for Maintenance (PHO(M)) and Public Health Technician for Maintenance (PHT(M)) have successfully attempted preventive maintenance of RHF's. However, because of the limited number of skilled maintenance staff, some damage facilities are left unrepaired.

c. Maintenance Unit and Staff

District Hospitals

Each hospital has a Hospital Maintenance Unit (HMU). Table 11.3 shows the number of staff available for maintenance work in each hospital. It seems that the number of artisans and carpenters are not enough to actually carry out all the required maintenance work. For major repair work on the facility, an engineer from MoPW should be consulted.

Table 11.3 The Number of Maintenance staff in DH

	Kericho DH	Longisa DH	Nyamira DH	Kisii DH
No. of Maintenance Staff	1 Technologist 6 Technicians	3 Technicians 2 PHO 1 PHT	2 Technologists 2 Technicians 1 Carpenter 1 Support staff	2 Technologist 5 Technicians 6 Artisans 1 Mech. Eng. for Vehicles 1 Support staff

Source: JICA Study Team Field Survey

Problems regarding the water system for DH are many, too. The problems in Nyamira DH are more complicated than in Kisii and Kericho DH. For this reason, some maintenance staff, inclusion of those in Longisa DH, may benefit from special training on plumbing to carry out effective repair works.

It has been observed that the focus of HMU is on maintenance of hospital of medical equipment rather than hospital buildings.

Rural Health Facilities

At RHF, the degree of maintenance work had been observed to be improving on account of the PMIU Project supported by DANIDA (refer to 3.3.1 Preventive Maintenance Project for Rural Health Facilities). The project consists of the following components:

- 1) renovation of dispensary;
- 2) training programme;
- 3) preventive maintenance;
- 4) supply of medical equipment; and
- 5) supply of non-medical equipment.

The condition of dispensaries has gradually improved. However, some damaged facilities or equipment have not been repaired yet because of financial constraints and limited skills of PHO(M)s' and PHT(M)s', whose capacities are still limited only to minor maintenance work.

d. Motivation

In order to keep the buildings in good condition, motivation of the staff-in-charge is also necessary. Although built during the same year, some wards are in better condition than the other buildings. This could be attributed to the attitude and motivation of staff using the facilities as well as those using them.

In addition, some patients and visitors might still be unfamiliar in the use of toilets and other sanitary facilities. As such, orientation or training might help in maintaining these facilities in good condition.

11.2 CONDITIONS OF MEDICAL EQUIPMENT AT HEALTH FACILITIES

In general, many of the medical equipment in all the facilities surveyed were in a less than satisfactory condition. Even some essential equipment, deemed to be necessary to provide minimum services, were observed to be damaged or inadequately maintained.

11.2.1 At District Hospitals

The average age of medical equipment is 15 years. Some of the equipment have not been used either because of difficulty to procure spare parts or lack of staff skilled in certain types of equipment. Additional findings are as follows:

- 1) The maintenance staff of DH spend most of their time on repair work.
- 2) A "Preventive Maintenance Programme/Plan" still has to be developed in some DH.
- 3) District hospitals use an "Equipment Inventory Card" and inventory labels prepared by MoH. Additionally, the MES of MoH has also prepared an instruction about the conduct of inventories. However, the maintenance history of medical equipment is hardly recorded, thereby losing information important for carrying out future preventive maintenance.
- 4) The Health Facility Maintenance Management System Programme of MoH supports DH in preparing inventories of medical equipment. The Medical Engineering Department of each hospital receives a medical equipment inventory prepared by the Development Workshop in Kisumu. However, feedback systems seem not to be in place.
- 5) Users of medical equipment commonly request for more maintenance staff, new medical equipment, spare parts and maintenance tools. Some suggested further training on new equipment.

Considering the vital function DHs have as higher level facilities to which patients may be referred, it is crucial to repair or replace broken and/or non-functioning

medical equipment as soon as possible. Urgent action is needed in the following departments:

- 1) X-ray;
- 2) surgery; and
- 3) laboratory.

11.2.2 At Health Centres and Dispensaries

The PMIU, supported by DANIDA and UNICEF, provided medical equipment kits to 110 facilities in Kericho, Bomet and Kisii districts. It also distributed tool kits to facilities in Nyamira. Occasionally, it dispatches PHTs (Public Health Technicians) to the RHF to carry out maintenance of facilities and medical equipment.

Since the medical equipment used by RHF are simple and robust, many are generally kept in fairly good condition. Nevertheless, it was observed that some essential equipment (e.g. sphygmomanometers and stethoscopes) are out of order.

11.2.3 At Mission Hospital and Health Centre

In contrast to GOK health facilities, mission hospitals and health centres were found to have maintained their facilities and equipment fairly well. Facilities were all clean. The medical equipment and other instruments were in good working condition. It was noted that one mission health centre extends mobile clinic services for consultation and immunisation in remote areas twice a month with the use of three vehicles, all of which are well maintained.

11.3 MEASURES FOR REHABILITATION OF FACILITIES AND EQUIPMENT

11.3.1 Establishment of a "New Maintenance System"

a. "New Maintenance System" for District Hospital

The current administrative system for maintenance is reported to be bureaucratic and complicated. The official documentation procedure from initiation of a request for repair or replacement by a district hospital, to purchasing then completion of the repair, even for a tiny part, is a back-and-forth process between the district and the central levels, as well as MoPW and MoH. Many letters are necessary at each level, and it takes a long time to get approvals and/or permission to proceed with the repair or replacement. Furthermore, financial arrangements are normally made on a quarterly basis. Hence, timely and urgent repairs is almost impossible as it takes at least three months for approval to be issued.

In order to maintain facilities and equipment in good operational condition, it is necessary to establish a "New Maintenance System" in each District Hospital. Considering the important function of health facilities, a much more efficient maintenance management system is recommended with the following essential elements:

- 1) appropriation of a larger maintenance budget from FIF;
- 2) providing each department in the hospital with job description for maintenance work;
- 3) thorough cleaning of each buildings wherein the users may also be involved;
- 4) involvement of users of health facilities and medical equipment (doctors, technologists, technicians and nurses) in the important "daily check" as a part of "Preventive Maintenance System";
- 5) decentralisation and simplification of the procurement procedures for spare parts, based on an "Annual Maintenance Programme";
- 6) introduction of an auditing System; and
- 7) training of maintenance staff both periodically and continuously in accordance with a standard "Medical Engineering Training Programme".

All the departments in the DH should be involved with the operation and management of the new maintenance. An organisation chart of the DH should first be written. Job specifications for each department that is involved with the maintenance system should be defined. An administration system for the maintenance of facilities and equipment includes at least four departments.

- 1) **User Department** - The User Department includes the staff such as doctors, technologists, technicians and nurses. It also includes patients and visitors. It would help in determining the needs for the facility such as new buildings and equipment.
- 2) **Supplies and Procurement Department** - On the other hand, the Supplies and Procurement Department would be responsible for responding to the needs of the User Department. It would ensure compliance to the specifications defined by the User Departments in its acquisition of new equipment or facilities. It would allocate an inventory number to each facility and piece of equipment.
- 3) **Finance Department** - The Finance Department makes and records an asset evaluation for each facility and piece of equipment and adjusts the accounts with regard to depreciation.
- 4) **Maintenance Department** - The Maintenance Department maintains such facilities and equipment, handles spare parts, retains specifications of equipment, inventory cards, failure reports, records of preventive maintenance, inventory lists of facilities, equipment and spare parts, etc. The maintenance activities carried out by the Maintenance Department would include preventive maintenance and repair. It is advisable to increase preventive maintenance. Users are expected to play an important role by carrying out a daily check as part of the preventive maintenance procedure.

b. "Maintenance System" for Rural Health Facilities

As mentioned above, the PMIU has been executing the project for strengthening the preventive maintenance for RHF's. It prepared a "Maintenance Manual" for Rural Health Facilities that was published in October 1994. It seems there is a need to strengthen the section of the manual on waterworks.

Moreover, a "Construction Manual" for RHF's might be needed to support the initiatives of the communities. The manual may include recommendation on financial management, site selection, choosing and controlling contractors, procurement of construction materials, designs of facilities, and specifications of equipment.

11.3.2 Up-grading of Facilities and Medical Equipment

To strengthen the health care referral system in each district, the following measures are considered critical:

- a. To rehabilitate district hospitals that are at the top of the patient's referral system;
- b. To strengthen priority health centres that are proposed in chapter 8;
- c. To strengthen all RHF in each district in order to function as designated;
- d. To ensure a reliable supply of consumables and spare parts.

a. To rehabilitate district hospitals

Kericho District Hospital

- Comprehensive rehabilitation of the buildings, related facilities and the laboratory
 - Change in the organisation of facilities and departments to improve the flow of patients, staff and services
 - Reconstruction or renovation of some buildings
 - Repair or renovation of a number of things such as windows, doors, ceilings, roofs and pipes
- Replacement of medical equipment
 - Stethoscope, blood pressure machine, operation room lamp, suction unit, trolley, X-ray machine for general purpose, mobile X-ray machine
 - Generator for emergency use
 - Personal computer and measuring instruments for the maintenance department

Longisa District Hospital (Bomet)

- Installation of a water supply system and completion of some construction works
 - Water collection system from the roof could be enhanced
 - Rehabilitation of some facilities that have not been used for a long time such as the IPD building
- Replenishment of medical equipment to support the full operation of the hospital
- Establishment of a maintenance management plan and schedule

Nyamira District Hospital

- Minor rehabilitation of the building and facilities
- Urgent rehabilitation of waterproofing
- Renovation of piping system
- Replacement of medical equipment
 - X-ray machine for general purpose, mobile X-ray machine, microscope, pH meter, infrared lamp
 - 4-WD ambulance
 - Personal computer and measuring instrument for the maintenance department

Kisii District Hospital

- Comprehensive rehabilitation/renovation of the dilapidated buildings and facilities, including the laboratory
 - Change in the organisation of facilities and departments to improve the flow of patients, staff and services
 - Reconstruction or renovation of some old buildings
 - Repair or renovation of windows, doors, ceilings, roof, etc.
- Replacement of medical equipment
 - X-ray machine for general purpose, mobile X-ray machine, dental X-ray machine, automatic film processor, X-ray film viewer
 - Physiotherapy machine (ultrasonic, short-wave, microwave, infrared, and ultraviolet) and wheelchair
 - Operating room lamp, operating table, microscope for eye surgery
 - Blood cell counter and microscope
 - Personal computer and measuring instrument for the maintenance department

b. To strengthen priority health centres

At present, there is an existing programme for improving the physical facilities of dispensaries. However, there is no development programme for health centres. To optimise the benefits expected from limited resources, prioritisation of existing H/Cs becomes inevitable. The priority health centres are conceptualised to serve as intermediate referral centres for nearby dispensaries and other health centres. They are to provide logistical and training support to other facilities. First and foremost, the priority health centres would be strengthened so that they could be fully functional based on the MoH standards.

In this regard, the JICA Study Team evaluated 27 H/Cs as to the conditions of facilities and equipment, capacities of staff, accessibility, and security. Per consultation with local officials, who are more familiar with the terrain and requirements in the Study Area, the list of priorities was revised to include a total of 16 health centres:

- 1) in Kericho - Fort Ternan, Kipkelion, and Sosiot;
- 2) in Bomet - Kapkoros, Ndanai, and Sigor;
- 3) in Nyamira – Ekerenyo, Keroka and Manga;
- 4) in Kisii - Keumbu, Masimba, and Marani; and
- 5) in Gucha - Kenyanya, Nduru, Nyamache, and Ogembo.

c. To strengthen all health centres and dispensaries up to a level of functionality based on MoH standards, the following recommendations are submitted:

- examine the needs of RHF for essential infrastructure, including that for water supply system;
- develop short- and long-term programmes of rehabilitation of seriously deteriorated RHF's
- ensure the provision of essential equipment, such as a sphygmomanometer and a stethoscope, at RHF's;
- improve the maternity ward and equipment (e.g. spot light, simple delivery bed, vaginal examination set) for obstetrical care at H/Cs; and
- improve the screening for malaria by providing microscopes and other laboratory supplies at H/C's.

d. To ensure a reliable supply of consumable and spare parts

The majority of facilities and equipment in DH are old; some are not being used due to lack of spare parts. For example, equipment in the operating theatre, laboratory,

and radiology departments have remained idle. Consequently, the ability of these facilities to provide critical services has been hampered.

11.3.3 Budgetary Basis for Maintenance

Good maintenance is a key to ensure that valuable assets remain in good condition and that investment in these assets is not wasted. It requires skilled and disciplined staff equipped with appropriate tools. More importantly, it requires financial support. At present, however, it seems the budget for maintenance is only about 0.23% of the total allocation for the districts. To keep facilities and equipment in functional condition, increasing the maintenance budget to at least 10% might be advisable. The National Health Reform Secretariat has already proposed an enlargement of the maintenance budget. This policy proposal could be implemented in association with the following strategies:

- 1) devolve the power and authority over FIF to district authorities;
- 2) strengthen auditing function;
- 3) simplify the process of procurement of spare parts and other consumables required for maintenance; and
- 4) enhance the technical capacity of the Medical Engineering Services in establishing policies, setting up of standards, and providing training programmes.

Chapter 12

Gender Issues,
Community Participation and Other
Socio-Economic
Context of Health

12. GENDER ISSUES, COMMUNITY PARTICIPATION, AND OTHER SOCIO-ECONOMIC CONTEXT OF HEALTH

12.1 GENDER ISSUES

12.1.1 Gender Roles and Responsibility

Whereas men fully participate in preparing the farm, planting the crops, and providing water to livestock, women would do most of the responsibilities on a full-time basis. Men never take part in fetching water or firewood, bathing the children, cleaning the house, washing clothes, or even in self-help activities.

Table 12.1 Typical Gender Roles at the Study Area (1/2)

Activity /Roles	Responsibility			
	Men	Women	Children	
			Boy	Girl
Farm preparation	■	■		
Crop planting	■	■	■	
Crop weeding	■	■	■	
Crop harvesting	■	■	■	■
Livestock herding	■	■	■	
Livestock watering	■	■	■	
Livestock milking	■	■	■	
Food search/preparation	■	■		■
Feed children	■	■		■

Table 12.1 Typical Gender Roles at the Study Area (2/2)

Fetch water				
Fetch firewood				
Fetch vegetable				
Bath children				
Clean the house				
Wash clothes				
Circumcision ceremony				
Funerals				
Participation in self-help activities			youth	youth
Water point management				
Cattle dip management				
Marriage ceremony				

Source: JICA Study Team: Focus Group Discussions in 5 districts

Note:

Full participation

Partial participation

Alternative gender roles



When it comes to patient care, women once more have a heavy yoke on their shoulders (Table 12.2). They take the sick family member to a health facility, administer medicines, and monitor the patient's progress. Since they keep the household purse, men are the ones who would pay the hospital bills. Often, they would also go to drugstores to buy medicines especially if the expenses were high.

Table 12.2 Patient Care Responsibility at a Household Level (Kericho)

Responsibility	Men	Women
Taking the sick to hospital/health facility		X
Buying medicine	X	
Prescription administration		X
Monitoring recovery progress	X	X

Note: X = involvement

Source: JICA Study Team/Focus Group Discussion (Kericho)

In traditional societies, gender roles and responsibilities were more or less clear-cut. These days, however, changes are noticeable. Table 12.1 lists some alternative gender roles that may be done by either men or women. Examples of these alternative roles are as follows: crop weeding, crop harvesting, livestock herding, livestock milking, food search/preparation, feeding the children, and fetching vegetables. The change in gender roles, albeit slow, could be attributed to better education, urbanisation, and modernisation. The contribution of religion in discouraging stereotypical household division of labour was also reported in some group discussions.

Furthermore, the number of households that are headed by women is increasing. In the Study Area, women were the breadwinners in 10-30% of the households. If we consider the families with fathers working away from home, then the effective number

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Wash clothes				
Circumcision ceremony				
Funerals				
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Water point management				
Cattle dip management				
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of households headed by women would even be higher. Unfortunately, the literacy rates¹ of women heading these households seem to be lower than the average.

12.1.2 Decision-Making and Resource Control

The Constitution of Kenya guarantees equal opportunities for men and women in decision-making institutions. Nevertheless, there are still few women members of local political bodies (Table 12.3). In Kericho, for example, women represent only 13% and 6% of the total membership of the District Development Committee and District Executive Committee², respectively.

Table 12.3 Women in Decision-Making Government Institutions (Kericho)

	Membership	
	Men	Women
District Development Committee	67	10
District Executive Committee	47	3
Civic Positions	15	3

Source: District Development Office (Kericho)

At the household level, men usually make decisions on income, labour, and land. They decide on the crops to plant, the need to hire additional labour, the amount of seeds to purchase, and the amount of crops to sell.

The tradition of men being granted the decision-making authority is deeply rooted among the Kipsigis and Gusii families, whose perception of women are that of lower status and is intended to be led by men. Such tradition of valuing boys over girls gave rise to fewer women having given better educational opportunities. Consequently, fewer women would have the qualifications to seek higher posts in government policy-making bodies or would have the confidence to make decisions at home.

12.1.3 Landholding and Tenure

In the Study Area, most families depend on small pieces of land; about 60-70% of families own less than 2 hectares of land. By tradition, only heads of households who happen to be the husbands can own land. Daughters are not allowed to receive any land because it is assumed that their future husbands would have their own. When a husband dies, his brother takes control over his property while carrying the responsibility of his wife and children. In case there is no brother, a man of good reputation is to be appointed as caretaker of his land until a son reaches maturity. In the Kipsigis community, when there is no son, land is passed on to a daughter who is not allowed to marry. She then becomes the custodian of the family land. She is allowed a male partner and the chance to have her own son.

¹ 29.7% in Kericho, 14.6% in Bomet, 27.8% in Kisii/Gucha and 47.8% in Nyamira

² District Development Committee (DDC) is the main organ entrusted with addressing the development needs of the district. The District Executive Committee (DEC) is the technical arm of the DDC and other elected local authorities.

The traditional practice of land inheritance only among men is changing. The government already passed the *Law of Succession* entitling both wives and daughters to share in the estate of their husbands and fathers. In addition, female participants of the focus group discussions pointed out that girls might start inheriting land in the future because there is an increasing number of women who do not marry, are more educated and westernised. They also mentioned that single mothers, who are quite common in the Study Area, would also need a piece of land for subsistence cultivation.

12.1.4 Educational Attainment/Literacy

Researches in international health have documented better health status among children of women with better educational attainment. In the Study Area, this might also be the case considering that mothers perform myriad responsibilities directly or indirectly related to health. The roles of women range from food production and preparation, maintaining cleanliness of house and the children, to taking care of sick family members.

Unfortunately, the average literacy rate among adults in the Study Area is a lot higher for men (83.8%) than for women (65.8%). Women could hardly attend tertiary education (Table 12.4). Except for those in Nyamira, women in other districts would most likely complete only primary school. Only less than a third would have a chance to attend secondary education. The most likely reason for boys to drop out of school would be financial inability of parents. For girls, however, there are many more additional reasons such as early age marriage, circumcision, early pregnancy, and poor performance.

**Table 12.4 Educational Level of Household Survey Respondents
(Mean Age = 35 years)**

District	No School	Primary	Secondary	Tertiary (College)
Kericho	32%	38%	24%	0%
Bonet	28%	40%	32%	0%
Kisii	32%	40%	26%	2%
Gucha	20%	54%	26%	0%
Nyamira	12%	38%	48%	2%

Source: JICA Study Team/Household Survey

12.2 COMMUNITY PARTICIPATION

There are many community-based self-help groups in the Study Area. There are youth groups, church-based groups, and women's groups. There are local groups as well as international NGOs (Appendix 3). According to a survey in Nyamira in 1996, 70% of the population was involved group activities. In Kericho, there were 720 women's groups that were officially registered during the same year.

One of the active women's groups in the Study Area is the Maendeleo ya Wanawake Organisation (MYWO). It is well organised and has a membership nation-wide. It has a long history dating back to the Independence Period of Kenya. It has been involved in mobilising women to address legal and cultural barriers such as the issues of female circumcision and women's participation in development.

Like the MYWO, other women's groups have organised income-generating activities such as farming, livestock raising, trading, handicraft, and establishment of "posho" mill. Some groups administer rotational funds ("totor" among the Kipsigis) wherein participants contribute an agreed amount of money every two weeks, one month or other specified period. The total collection is given to a member at a time. The same system continues until all the members have received their collections. The cycle of collection begins anew. This arrangement is very popular. Usually, the money collected is used for household improvement and purchase of household utensils. When the need arises, such contributions may also be used to pay for school fees and medical bills.

There are three issues on community participation in the Study Area that would merit further investigation. One, some community-based groups have been involved successfully in promotive and preventive health activities. However, only a few have made significant contribution to raising the general standards of living particularly of those residing in remote villages.

Two, the motivation for mobilising participation of community seems to have been abused at times for personal interests. When Kenya gained independence, the government promoted the "harambee spirit" (meaning, pull resources together) as the catalyst for rural development, for improving the general welfare of the community. It has been reported, however, that some community members would use the "harambee spirit" to collect financial contributions for personal needs or enrichment.

Three, although there are many women's groups in the Study Area, still their participation in community activities have been limited partly by their heavy workload at home. It seems ironic for women not to be involved in agricultural cooperatives even if they are the ones primarily responsible for their backyard farms ("shambas").

12.3 OTHER SOCIO-ECONOMIC CONTEXT³ OF HEALTH

12.3.1 Demographic Characteristics

Like most Sub-Saharan African countries, Kenya has a predominantly young population. About half of the population (48.9%) belong to 0-14 age group.⁴ In the Study Area, this young age structure is also evident. For example, the age cohort from 0 to 14 years is estimated to be 53.5% in Kisii and Gucha, 51.1% in Nyamira, 51.3% in Kericho, and 52.2% in Bomet.

The temporary out-migration can be attributed primarily to young males seeking jobs in big urban centres like Nairobi, Mombasa, Kisumu, and Nakuru. The household interviews conducted by the JICA Study Team revealed that most parents expect their children to seek employment and economic advancement outside their communities. For example, in Kericho, 43% of the parents hope that their children would find a job in urban centres.

12.3.2 Food Adequacy

In answer to the question "Is food production enough to feed the household?" about half of the households reported food inadequacy (Table 12.6). This phenomenon could be attributed to the following:

- urbanisation such as in Kericho district wherein there is fewer land area for cultivation;
- shifting from food crop farming to cash crop farming; and
- drier areas in Sigor in Bomet have lower yield.

Table 12.6 Food Adequacy at Household Levels

District	Yes	No
Kericho	52%	48%
Bomet	50%	50%
Kisii	48%	52%
Gucha	42%	58%
Nyamira	52%	48%

Source: JICA Study Team Household Survey

³ This section supplements Chapter 2.

⁴ Welfare Monitoring Survey II, 1994: Basic Report, May 1996

12.3.3 Social Context

a. Ethnicity and Religion

Kericho and Bomet are predominantly inhabited by the Kipsigis ethnic group whereas Kisii, Nyamira and Gucha by the Gusii. For a more thorough discussion about the beliefs, knowledge, attitude, and practices of these ethnic groups, refer to Chapter 14.

There are no well defined relationship between religion and ethnicity. Nonetheless, the Kipsigis are mainly associated with the African Gospel Church, African Inland Church, and Roman Catholic Church. Most of the Gusiis belong to Seventh Day Adventists (SDA). With the advent of urbanisation, religion has become a matter of a personal choice rather than tribal.

b. Health and Sex Education for Adolescents

Sexual activity starts at an early age generally. For example, the mean age for the first sexual experience of the people in Nyamira in 1995 was reported to be 15.5 years. As adolescents engage in sex at an early age, the people in the Study Area would be predisposed to early pregnancy, HIV/AIDS, or other STD.

Traditionally, it was the responsibility of grandparents and other relatives to teach the young about sexual matters. In the present society, however, adolescents hardly have the opportunity to talk with their grandparents or with their parents about sexuality. Often, the school also does not provide enough comprehensive information to adolescents. It seems teaching sex in school is controversial because some politicians, parents, and religious leaders feel that introduction of this topic could result in a higher incidence of pre-marital sex.

c. Marriage

In the Study Area, customary law allows polygamous marriages. In fact, in some communities, polygamy is still practised but not as common as in the past. It is prevalent among the older people (over 40 years of age) in Kericho and Bomet. It brings prestige and stature. It was also tolerated for husbands whose wives just gave birth because sex during the next 12 months after delivery was forbidden. Nowadays, however, religious law does not allow polygamy. The economic difficulties make it impractical to maintain more than one wife.

12.3.4 Economic Context

a. Income and Expenditure

Generally, the mean income for each district in the Study Area is half of the national average (Table 2.1). Compared to the national average of male monthly income (2,869 Ksh), the averages for the Study Area would only be about 1/3 to 1/2. Surprisingly, the income of female Kisii/Gucha (1,146 Ksh) is far better than the

national average (913 Ksh). However, the income for women in Bomet is very low at 344 Ksh.

In most districts, the average total expenditure exceeds the average total income. This result would require further validation as the survey respondents might have overstated their expenditure and understated their income. Nonetheless, when households have less income than their expenditure, they depend on assistance from their working children, relatives, or friends either in the form of soft loans or gifts. In other cases, households borrow money from commercial institutions or the local self-help groups.

b. Major Economic Activities and Agricultural Products

The types of major economic activities and income sources depend on geographical characteristics of various sections of the Study Area. Generally, remote/marginal areas depend mostly on agriculture while township/market centres have diversified sources of income. For example, regular and casual employment and informal small-scale business ("jua kali") are found more often in Kisii and Kericho.

Table 12.5 Composition of Income Sources

District	Salary/Wages	Business (Self-employment)	Agriculture
Kericho	26%	10%	64%
Nyamira	15%	9%	76%
Kisii	14%	14%	72%
Gucha	16%	8%	76%

Source: JICA Study Team: Household surveys (50 households sampled at each district)

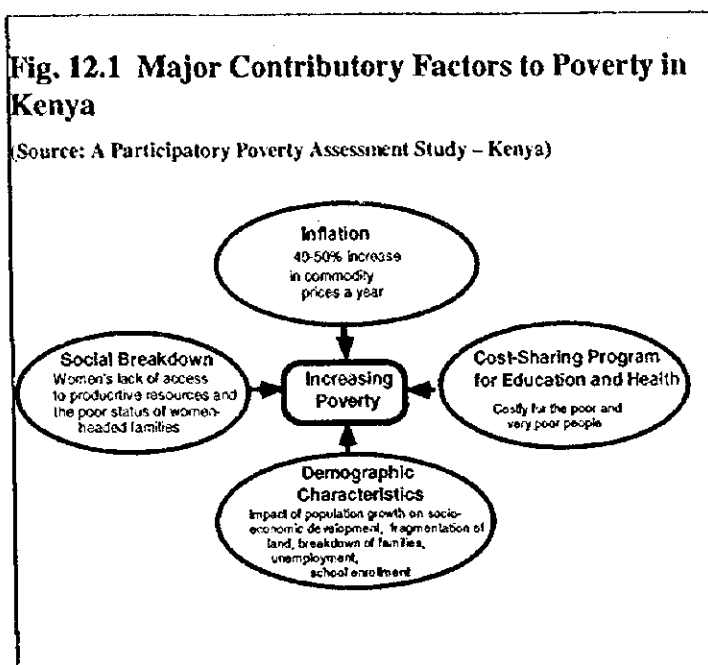
Note: The percentage of income sources by economic activities varies per community sampled in the 5 districts. Averages above show general views of each district. No data collected for Bomet.

As shown in the above Table 12.5, 64-76 % of the households depend on agriculture as the main source of income. The rich soil and the high and evenly distributed rainfall support farming of both cash and food crops. Maize is the major crop that yields the highest amount; on the other hand, fruits and vegetables yield the least amount. Tea is considered as a "high value crop" which brings good return to farmers. The major portion of the agricultural income for farmers is derived from tea⁵. For example, 75% and 40% of the households surveyed in Nyamira and Gucha, respectively, grow tea. Other major cash crops are coffee and pyrethrum.

Another important source of agricultural income is dairy farming. Raising of cattle is common. Milk is one of the income sources for small farmers in the Study Area. Meat and eggs are being sold in the market instead of being served in the dining table.

⁵ It is reported that the average farmer in Nyamira produces about 2,000 kg of tealeaf per year. For the year 1997, the average price of tealeaf per kg was 10 Ksh although it varied from one Kenyan Tea Development Authority (KTDA) tea factory to another. Especially, Tea Bonus paid by KTDA on a basis of amount and quality of tealeaf is a part of important cash incomes for crop shareholders (farmers).

12.3.5 Risk of Poverty



According to the *Poverty Assessment Report of 1994*, 86.7% of the respondents think their future situation will be worse.⁶ Four factors are hypothesised to explain the respondents' bleak perception of their future. These are the major contributory factors to poverty:

inflation wherein prices of commodities increased by 40-50% in a given year;

social breakdown refers to limited access of women to productive resources;

- 1) rapid population growth; and
- 2) cost-sharing programme for health and education services puts heavy burden on the poor and the very poor.

12.4 PLANNING ISSUES AND DIRECTION

Based on the discussion in the previous sections, at least five issues could be considered in the development of the Master Plan and Program of Action.

One, women are expected to play significant and multiple roles in health and health-related activities at home. However, they have many responsibilities that compete for their limited time. They hardly have any control over household resources. They have limited chance to own land that would serve as the primary source of household food and income. They also have more limited access to education.

Two, there are self-help groups in the Study Area wherein women, young people, and church-members could participate actively. But, women's responsibilities at home sometimes would make involvement in such groups difficult.

Three, the burgeoning population in the Study Area would continue to exert a significant pressure on the allocation of resources at the household and community levels.

⁶ AMREF, UNICEF and ODA, A Participatory Poverty Assessment Study-Kenya, 1995, p.9. In the national study, 5 villages of Bomet and Nyamira districts were selected as samples.

Four, people in the Study Area seems to engage in sexual activities early in life. Considering that health and sex education are hardly provided at home or in school nowadays, the young people in the Study Area might be exposed unnecessarily to early and unwanted pregnancies, HIV/AIDS, and other sexually-transmitted diseases.

Five, it seems people in the Study Area are in worse off condition, in terms of income, than the average Kenyan population. Although agriculture remains the main economic activity, about half of the residents reported inadequacy in their food supply. Worse, almost nine out of ten people surveyed in 1994 expressed a bleak view of their future.

Considering the five socio-economic issues, the following directions for planning are proposed:

- investment in the development of women's capacity;
- diversification of community-based self-help group activities, with emphasis on those organised by women's groups;
- improvement in standards of living in rural communities through introduction of "Home Economic Improvement" activities; and
- health education for adolescents with the involvement of communities and schools.

Suggestions for specific projects are, among others, as follows:

- dissemination of knowledge, increasing awareness and promotion of practices on health and hygiene;
- promotion of health education and primary health care, in general, at community level (Fig.12.2);
- promotion of healthy living environment;
- strengthening of the district child survival programme; and
- enhancement of institutional capacities in managing HIV/AIDS programmes and other promotive/preventive activities.

Chapter 13

Public Utilities for Health

13 PUBLIC UTILITIES FOR HEALTH

13.1 WATER SUPPLY

Availability of water supply is important not only for the operation of health facilities (refer to Chapter 11), but also for ensuring a healthy population. Although mortality due to diarrhoea has been declining, waterborne diseases¹ and vector-related diseases continue to be one of the top causes of morbidity. Good management of the existing water facilities, therefore, becomes a crucial issue.

13.1.1 Quantity of Water Supply

In spite of relatively high precipitation (1,200 - 2,000 mm / year) and high potential of both surface and underground water in Study Areas, shortage of water is observed in many locations. Although the production of water has been increasing, the supply remains insufficient for the growing demand. Moreover, many of the projects aimed at expanding and rehabilitating the existing water supply system can hardly be implemented because of lack of fund.

a. Urban Water Supply

Every urban water supply system is over utilised. This causes premature ageing of the supply system, shortage of pumping sets and frequent breakdown of pumping units that interrupt the normal functioning of water supply systems.

b. Rural Water Supply

In rural areas, the principal source of water is spring (Table 13.1). However, many people still collect drinking water from unprotected spring in as much as the construction materials for protection would cost about 25,000 Kshs. This amount is

¹Four types of communicable diseases associated with water are defined as:

water-borne diseases:	diseases caused by water, either for drinking or food preparation, that is contaminated by human or animal faeces/urine containing pathogenic micro-organisms, e.g. cholera, typhoid and hepatitis A;
water-washed diseases:	diseases caused by use of infected water for domestic purposes other than drinking, e.g. trachoma and fungal infections of the skin;
water-based diseases:	diseases caused by parasitic worms which depend on aquatic intermediate hosts, e.g. schistosomiasis and bilharziasis;
water-related vector borne diseases:	diseases transmitted by insects breeding in water, e.g., malaria, yellow fever, dengue, onchocerciasis and West African sleeping sickness.

more than the average annual household income. For this reason, some donors such as DANIDA assist community in securing construction materials. The local people then provide labour as their counterpart.

Some residents fetch water from rivers/streams. Boreholes provide water in some divisions such as in Nyamarambe of Kisii and Borabu of Nyamira. It is interesting to note that the use of ground water is not common in the Study Areas.

During the wet season, the average time to fetch water from river or stream is 30 minutes for a distance of half a kilometre. In dry season, the people may have to walk farther for an additional 10 minutes. Most household heads consider fetching water as women's or girls' work.

Management of water spot varies by community. In some villages, water sources are cemented to prevent animals from polluting them. In other communities, many people wash their clothes and bath at water points.

Table 13.1 Percentage of Households Using Different Types of Water Sources During Wet and Dry Season

District	Season	Protected					Unprotected			
		Spring	Rain Water	Borehole	Shallow Well	Piped Supply	Spring	River/Stream	Shallow Well	Lake/Dam
Kisii / Gucha	Wet	43.0	10.9	0	0.7	3.6	36.3	4.3	1.2	0
	Dry	44.9	0.2	0	0.6	3.6	39.6	10.4	0.7	0
Nyamira	Wet	27.4	4.8	1.6	0.7	3.8	53.6	6.9	1.1	0
	Dry	29.8	1.1	1.6	0.7	3.8	53.9	8.0	0.7	0.2

Source: District Water and Sanitation Development Committee (DWSDC). Water and Sanitation Baseline Survey Report (Kisii and Nyamira), 1996.

Roof catchment is another way to increase water supply in rural area. However only a few households have roof catchment and water-storing system probably because of the high construction cost (Table 13.2). In collaboration with NGOs, SIDA and other donors assist communities in buying the construction materials. In such a programme, the communities offer labour for the construction.

Table 13.2 Construction Cost of Roof Catchment Water Tank

Type of Water Tank	Cost (Kshs)
Cement water tank (diameter = 9 ft.)	35,000
Cement water tank (diameter = 12 ft.)	55,000
Water jars (5,000 litres)	17,000
Total	107,000

Source: Interview with District Public Health Officers and District Water Engineers

13.1.2 Storage and Treatment of Drinking Water

The most common means of storing water is by using pots, plastic buckets, and jerricans, in descending order. Few households use water tanks.

Majority of households in rural area (estimated 25-50%) takes untreated water (Table 13.3). This may be attributed to some beliefs such as the following:

- drinking boiled water is bad for the stomach;
- rainwater is not polluted and thus safe to drink without boiling (ignorance of container pollution); and
- water that is stored for more than a week would have no pathogen.

Table 13.3 Percentage of Households Using Different Water-Treatment Techniques

Districts	Boil	Filtering	Chlorinate	Nothing
Kisii	48.8	1.8	1.7	48.9
Nyamira	65.2	4.4	1.7	28.8

Source: District Water and Sanitation Development Committee (DWSDC). Water and Sanitation Baseline Survey Report (of Kisii and Nyamira), 1996.

According to an investigation held in Kisii district, the custom of boiling relates significantly to the educational level of heads of household (Table 13.4).

Table 13.4 Percentage of Households Using Water-Treatment Techniques by Educational Level of Household Heads (Kisii)

Level of Education	Boiling	Filtering	Chemical	Others	Nothing
None	32.8	3.2	0	1.1	62.9
Std 1-4	46.6	3.4	0	0	50.0
Std 5-8	53.0	0.9	0	0	46.1
Form 1-2	59.2	2.0	0	0	38.8
Form 3-4	60.4	1.1	1.1	1.1	36.3
Form 5-6	100.0	0	0	0	0
University	100.0	0	0	0	0

Source: District Water and Sanitation Development Committee (DWSDC). Water and Sanitation Baseline Survey Report (of Kisii), 1996.

13.1.3 Monitoring of Water Quality

The Ministry of Water Development has a periodic monitoring system of main rivers and streams of surface water. Samples of water are sent to laboratory in Nairobi or Kisumu to check turbidity, colour, pH, hardness, alkalinity, chlorides, fluorides, sulphates, nitrates, free carbon dioxide and other toxic substances. Only upon request

by other organisations would the Ministry of Water Development monitor other sources. There is no periodic monitoring activity of water quality of springs and water tank for both private and public facilities.

13.2 WASTE MANAGEMENT

13.2.1 Toilet Facilities

More than 90% of the households in Kisii, Gucha and Nyamira have pit latrines (Table 13.5). However, many of the latrines are not in good condition (Table 13.6). Some are poorly situated because they are built close to water wells, thus, increasing the chance of water contamination. The declining land area owned by families has contributed to toilets being too close to wells and springs.

Table 13.5 Percentage of Households with Access to Different Toilets by District

Districts	Pit Latrine	VIP	Pour Flush	None
Kisii	93.3	0.6	0.1	5.6
Nyamira	92.9	0.9	2.6	1.6

Source: District Water and Sanitation Development Committee (DWSDC). *Water and Sanitation Baseline Survey Report (of Kisii and Nyamira), 1996.*

Table 13.6 Maintenance Status of Toilets (Percentage)

District	Well Kept	Dirty	Littered with Excretion	Cracked / Old
Kisii	46.8	27.6	7.6	16.6

Source: District Water and Sanitation Development Committee (DWSDC). *Water and Sanitation Baseline Survey Report (of Kisii), 1996.*

Although it is effective in preventing the breeding of flies, the VIP seems to be unpopular in Kisii and Nyamira Districts. This can be attributed to its high cost of construction. The cost varies from 17,000 to 25,000 Kshs, which is equal or sometimes greater than the average household annual income. The ongoing Water and Sanitation Project, implemented by various NGOs and funded by international donors, addresses the issue of economics. It recommends a unique method of encouraging people to use materials available at households (e.g., sticks, poles, and iron sheets) to make VIP latrine affordable. If available material is insufficient for construction of one latrine, the NGOs recommend the use of a mixture of materials. This method can reduce the cost of construction to about 8,000 Kshs.

13.2.2 Sewerage System in Urban Area

Sewerage system is already available in Kericho town whereas its construction in Kisii town and Suneka Market will be completed soon. Once operational, the sewerage system may rapidly increase the water demand.

13.2.3 Solid Wastes

District authorities have the responsibility of managing solid wastes. Current disposal method of solid wastes from residential area and market centre is open dumping. Most of the dumpsites are located in upper-stream of rivers. Solid wastes of hospitals are either incinerated or dumped within the premises. In rural areas, some households burn their domestic waste but the majority disposes it on the farm as manure or scatter it everywhere. There is no community effort aimed at cleaning the environment as in many urban settlements.

13.2.4 Community Participation for Environmental Sanitation

For environmental sanitation projects, the following activities are being conducted with the active participation of the community (Table 13.7):

- construction of water points;
- water point management;
- organisation of a management committee; and
- opening a bank account to support operation and maintenance cost.

Table 13.7 Percentage of Water Facilities with Own Management Committee and Bank Account

District	Management Committee			Bank Account		
	No Answer	Yes	No	No Answer	Yes	No
Kisii	29.2	51.5	19.4	38.5	17.2	44.2
Nyamira	15.6	41.3	43.0	28.2	7.3	64.4

Source: District Water and Sanitation Development Committee (DWSDC). *Water and Sanitation Baseline Survey Report (of Kisii and Nyamira), 1996.*

13.3 ROADS

The availability and conditions of roads would influence people's access to health services. In the Study Area, there is an extensive network of roads (Table 13.8) such that there is less than 1 kilometre of road per square kilometre of land area. Among the five districts, Nyamira has the best road coverage with 0.7 km per square kilometre.

However, many of the roads are in poor condition. They become impassable particularly during the wet season.

Despite the extensive road network, this Study estimated, using multiple criteria (Table 13.9), that more than 5.5% (150,000) of the total population still have limited access to health services. In terms of the total land area, about 7.4% are considered to be inaccessible.

Table 13.8 Road Classification and Conditions

District	Total Road Length (km) by Road Class*							Condition		Area (km ²)	Total Road: Area Ratio
	A	B	C	D	E	Other	Total	Wet Season	Dry Season		
Nyamira	0	18.0	88.7	161.3	137.4	209.2	614.6	Bad	Bad	879.0	0.7:1
Kisii & Gucha	31.0	32.2	104.4	138.5	374.4	379.8	1,058.3	Bad	Bad	7,202.1	0.3:1
Kericho	0	97.0	49.2	59.9	205.1	N/A	227.7	Bad	Bad	2,515.0	0.3:1
Bomet	0	62.0	130.6	216.2	327.3	304.2	1,040.3	Bad	Bad	1,835.0	0.3:1

*Road Class: A: international trunk road; B: national trunk road; C: primary; D: secondary; E: Minor; Others: rural access road, tea road, etc.

Source: Ministry of Public Works and Housing.

Table 13.9 List of Inaccessible Areas by Physical and Social Barriers

District	Area	Lack of Road	Poor Road	Lack of Transport	Topographic Barriers	Insecurity	High Transport Cost	% of Total Pop.	% of Land Area
Kericho	Kapsorok		x	x	x		x	4.1	6.3
	Kapseger		x	x			x		
	Kebenet		x	x			x		
Bomet	Lilaitich		x	x	x	x	x	3.7	7.8
	Chebunyo		x	x	x	x	x		
	Kapkolei		x	x					
Kisii	Sensi		x	x	x		x	3.5	4.5
	Metembe		x	x	x	x	x		
Nyamira	Biticha		x	x	x			4.9	9.1
	Mokomoni		x	x	x		x		
	Isoge/Kineni		x		x	x	x		
Gucha	Boochi		x	x	x		x	13.9	11.7
	Kiango	x		x	x	x			
	Nyangusu	x		x	x	x	x		
	Turwa		x	x	x		x		
	Bosoti		x	x	x	x	x		
Grand Total								5.5	7.4

Source: JICA Study Team. Interview with Road Officers for 39 Health Facilities, including four District Hospitals, 1997.

13.4 OTHER INFRASTRUCTURE

13.4.1 Energy

In the Study Area, the rural electrification programme has yet to reach many households. At present, electricity is used mainly at market centres and public institutions. Some of the health facilities, however, do not have regular supply of electricity. This is partly because of occasional insufficiency in rainfall considering that over 75% of Kenya's requirement come from hydro-electricity.

For lighting the house, paraffin is the most common. Wood and charcoal remain to be the main source of fuel for cooking. Specifically, 99 % of the households in Kisii and 90% in Gucha depend on firewood. Cooking stoves made of stone are very common. Some households use charcoal "jikos" and gas cookers. Cooking is done in a small kitchen that is often poorly ventilated so much so that women and girls, who are responsible for food preparation, are exposed to excessive smoke.

13.4.2 Post and Telecommunications

Last year, the Kenya Posts and Telecommunications Corporation (KPTC) launched several projects to improve and expand telecommunications infrastructure. It opened services to allow access to Internet. It provided customer helpline. It automated telephone exchangers. It implemented the Global System for Mobile Communication (GSM) and expanded public payphone services.

There is no telecommunication facility in majority of health facilities in the Study Area. In general, communication between one facility to another is on a person-to-person basis during actual visits.

Although a radio broadcasting station covers the Study Area, the health sector has not fully utilised the facility for public information, education, and communication campaigns.

13.4.3 Housing

The traditional type of houses are constructed with mud walls and grass roof, or brick walls and grass roof, while the improved traditional houses have mud walls and iron roof or timber wall and iron roof (Table 13.10). It seems the indigenous houses in rural areas are well designed to suit the environment. However, certain modifications can be introduced to improve ventilation and lighting, to make boiling of water more convenient, to have a better roofing and walling for the latrine, and to reduce the breeding places for flies and mosquitoes.

Table 13.10 Percentage of Households Using Different Types of Materials for the House Wall, Floor and Roof

District	Type of Wall			Type of Floor			Type of Roof		
	Mud	Cemented	Others	Mud	Cemented	Others	Iron Sheets	Grass	Others
Kisii	82.7	13.3	4.2	89.9	7.9	2.2	60.0	39.7	0.3

Source: District Water and Sanitation Development Committee (DWSDC). *Water and Sanitation Baseline Survey Report (of Kisii), 1996.*

13.5 PLANNING DIRECTIONS

13.5.1 Expansion and Rehabilitation of Water Supply Schemes – Short Term

Shortage of water will become more acute in the near future; thus, it is necessary to expand and rehabilitate existing water supply system. Beforehand, there is a need to rebuild the financial institutions for water management. Other measures for consideration are as follows:

- strengthening cost recovery system of water supply;
- expansion of water supply system in rural areas; and
- maintenance of the system by the communities.

13.5.2 Ensuring Availability of Safe Water – Short Term

As observed by the study, the activities that need enhancement are public education on sanitation and promotion of hygienic behaviours. The Public Health Staff (PHS) and Personnel for Preventive and Promotive (PPP), as well as some NGOs, have experiences in education and promotion programmes. Supporting their activities should be considered within the broader context of the entire public health services.

It is important to incorporate the views of NGOs and the community when planning a particular project. They can be encouraged to submit innovative proposals such as the following: establishment of a factory that would produce materials for spring protection, roof catchment and VIP latrine; organising the community to promote hygienic behaviour; and development of outreach education materials.

Schools are essential in promoting hygienic behaviours; hence, health education in school should be strengthened.

13.5.3 Expansion of Water Quality Monitoring – Intermediate Term

Regular monitoring of water quality is conducted for the main rivers/streams only. Monitoring of other water sources will be necessary in the near future especially those supplying health centres, schools and other public facilities.

13.5.4 Reduction and Classification of Garbage at their Sources – Intermediate Term

Classification of garbage and reduction of garbage at the sources will be needed in the near future. Some NGOs are trying to expand classification of garbage in big towns like Kericho. They recommend building collecting spots for inflammable garbage.

13.5.5 Preparation of Solid Waste Management – Long Term

Solid wastes landfill should be implemented in the future particularly in big towns like Kericho and Kisii. Landfill method requires minimal maintenance expense. It is more environmental friendly than the open-dump method. However, it is difficult to implement because of the problems in site selection. Local governments always take a long time to get the support of residents. Thus, sufficient time for this purpose should be allocated during future planning.

13.5.6 Improvement of Road Network – Medium Term

To improve access to health services, there is a need to develop in inaccessible areas some essential infrastructures such as roads and bridges. On the hillsides, it would be good to construct stairs as footpaths.

Chapter 14

Medical Anthropological Issues and
People's Knowledge,
Attitude and
Practice
(K.A.P.)

14. MEDICAL ANTHROPOLOGICAL ISSUES AND PEOPLE'S KNOWLEDGE, ATTITUDE AND PRACTICE (KAP)

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

14.1.1 People's Knowledge on Health

a. Concept about Health and Disease

Both the Kipsigis and Gusiis define health as a state whereby a person feels well and is able to perform and attend to his usual or normal chores. The body functions normally and the person feels robust.

Disease, on the other hand, is described as pain and other bodily discomforts which incapacitates the individual's normal, physical, biological, emotional and social functioning. It is a state in which a person becomes incapable or unable to perform normally as a result of bodily disorder, pain and/or weakness.

b. Causes of Diseases or Ill-Health

Among the Gusiis people, diseases (*amarwaire*; sing. *oborwaire*) are believed to be due to a number of reasons. When a person falls sick or even dies, the Gusiis people tend to attach a human-induced cause to the case. The Gusiis believe that witchcraft is responsible for certain medical problems. These include mental disturbance (*ebarimo*), infertility (*obogomba*), and developing a chronic wound (*rikwege*; pl. *amakwege*). Another problem resulting from bewitching (*ogokonwa*) is epilepsy (*endurume*) and evil eye (*ebibiriria*).

Equally important are the supernatural causes of disease. In the realm of the supernatural, diseases may be caused by ancestral spirits (*chisokoro*; sing. *esokoro*). The anger of ancestral spirits may be expressed through evil spirits (*ebirecha*; sing. *ekerecha*). If, for example, a father is not buried properly on his death, his spirits could become angry and affect a family member. This would result in madness (*ebarimo*) or make a woman barren/infertile (*omogomba*; pl. *abagomba*) or cause a child to contract epilepsy (*endurume*).

Certain diseases are believed to be inherited (*ororeria*). A good example is liver cirrhosis (*enyaini* or *endonge*). The liver enlarges and hardens ultimately developing a wound.

Another cause of disease and ill health among the Gusii people is breaching taboos, taking perjured oaths, and sexual offenses, especially adultery. These sets of offenses draw the anger of ancestral spirits which administer punishment. Adultery is punished by the disease called *amasangia*. The actions of an adulterous woman affect her husband and children and may cause death. Men's extramarital relations with married women is also held in check by *amasangia*.

Finally, the Gusii people believe that disease may be caused in a naturalistic way. *Enyamo* or *omwaga* is a problem of bad air which attacks children and adults. The primary symptom is an allergy demonstrated by swelling all over the body. It is believed that changes in seasons may bring bad air from distant lands.

The causation of diseases among Gusii people has similarity among the Kipsigiis. Most respiratory diseases such as tuberculosis, coughs and colds, and pneumonia are attributed to exposure to cold wind, rain, dust and other elements of nature. Sexually transmitted infections, including HIV/AIDS, are attributed to individual's immoral behavior. Malaria, diarrhoea, amoebae and typhoid are believed to be related to contaminated water and food.

Another classification of diseases among Gusii people includes those that occur as a result of breach of societal norms and taboos. For instance, society prohibits stealing and murder. Even though this may be done in secret the guilty individual may never escape the wrath of the supernatural. Punishment is manifested in form of illness and/or death. Some diseases and sudden death are believed as manifestations of witchcraft often masterminded by one's enemies.

Although we attempted in the above section to delineate clear disease etiologies, in reality, causes of diseases were not always clear. For instance, the community postulates that, besides unclean water, certain food causes malaria. Their concept of the causes of malaria did not always reveal clear understanding of the link between water and mosquito. Some people thought drinking unclean water or eating certain foods caused malaria.

Some people even maintain contradictory explanations to diseases. The communities' perceptions of health and disease contrast with their knowledge and behavior. For instance, although the people know typhoid and amoebae are caused by drinking untreated water, there is also a belief that drinking boiled water too frequently causes stomach illness.

While some person may view one disease as a punishment for sexual, aggressive, property and ritual offenses, the other person may blame it on the unwarranted malevolence of others. This is what makes them pragmatic about treatment and willing to try anything that promises help and that has the confidence of someone they respect. When one remedy fails, they try another, running through injections, tablets,

sacrifice and sorcery with no feeling of inconsistency. The result is a rather diffuse pattern of therapy-seeking behavior among the people.

c. Traditional Beliefs

There are a number of problems which have persisted among the Gusii people because of their indigenous medical beliefs such as the following:

The Gusii people believe that a case of measles (*omokururo*) should not be referred to the hospital if the rash has not erupted. It is believed that if an injection is given before the rash comes out, the child will die. In most cases, therefore, children with measles are taken to the hospital only when complications have developed.

The Gusii people believe that infantile diarrhea can be caused by the development of abnormal milk teeth called *ebisara*. *Ebisara* are canine teeth in the process of erupting. Because such teeth are believed to cause diarrhea, they are extracted by an expert. The extraction is done without anesthesia and causes the baby a lot of pain. In some cases, the removal of *ebisara* is followed by serious infections of the gums. There are cases where removal of *ebisara* destroys the roots of the permanent teeth which therefore do not appear at all.

The Gusii people believe in a phenomenon called "evil eye" (*ebibiriria*). It is claimed that the condition is brought about when a person who has *ebibiriria* looks at a child. It is said that by looking at the child, the person with *ebibiriria* causes small objects like soil, flour, hair and even finger-millet to enter the child's body. The child's temperature rises and breathing becomes difficult. When the child's body is rubbed with oil, the small objects come off. Some medical experts believe that *ebibiriria* is pneumonia, but others seem unsure about it. *Ebibiriria* is never referred to the hospital, and many children have died of this condition.

The demand for children is very high among the Gusii men and women, because childlessness is believed to be a sin-consequence for perjured oaths, punishment for breaching a taboo or custom, and displeasure of the ancestors for failing to appease them. The resulting high population growth rate in Gusii area has put high pressure on the provision of health services.

Female genital mutilation (FGM), widely known as female circumcision, is often considered as one of the most harmful traditional practices in the Gusii area, which negatively affects the physical and psychological well-being of girls and women.

In the Kipsigis community, there are also cultural taboos and beliefs related to illness that are still observed especially by the elderly members. For example, pregnant women should not eat eggs, sweet potatoes, chicken, sugarcane nor honey, because it was believed that such foods would make the baby too big and thus cause complications during delivery. Milk should not be boiled, since this is equivalent to burning a cow. Milk should, therefore, be taken raw. Many Kenya communities commonly perceive that water from a river is always safe to drink. The Kipsigis have a saying "*Toiyon beek*" whose direct translation means "water is clean". The Kikuyu equivalent is "*ma ruui matiri mugiro*" which directly means "river water has no taboo, it is safe". This does not apply in modern community whereby effluents are drained into rivers. This saying should be replaced with "water is polluted."

These beliefs and taboos are relevant to health and illness from several perspectives. For instance, some are meant to protect people from potential dangers. Others enhance harmony in the community, which serves as a social control to reduce social evils in the community such as theft, homicide, quarrels, fights and threats over valued property such as land and livestock. Some of the food-related taboos are meant to avoid allergies and protect the expectant mother, while others make sense from the point of view of public health. For instance, prohibitions from sitting on the grinding stones, or on the cattle manger could be meant to avoid contaminating these places with human fecal matter.

14.1.2 People's Health-Seeking Behaviours

In general, people's health-seeking behavior appeared to be determined by distance, access and the seriousness of the disease. People go to the nearest health facility when they are sick, regardless of the cost if the disease is serious, but they might go to the district hospital if the disease was not serious even if it meant longer traveling time and additional cost.

When people fall sick, a behavior pattern is developed to cope with the situation. In most cases, they start with self medication at domestic level, e.g. taking warm water, salt solutions and avoiding certain foods such as fats and milk in the case of abdominal upsets and so on. If relief is not obtained, they buy medicines from local shops, and only after this, they would seek outside assistance.

During a focus group discussion with youth, this behavior pattern is summed up thus:

“The first thing a person does when they are sick is to take tablets bought from the local shops. This applies to diseases like malaria, coughs and colds and suspected STDs. STDs are treated with local herbs bought from the traditional healers. If the disease persists, the patient seeks treatment from private or public health institutions.”

Asked to estimate the proportions of patients who seek the services of the various health resources, the youth group reported that 5% of the community seeks the services of traditional healers, 25% go to the private sector, while 70% go to the public health institutions. This tallies with the ranking of use from household data where institutional health services came as a top of the list.

It is necessary, however, to take such data with caution, since the majority of Kenyans do not openly admit that they seek the services of healers. This is due to colonization and Christianity which condemned all traditional practices and behavior as primitive and devilish. Nyamwaya (1996) and Sindiga et al (1995), who maintain that traditional medicine is widespread in the Gusii community, confirm this. In addition to this, the focus group discussion participants explained that traditional herbs are usually taken as First Aid, before people seek specific treatment from health institutions.

In the focus group discussions, the female participants unanimously agreed that there are diseases whose etiology and presentation can only be managed traditionally, such as spleen and liver conditions, polio, whooping cough, stomach disorders and ulcers. Table 14.1 summarizes the people's choice of health providers according to disease conditions.

Table 14.1 Choice of Health Providers by Disease Condition

Health Provider	Disease Condition
Modern (dispensaries, health centres and hospitals)	Malaria Diarrhea Headaches Meningitis STD Pneumonia Typhoid Chest pain
Mobile Units*	Pregnancy related conditions
Private Clinics	Malaria; Wounds
Herbalists / healers	Whooping cough Swelling of legs and feet Cancer, polio Swelling of the spleen Diseases associated with witchcraft and curse Liver General abdominal illnesses

* Only Tenwek Mission Hospital had a well established mobile unit service.

Concerning the decision as to which health facility is to be visited, the husband or in the absence of a husband, the one who is paying for health services makes the decision. As the women put it "this depends on the pocket" that is, he who holds the purse calls the tune. At a private hospital in Kisii town, the women clearly voiced their interests. They pointed out that although men have the control of family resources, disease will not wait until he can sell land to pay the hospital bill. This showed an increasing awareness that the health of the family should come first.

In general, people reportedly prefer modern health services both at dispensary and district levels, because they cost less, sometimes as little as Shs. 20 at the local dispensary and about Shs. 200 at the district hospital; while the average cost at the main private hospital (e.g. Tenwek Mission Hospital) is about Shs. 5,000 - 20,000 for in-patient services. However, in spite of the high charges people show preference for Tenwek Mission Hospital, because they trust the level of treatment provided. Patients who visited Tenwek Mission Hospital come from most of the five districts in the study area.

Another factor that influences people's choice of health services is the health provider's behavior. The government health providers were often described as rude, and give out pain-killers even for complicated problems, and therefore the patient has to go where his needs can be met adequately irrespective of the cost, distance and

other inconveniences. Focus group discussion participants reported that at the public facilities, "Patients are scolded and given only prescriptions instead of drugs!"

Some private clinics are run unscrupulously by people whose aim is to make money. Drugs given in some of these facilities are allegedly often expired, but, in the public health centres, there are often no drugs and therefore the people are left with little option but to go where they can obtain drugs. Private chemists are making a booming business out of the plight of patients. Visits to the private pharmacy shops revealed that some of the so-called private pharmacists were not qualified for the job.

While people reportedly prefer modern health facilities, it is also common knowledge that the majority also visit traditional healers secretly for ritual cleansing and to receive protective charms for conditions such as evil eye and other socially perceived illnesses such as 'Amasangia'. The majority of the people were acquiescent to using modern health service alongside the indigenous ones. In all the districts, few people openly admitted to using indigenous services, probably to avoid reproach.

The indigenous health providers also are viewed as the only alternative, especially for protective purposes and healing of diseases that are believed to be caused by witchcraft. Even common diseases may be viewed as caused by a jealous neighbor who practices witchcraft or evil eye, thus causing dependency on the traditional healers, because people believe that these diseases cannot be treated using modern medicine, or else death may occur.

14.1.3 Media for Health Education

Although many mass campaigns related to health has been conducted through posters and radio in the study area, there is disagreement on their effectiveness.

Some people indicated that there had been an effective campaign to improve people's knowledge and promote new behaviors on health. The common ones are the campaigns for HIV/AIDS, oral polio, immunization such as hepatitis, personal hygiene, nutrition and disease prevention. The popular methods used for health education are posters, radio programs, films, and lectures by health personnel at village chief's "barazas", health facilities, church assemblies, plays or concerts.

But some people stated that not all people believe what they hear on the radio terming it propaganda, and they gave an example that when people first heard about AIDS, they did not believe it was real. It is only when many people have died of it that they believe. Similarly, we can find many posters on AIDS in the study area, but 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, in order to effectively convey health-related messages.

14.2 TRADITIONAL HEALTH PRACTITIONERS

14.2.1 Among the Gusii People

As mentioned in previous section, some of the people in the Study Area still continue to patronize the traditional medical system. They would take traditional herbs singly or in combination with western medicines and seek the help of traditional healers. This section would briefly describe the various types of traditional health practitioners

The Gusii traditional medical system comprises several specialists. The basic traditional healer is *omonyamete*, literally herbal dispenser. He or she is found everywhere and usually dispenses herbal remedies. The healer who deals in love charms is called *omoebia*. The other specialists are listed in Table 14.2.

Table 14.2 Major Categories of Gusii Traditional Health Practitioners

Category		Function
Singular Form	Plural Form	
Omonyamete	abanyamete	herbalist
omoragori	abaragori	diviner
omoriori	abarioti	one who unearths magic witchcraft materials and medicine ("witch smeller")
omorabi	abarabi	traditional birth attendant
omobari	ababari	surgeon
omosari	abasari	circumcisor
omoromeki	abaromeki	one who performs localized blood letting to relieve pain.
omoebia	abaebia	dealer in love medicines
omwati	abati	undertakes autopsies
omonyibi embura	abanyibi embura	rain maker
omokireki	abakireki	one who uses medicines to prevent disease and misfortune.
omobani	ababani	one who foretells the future.
omonyamosira	abanyamosira	sorcerer

14.2.2 Among the Kipsigis People

Various types of traditional health practitioners among the Kipsigis people are summarized in Table 14.3.

Table 14.3 Traditional Health Practitioners among the Kipsigis People

Traditional Health Practitioner	Kipsigis name	Prevalent sex
Herbalists	Chepkerichot	Both sexes (50% each sex)
Witchdoctors	Chepsogeiyot	Both sexes (females slightly higher than males)
Fortune tellers	Orgoiyot	Males only
Traditional birth attendants (TBAs)	(no special name)	Older females only
Female circumcisor	Chebabor	Females only

The most respected traditional health practitioners (THP) is the herbalists (*Chepkericho*) because of the essential service they offer. Traditional birth attendants (TBAs) and fortune-tellers are respected, too, but this respect does not supersede that of the herbalists. The most frightening THP is the witchdoctor (*Chepsogeyot*) due to their perceived ability to cause harm to people using supernatural powers. On the other hand, the frequently consulted are the traditional birth attendants (TBAs) were the traditional health practitioners whose services were sought for most by the people, followed by the herbalists.

But as people realized the better services provided by health centres and other institutions, changes are forthcoming. Herbal medicine is now more commonly sought than TBA services. Some retired nurses work as TBAs or female circumcisors at home.

14.3 FEMALE CIRCUMCISION

14.3.1 The Practice

The practice of female circumcision is still quite prevalent in different parts of Kericho and Bomet districts. In areas where the literacy level is still low like Chepalungu in Bomet, 80-90% of all females still get circumcised. In Kericho district, where people are on the whole more literate, the prevalence is approximately 30-40% of all females. These are rough estimates to give an idea of the prevalence of female circumcision. What appears clear is that the prevalence of female circumcision is inversely proportional to the literacy level. It tends to be more prevalent also in areas of Bomet district bordering Gusii, and in the Masai communities where the practice prevails.

In the Kisii and Gucha Districts, the studies carried out by an American NGO called the Program for Appropriate Technology in Health (PATH) and the local group called Maendeleo Ya Wanawake Organization (MYWO) in 1991/1992 showed that 98 percent of interviewed women over the age of 14 have been circumcised, often in very unhygienic conditions.

Although the practice of female circumcision is prevalent in all communities under the Study Area, there are slight differences between the Gusii and Kipsigii people. The Gusii people circumcise their girls at a younger age; sometimes below 10 years, but on the average between 8-12 years old. For the Kipsigis, circumcision is done in preparation for marriage and transition from childhood to adulthood. The circumcised girl is expected to discard all childish behavior and behave and even think like an adult. For the Gusii, the main idea for female circumcision was as a transition from childhood to adulthood and also to reduce libido among girls.

14.3.2 The Trends

Even though most of the circumcised women experienced complications attributable to female circumcision, more than 65 percent expect their daughters to be circumcised. This can be attributed to the many general community enforcement mechanisms that support the practice to continue. There are myths regarding female circumcision: the husband of an uncircumcised girl will die; the midwife who helps uncircumcised women's delivery can go blind; the baby will be abnormal; the genitals will grow uncontrollably; uncircumcised girls will be immature and tiny.

However, the quantitative findings of the study conducted by PATH and MYWO indicate that while the prevalence of the practice is still high in Kisii and Gucha Districts, female circumcision is on a downward trend. For example, 78 percent of teenage girls have been circumcised, as opposed to 100 percent of women 50 years and older.

14.3.3 On-going Eradication Program

In the Gusii area, an American NGO called the Program for Appropriate Technology in Health (PATH) sponsors female circumcision eradication programs in Kisii, Gucha and Nyamira Districts. PATH works with Maendeleo Ya Wanawake Organization (MYWO) in Kisii and Gucha Districts, and the Seventh Day Adventist-Rural Health Services (SDA-RHS) in Nyamira District. These programs employ an approach that empowers the local communities, especially the affected women, through the information, education and communication (IEC) activities, which was inspired from the successful female circumcision eradication program in Nigeria. In Nigeria, the National Association of Nigerian Nurses and Midwives (NANNM) successfully mobilized their members at the community level to educate the Nigerian public about the harmful effects of female circumcision.

Despite advocacy by MYWO and SDA-RHS, it is reported that so far only a few people in the district have stopped circumcising their daughters. What is apparently slowing down the trend towards ending the practice is the lack of openness among the anti-female circumcision crusaders. Focus group discussion participants reported that some community leaders such as MYWO representatives, who preach against the practice, are known to take their girls for the operation secretly. This double standard attitude among the community leaders discourages community members who might like to adopt an anti-circumcision stand.

14.4 PLANNING DIRECTION AND POSSIBLE INTERVENTIONS

14.4.1 Planning Direction

In this section, the key recommendations regarding the indigenous health care system, beliefs and practices related to health development are described.

a. Indigenous Health Care System

The indigenous approach to health care emphasizes community and individual participation in health care. Modern health services tend to provide services which make the community and the individual only passive receivers. This has led to the failure of several projects aimed at improving the health of the people. The government has much to learn from the indigenous health care system especially with regard to the management of the services.

Western trained health workers should be assisted to acknowledge and, where possible, exploit the indigenous concepts of delivering the health services. The same concepts can be applied to the delivery of western health services. It is suggested that health workers should be given the proper orientation regarding indigenous health concepts and practices in the locality where they are working.

There is the need to educate the modern health workers on the relevance of socio-cultural and economic factors in the delivery of health services. Proper information and understanding about the culture of the local people will enable the health workers to provide more acceptable services to the local population by reducing the social distance between health providers and patients which has been one of the major reasons for the people's preference to traditional healers than government health providers.

b. Traditional Healers

Of the many types of traditional healers, the herbalists, bone-setters, trephining experts and traditional birth attendants deserve further attention. These experts are usually well-trained and perform very useful functions in the local communities. In line with the Primary Health Care (PHC) approach which emphasizes the use of local resources, these local health experts should receive some re-training so that they can overcome some of the problems they face in their practice. Most of these traditional healers are quite willing to undergo any training aimed at improving their service. In contrast, those specialists who deal with interpersonal and spiritual forces in illness are in no hurry to be recognized by the government.

Official recognition of these healers is also necessary. A license from the government would allow one to practice freely without any fear of government officials. Currently the Ministry of Culture and Social Services registers herbalists but the Ministry of Health should train traditional healers and issue official licenses to those trained.

Some traditional healers said that they need the cooperation of hospital staff when they carry out operations. The hospital can supply anesthesia and antiseptics in such a case.

Psychiatric services are non-existent in the western health services in the study area. Indigenous healers have something to contribute to the establishment of these services. Most psychiatric problems arise from socio-cultural stresses which the indigenous healer understands quite well.

c. Female Circumcision

To eradicate harmful traditional beliefs and practices such as female circumcision, large scale information, education and communication (IEC) activities are needed. The community should be sensitized and mobilized to initiate such IEC activities through the use of existing networks of health facilities, churches, women's groups, youth groups, schools and so on.

14.4.2 Possible Interventions

a. Community-based Health Education for Endogenous Community Development: "Rethink Our Traditions in a Changing Society"

In order to improve health status in the community, it is proposed to promote the useful traditions for people's health as well as changing the harmful traditions against people's health. This community-based health education can:

- *promote sustainable and self-reliant health education activities by the community*
- *revive and promote the useful traditions for people's health*
- *change people's knowledge, attitude and practice on the harmful traditions against people's health*

To implement this approach, the following activities should be conducted:

- 1) to identify community groups (such as women's groups, youth groups, school groups, church groups, community health workers' groups, community based distributors' groups, traditional birth attendants' groups, traditional healers' groups, and so on) which are interested in health education and community development and motivated to implement these programs
- 2) to train the above-identified community groups on:
 - how to survey the problems of the community, the traditional beliefs and customs in the community which affect people's health and nutrition positively or negatively, and analyze the relationship between the present problems and the loss of the good traditions and the effects of the bad traditions
 - how to design effective health education strategies and activities based on the findings from the above survey
 - how to develop effective key messages which appeal to people's hearts

- how to select an effective and affordable medium (public talks, poems, songs, dances, dramas, posters, and so on) for the group to convey the above messages
 - how to design effective communication channels to convey the above messages
 - how to mobilize external as well as local financial resources to sustain health education activities
 - how to self-evaluate their own activities and feed back the findings from the self-evaluation for future planning
- 3) to monitor and help the community groups to mobilize external and local financial resources, survey the traditions, design and implement health education activities after training, and evaluate their own activities

b. Mobilizing Traditional Healers as Primary Health Care Providers

In order to enhance community-based sustainable primary health care activities in the Study Area, it is proposed to mobilize traditional healers as primary health care providers. This involvement of traditional healers in primary health care activities can:

- improve the quality of care provided by traditional healers;
- establish linkage/communication channels and strengthen of mutual collaboration between traditional healers and MoH health personnel; and
- enhance the community's sense of ownership in primary health care activities by mobilizing local resource persons such as traditional healers.

To implement this approach, the following activities should be conducted:

- 1) to survey the existing traditional healers, evaluate their curative services, and identify the traditional healers who are willing to learn modern medicine and work with MoH
- 2) to train traditional healers with the modern medical knowledge through a series of training workshops (introductory, intermediate, updating, and so on)
- 3) to facilitate traditional healers to organize themselves into professional associations
- 4) to help traditional healers' associations and MoH to set up the professional standards of the service by traditional healers
- 5) to make traditional healers' associations and MoH jointly to register/certify/license the qualified traditional healers who satisfy the above-set standards
- 6) to set up regular consultative meetings between MoH and the representatives of traditional healers' associations
- 7) to help traditional healers' associations to exchange information and knowledge among traditional healers as well as between traditional healers and MoH personnel
- 8) to assess and redefine the roles of MoH and traditional healers, explore mutually fruitful ways of collaboration between MoH and traditional healers, and develop them into a new MoH policy or guidelines on collaborating with traditional healers

Chapter 15

The Master Plan:
Its Framework and
Visions

15. THE MASTER PLAN: ITS FRAMEWORK AND VISIONS

15.1 PLANNING GOAL

National Health Policy and Its Background

The Kenya's Health Policy Framework for the year 2010 has clearly defined the overall goal of health sector policy as:

“to promote and improve the health status of all Kenyans through the deliberate restructuring of the health sector to make all health services more effective, accessible, and affordable”.

Six strategic priorities have been adopted to support this goal:

Ensuring the *equitable allocation* of government resources to reduce disparities in health status;

Increasing the *cost-effectiveness* of resource allocation and use;

Continuing to manage population growth;

Enhancing the *regulatory role* of government in all aspects of health care provision;

Creating an enabling environment for increased *private sector and community involvement* in health service provision and finance; and

Increasing and *diversifying per capita* financial flows to the health sector.

The rapid expansion of health services and facilities throughout Kenya since independence have been largely financed through the tax-based government budget. As the costs of the ever-more numerous facilities and personnel have increased, so have the restraints on public spending in general. While the government budget increased as a proportion of GDP through most of the 70's and 80's, the increasing demands of other sectors, notably education, resulted in health receiving a smaller share of a shrinking government budget, which decreased especially rapidly from 1985 to 1993. This effect combined with rapid population growth and external economic unfavorable factors reduced the MoH total recurrent and development expenditure per capita, in real terms, from a high of over US\$10 in 1980/81 to about \$3 in 1993/94.

Since then, however, there has been a very sharp increase, with total MoH expenditures standing at around 3% of GDP, over 9.5% of total government expenditures, and leveling off at about \$6.2 per capita. The share of government recurrent expenditure is now at its highest level in the past 2 decades and is projected to rise to 9.8% in 1998/99.

Thus, the health sector is undoubtedly the most vital in the national development policy framework. The current Kenya's Health Reform Policy came out from a dilemma between the expanding demands for services along with the rapid population increase and the limited governmental resources to be allocated to meet the demands due to the slower economic growth than expected. Therefore, a more sustainable solution needs to be sought, mobilizing all the available resources in a more efficient and effective manner.

The Overall Goal of the Master Plan

The national policy goal should be achieved on the practical ground. Hence, any regional context must be based on and/or within the national health policy framework, which is reflected by the local reality. Based on this recognition, the overall goal of the Master Plan is proposed as:

“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”.

It should be noted that emphasis is placed on the *maximum utilization and/or functionalization of existing resources* rather than *facilitation of newly additional inputs*. This is consistent with the current national health reform policy.

Kenya's Key Agenda for Health Reform

In order to achieve the overall goal, all the six national priority strategies shall serve as the basic institutional instrument. The health reform policy articulates extensive agenda (see Table 15.1.1), out of which the key agenda underlying this health reform policy are construed to be the following ten:

- 1) Focused and limited curative services, while stressing PHC;
- 2) Decentralization;
- 3) Further involvement of the private and NGOs activities in curative and PHC;
- 4) Encouragement of a cost-effective service” with the cost-sharing scheme;
- 5) Rehabilitation-oriented health facilities improvement rather than new provision;
- 6) Alternative financial source by NHIF;
- 7) Re-orientation of human resource;

- 8) Tackling against HIV/AIDS;
- 9) Rationalization of Drug Policy; and
- 10) Strengthening of planning and management capability through Health Management Information System (HMIS).

Table 15.1.1 Key Agenda for National Health Policy Reform (by the Year 2000)

	Agenda for Reform	Components
1	Strengthening the central public policy role of MoH in all matters relating to health	Creation of a forum for the periodic review and revision of comprehensive health sector policy Elaboration and Implementation of Specific Policies, and Regulation and Enforcement
2	Adoption of an explicit strategy to reduce the burden of disease among the Kenyan people and definition of those cost effective and essential curative and preventive services which will be provided for by MoH	Essential Curative Care Package: reduction of the Ministry's share from 50% to 40%, focusing on target groups. Essential Preventive and Promotive Health (P/PHC) Care Package: intensifying and expand the coverage of P/PHC
3	Reinforcement of the provincial level to permit effective superintendent of the districts and further decentralization of planning, management and resource creation, control and use to the districts	Decentralization Policy Management Systems District Level Planning, Budgeting and Control of Resource Use Management Boards and Teams Diagnostic Facilities and Manpower Outreach and Mobile Clinical Services
4	Strengthening of NGO, local authority, private and mission sector health service providers	Regulating the standards of ethics and quality of care Licensing of practitioners Increasing the share of curative provided by non-government sources Increased Coverage of F/P Services by Non-government Providers
5	Generation of increased levels of financial resources for the provision of cost-effective services through widely accepted cost sharing and alternative health financing Initiatives	Five Year Plan for Financing Health Care in Kenya Long-term Options
6	Shifting part of the financial burden of curative care from the ministry of health budget to insurance schemes	Expansion of the role of NHIF and other social financing mechanism Expansion of Mandatory Insurance Coverage
7	Further reduction in the role of construction of new government facilities and a focus on consolidation, rehabilitation and maintenance of existing one based on need and their cost effectiveness in delivering health care.	National Policy on Development of Physical Facilities and Major Equipment
8	Increasing the level of adequate human, financial and organizational resources to properly maintain and repair facilities and equipment	Standardization Rehabilitation Maintenance
9	Reorientation, retraining and redevelopment of health manpower to meet manpower demand projections and resource availability	Health Manpower and Training Policy and Priority in Resource Development District Health Management Teams Types of Health Professionals Re-deployment Basic Education of Health Professionals Organization of a Decentralized Continuing Education Strategy Management and Regulatory Reform

	Agenda for Reform	Components
10	Prevention and Control of AIDS/HIV infection and STD	Prevention of HIV Infection Care, Including Counseling and Clinical Management Social and Economic support for AIDS Patients and Their Families National Coordination of Research Meeting National Financial Needs Organization and Management Structures
11	Adoption and implementation of a National Drug Policy	Affordability Rational Use and Quality of Drugs Local Production Drugs for Veterinary Services A Five-year Implementation Plan
12	Consolidation and strengthening of key health management information system (HMIS) to support the policy-making role of the MoH in budgeting, planning and management functions in the districts.	Facilities and Fixed Assets; Financial Resource Data; Workload and Operational Data; Manpower Data Information of Planning A Comprehensive Set of Networked (HMIS)
13	Institutionalization of management tools for cost containment and cost control particularly for the hospital and curative sector	Improvement to Local Management and Planning Improvements to National Management and Planning Support Services
14	Strengthening of Health Research	
15	Reorientation of the organization structure and function of the MoH to meet the proposed reform	

Source: MoH, Kenya's Health Policy Framework, Nov., 1994.

15.2 SOCIO-ECONOMIC FRAMEWORK IN 2005

Population Increase Rates

Rapid increase in the population is a focal issue for some of vital health-related programmes, such as FP and KEPI, as well as for social welfare. Although several sources give slightly different data, the population growth rate during the period between 1989 and 1997 is estimated 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 seems to be a gradually decreasing trend, albeit 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.

Table 15.2.1 shows the projection of population by each district. Kisii District includes the population of Gucha District. Bomet and Kericho will remain at considerably high growth rates, more than 3.0 % p.a., up to the year 2005, compared to those in Kisii and Nyamira.

Table 15.2.1 Projected Future Population (2001 and 2005)

	1989	1997 (Estimated)	1999 Projected *	2001 Projected *	2005 Projected**	Growth Rate		
						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 of Each District
Projection **: based on a Cohort Analysis by the JICA Study Team

Economic Growth

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, a 5.9% p. a., to be led by a strong growth in the industrial sector, as shown in Table 15.2.2. 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.

The economy in the Study Area is mostly based on agriculture; 50-60% of the income comes 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 steadily grow through production of cash crops. 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 Study Area cannot escape from the current poverty level.

Table 15.2.2 Projection of Economic Growth in Kenya

	Projected Growth Rate 1997-2001 (% p.a.)	Sector Share, 1996 (%)	Sector Share, 2001 (%)
Agriculture	4.4	27.9	26.0
Industry	7.9	16.5	18.0
Services and Private	6.0	38.6	38.8
Public Services	6.2	17.0	17.2
GDP	5.9	100.0	100.0

Source National Development Plan, 1997-2001

15.3 PLANNING OBJECTIVES OF THE MASTER PLAN

The overall goal in the district level, as mentioned in Section 15.1, is interpreted into more practical strategies with longer-term perspectives as below.

Overall Understanding of the District Health System

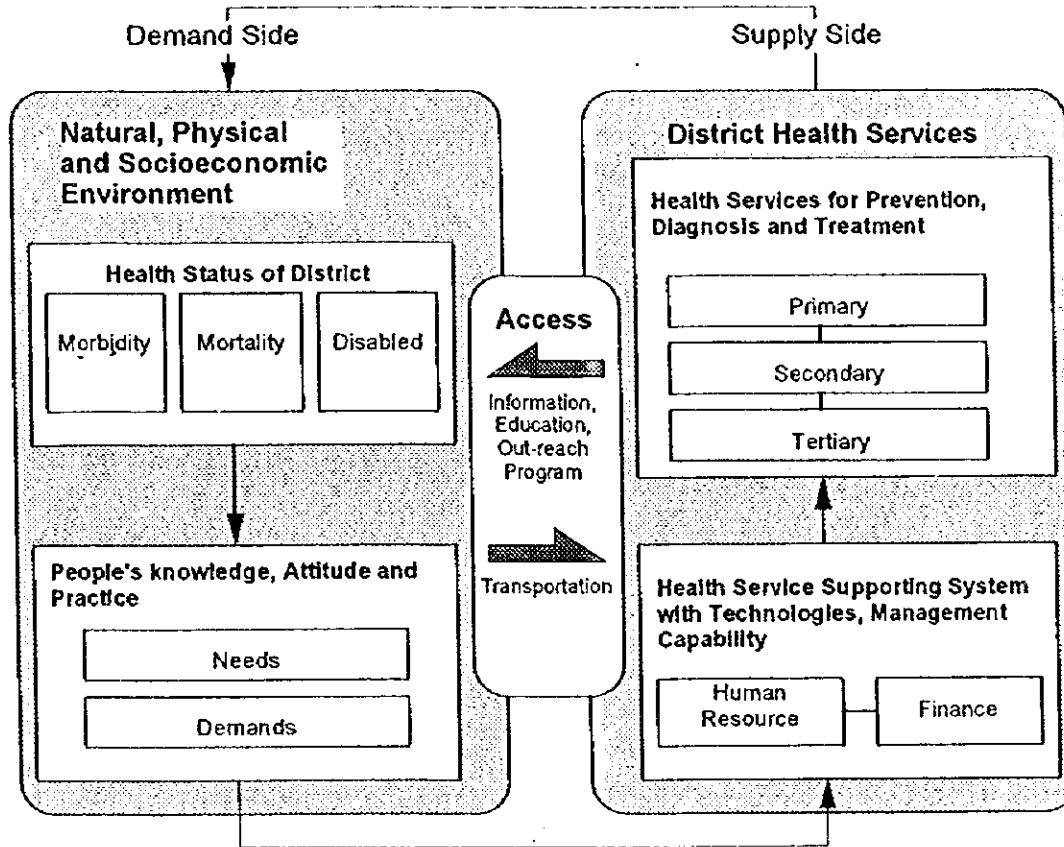
People's health must be a basic need to be assured by the Government to build the sound society and economy. The district health system, therefore, is recognized as one of sub-systems functionally incorporated into the entire socioeconomic system to meet people's needs and demands based on the actual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

Fig. 15.3.1 depicts a typical conceptual model of a district health system. 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.

Fig. 15.3.1 Overall Structure of the District Health System



Objectives and Strategies

Keeping the aforementioned structure in mind, the Master Plan may address two (2) key planning objectives and several strategies to achieve them.

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

- (A-1) Enhancing Health Services for Priority Diseases
- (A-2) Making Functional the District Health Service Delivery System
- (A-3) Promoting Linkages between Private and Public Health Providers
- (A-4) Developing Programmes for Continuing Education for Rural Health Personnel
- (A-5) Rehabilitating Existing Health Facilities and Equipment
- (A-6) Strengthening Financial Capability at District Level
- (A-7) Institutionalizing Supervision and Monitoring for Quality Assurance

Objective B: To strengthen linkages with other sectors in facilitating community development that relates to health improvement by:

- (B-1) Encouraging Community-based PHC Activities for Health Improvement
- (B-2) Facilitating the Integrated Improvement of Rural Roads, Water and Sanitation Facilities
- (B-3) Encouraging Self-help Group Activities that Empower Women

These strategies are formulated to tackle with the current problems in the Study Area as discussed in preceding chapters. They comprehensively cover all the areas for the improvement of the district health system in terms of the following: 1) Improvement of “physical conditions” and “institutional systems”, and 2) Capacity Building of “management” and “technical know-how”.

The necessary conditions for implementing the strategies of the Master Plan are physical and institutional improvement as well as capacity-building. Table 15.3.1 shows the relationship between the conditions and strategies. It should be noted that one strategy alone cannot be effective. It needs to be mutually related with another for successful implementation.

Table 15.3.1 Required Conditions for Planned Strategies

Strategy	Improvement		Capacity Building		
	Physical	Institutional	Management	Technical	
Objective A					
A-1	Enhancing Health Services for Priority Diseases	XX	XXX	XXX	XXX
A-2	Making Functional the District Health Service Delivery System	XXX	X	XXX	XX
A-3	Promoting Linkages between Private and Public Health Providers	X	XX	XXX	X
A-4	Developing Programmes for Continuing Education for Rural Health Personnel	XX	X	XXX	XX
A-5	Rehabilitating Existing Health Facilities and Equipment	XXX	-	XXX	X
A-6	Strengthening Financial Capability at District Level	-	XXX	XXX	X
A-7	Institutionalizing Supervision and Monitoring for Quality Assurance	X	XX	XXX	XX
Objective B					
B-1	Encouraging Community-based PHC Activities for Health Improvement	X	XX	XX	XX
B-2	Facilitating the Integrated Improvement of Rural Roads, Water and Sanitation Facilities	XXX	-	XXX	X
B-3	Encouraging Self-help Group Activities that Empower Women	-	XX	XX	X

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

15.4 POSSIBLE INTERVENTIONS AND PLANNING VISIONS FOR "OBJECTIVE A"

Objective A: To provide all the residents with universal access to minimum promotive and preventive health care (P/PHC) as well as curative health services, while upgrading the quality of the services.

To achieve Objective A, several visions are proposed for each of the strategy.

(A-1) Enhancing Health Services for Priority Diseases

<Direction >

The prioritized health services and programmes 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 programmes which are needed by the residents in the Study Area.

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

- Highland Malaria
- Acute Respiratory Infection (ARI)
- Child Survival Programme (Nutrition, Anemia, Immunization)
- Reproductive Health
- HIV/ AIDS- STD
- Tuberculosis
- Injuries

<Prerequisite >

There are already national vertical programmes 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 programmes which meet the needs in the Study Area, and the identification of the strategies to strengthen the standardized health services at the district level.

< Possible Visions on Project/Programme >

(1) Improvement of Epidemiological Information and Knowledge:

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

(2) Promotion of Monitoring Disease Control Programmes

(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 programmes 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 programmes.

(A-2) Making Functional the 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 >

- (1) 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, or the demand for health services is expected to increase by 30%.
- (2) Improvement of the priority 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 centres and dispensaries by strengthening the capacity of rural health facilities (RHF's).
- (3) Maximum utilization of the existing health facilities:** Emphasis should be placed on rehabilitation and improvement of the existing health facilities and the efficient allocation of the already available resources.

<Possible Vision on Project/Programme>

(1) Strategic Capacity Building of Priority Rural Health Facilities:

A number of "Priority Health Centres" 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 priority health centres should be strengthened in order to function as the middle-level referral health facilities between the district hospital and rural health facilities as well as to enhance the entire network of the district health service delivery. A total of fourteen (14) health centres over the Study Area are recommended to be strengthened for this purpose.

(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 priority health centres. 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 priority health centres, 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 priority health centres;
- 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 programme 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 programme should be formulated and implemented to provide them the access to the comprehensive health care services.

(A-3) Promoting Linkages 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.

<Possible Vision on Project/Programme>

(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 Programmes:

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

(A-4) Developing Programmes for Continuing Education for Rural Health Personnel

<Direction>

The programmes 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.

<Possible Vision on Project/Programme>

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

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

(2) Retraining on Technical Capability of Health Personnel:

Training programmes for health personnel based on the level of the health facility and occupational category should be provided in the priority health centres. 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 programmes 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 Programmes for Health Facility Management Committees"

Training programmes 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) Rehabilitating 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.

<Possible Visions on Project/Programme>

- (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**

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 programme 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 centres shall be strengthened by the year 2005 as "Priority Health Centres" 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) Strengthening the Financial Base and Management Capacity at District Level

<Direction>

To secure sustainable provision of quality services, the financial base 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. The authority to reallocate resources is to be devolve to District Health Board (DHB).

<Possible Vision on Project/Programme>

(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 Programmes 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) Institutionalizing 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.

<Possible Vision on Project/Programme>

(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, programme 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 centres) 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 programmes within facilities should be introduced to improve the capability to manage daily activities. Periodical supervision and monitoring by DHMT also be mounted.

15.5 POSSIBLE INTERVENTIONS AND PLANNING VISIONS FOR "OBJECTIVE B"

Objective B: To strengthen linkages with other sectors in facilitating community development that relates to health improvement by:

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

<Direction>

To encourage a wide variety of community-based programmes for PHC activities to extend sustainable health care education to communities and foster community leaders through supports of human resource development programme and community-financing programmes.

<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.

<Proposed Visions on Projects/Programmes>

(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 Programme"; 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 Programme for PHC Activities

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

(B-2) Facilitating the Integrated Improvement of Rural Roads, Water and Sanitation Facilities

<Direction>

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

<Prerequisite>

- (1) Self-help development activities should be initiated by community itself to improve its living environment and sanitation.
- (2) The local road improvement project shall aim to provide road access to all communities and remove the existence of “inaccessible areas”.

<Proposed Visions on Projects/Programmes>

(1) Facilitation and Coordination of Local Roads Improvement Programme

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 programme 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 programme for rural water development and management system improvement should be initiated on the long-term perspectives. As an urgent action, at least all RHF's should have any system of water supply.

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

<Direction>

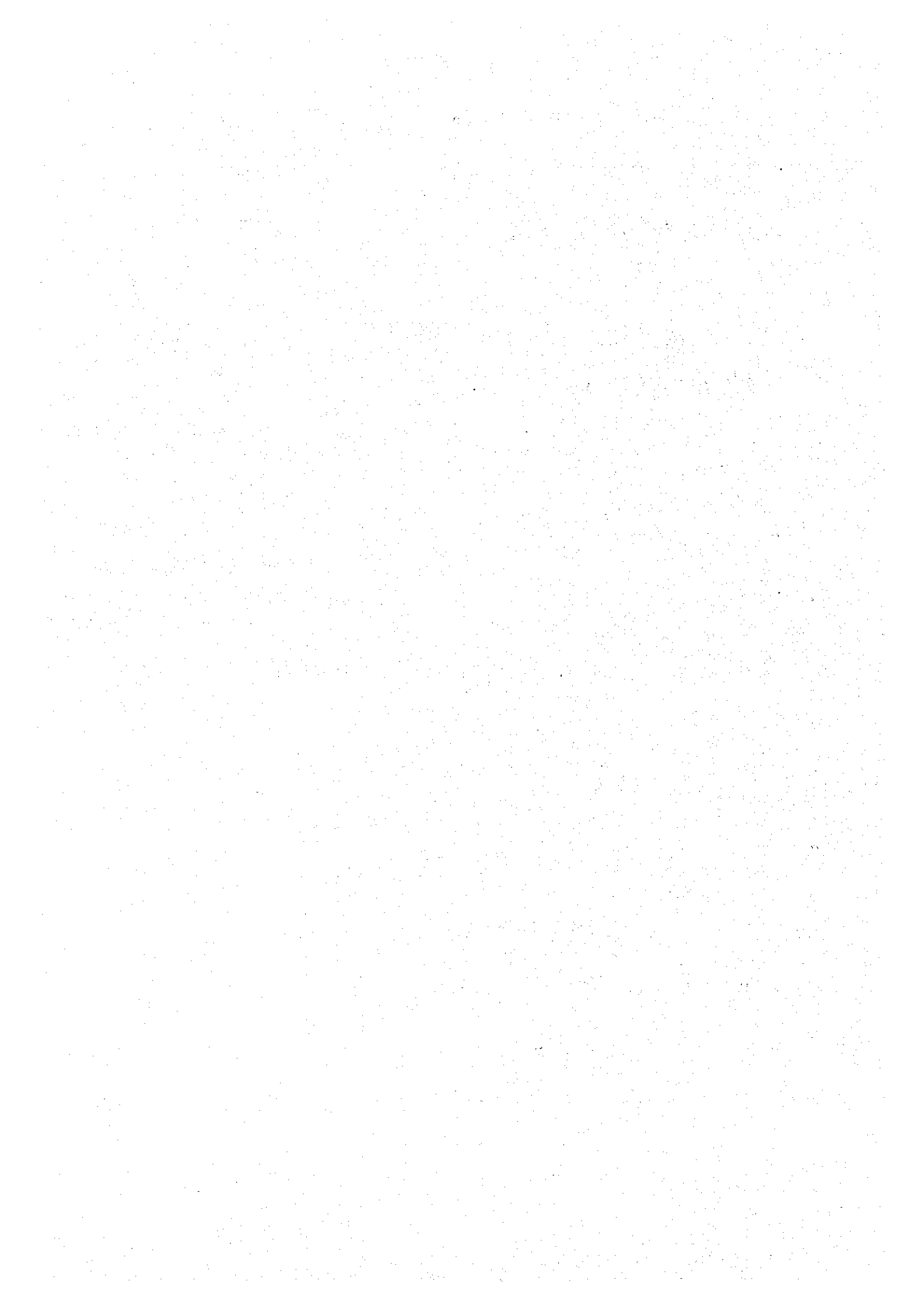
The programmes for improving women's capability in terms of household management and education should be incorporated into the activities of existing community organizations and NGOs to promote better living environment and health activities.

<Proposed Visions on Projects/Programmes>

- (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.**

Chapter 16

Prioritisation of Potential Projects or Programmes



16. PRIORITISATION OF POTENTIAL PROJECTS/ PROGRAMMES

16.1 COMPREHENSIVE PROJECT/PROGRAMME TO IMPROVE THE DISTRICT HEALTH SYSTEM

Based upon all the discussions in the preceding sections, the Study Team proposes a series of possible projects and programmes for realizing the strategies on long-term perspectives. A total of 37 projects/programmes are tabulated in "Proposed Project/Programme – Long List" (Appendix 8). It should be noted that the list of each project includes the column of "project linkage" which states the other related projects/programmes. This means that one proposed project should be consolidated, coordinated or combined with the linked project in the project design or the implementation scheme.

For developing those projects/programmes, a matrix, as shown in Fig. 16.1.1, was used as a logical framework which provides with insights into possible interventions in different categories with respect to prioritized diseases. As seen from the samples in the figure, a possible project can be formulated by combining several components of effective interventions.

The explanations for the columns of Annex A-8 "Proposed Project/Programme – Long List" are as follows.

- 1) Project No.
- 2) Project Objectives
- 3) Project Components
- 4) Major Inputs
 - TA: Technical Assistance
 - TE: Training and Education
 - F: Fund
 - Con: Construction
 - Eq: Equipment
 - R: Research and Study
- 5) Period : 1999-2005 (7 years)
- 6) Level
 - Minimum: Essential requirements to guarantee as the right of beneficiaries
 - Basic: Basic requirements to meet the demand of beneficiaries or cost effective interventions that have been already recognized

- **Strategic:** Interventions for substantial improvement or shifting the current structure towards the future
- 7) **Priority** (refer to Section 16.2)
- 8) **Project Linkage:** This column indicates the related project/programmes that should/can be combined in planning and implementation.

Fig.16.1.1 Possible Interventions for Priority Diseases and Programming of Projects

Trend	Disease	Health Service			Surveillance System					Living Environment / Community / Infrastructure					
		Rehabilitation	Cumulative	Prevention	Facility	Equipment	Human Resource	Logistics	Health Information	Organization	Financing	Private and Mission Health Providers	Water and Sanitation	Practitioner Schools and NGO	Household / Community
▲	Malaria		Anti-malaria Drug	Bed Net		Microscope	Laboratory Technician	Anti-Malaria Drug	Resistance to First Line Drug	Quality of Care and Referral	User Free		Mosquito Control		Access and Living Environment
▲	ARI		Antibiotics					Antibiotics	Risk Factors (Responsible bacteria)	Selection and Monitoring of Antibiotics	User Free				Access Roads, Living Environment
▲	Tuberculosis		Anti-TB Drug	Complete Treatment of Lung TB Patients		Microscope, X-ray		Anti-TB Drug	Compliance Rate						Living Environment
▲	Malaria			Vaccine		Refrigerator Vehicle	EPI	Vehicle	Immunization Coverage Rate				Support of Immunization at Inaccessible Areas		Access Roads
▲	Diarrhea		ORT	Safe Water				ORS					Safe Water and Toilet		Living Environment
▲	Anemia		Blood Donations / Iron Supplement			Hematology Lab Equipment									Knowledge of Situation
	Malnutrition			Growth Monitoring			Nutritional		Growth Evaluation						Knowledge of Health Child
▲	HIV/AIDS												Safe Water and Toilet		Nutrition Improvement and Food Diversification
	HIV carrier	Counseling		Use of Condom Treatment of STD		HIV Test	Doctor Laboratory Technician	HIV Reagent Antibiotics	Infection Rate	Coordination with Other Institutions	Resource Mobilization		Exchange of Information		Promotion of Preventive Behavior
	AKC	Counseling					Counselor								Knowledge on Preventive Behavior
	AIDS	Counseling					Counselor								Prevention of Contraceptives
▲	Population			Family Planning											

Source: The JICA Study Team

16.2 CRITERIA FOR PRIORITIZATION

The following qualitative criteria were used to prioritise the long list of projects/programmes:

- (1) Interventions that support or achieves synergy with on-going important projects/programmes;
- (2) Interventions that provides essential health care for the disadvantaged beneficiaries;
- (3) Interventions that have been proven cost-effective in the neighboring area or past study;
- (4) Interventions that serve as an important base for the future development; and
- (5) Interventions that builds the capacity and reinforces the public system.

16.3 PROPOSED PRIORITY PROJECTS / PROGRAMMES

Composition of Priority Project Packages

Out of the comprehensively listed projects/programmes, those meeting the criteria mentioned above are formed as priority project packages to be urgently implemented.

The district health system cannot materialize by single project alone. It 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 (Fig. 16.3.1). The five are:

- (1) Priority Diseases Control Programme;
- (2) District Hospital Rehabilitation Project;
- (3) Rural Health System Improvement Project;
- (4) Community-based PHC Promotive and Preventive Health Care Project; and
- (5) District Continuing Education System Development Project.

Linkages between Proposed Strategies and Priority Project Packages

These proposed priority project packages, needless to say, are actions to realize the planned 10 strategies discussed in the preceding Chapter 15. Therefore, each project must have functional linkages with the strategies as shown in Fig. 16.3.2. The linkage, however, is not of one-to-one relation, but multi-relation with direct and indirect functions. In other words, each project packages should be formulated so as to meet

requirements underlying the corresponding strategies.

Components of Priority Project Packages

In the above setting, the priority projects/programmes out of the long list can be formulated as components of the five packages, as shown in Table 16.3.1. The project profiles of these components are tentatively delineated as shown in attached tables in the end of this report.

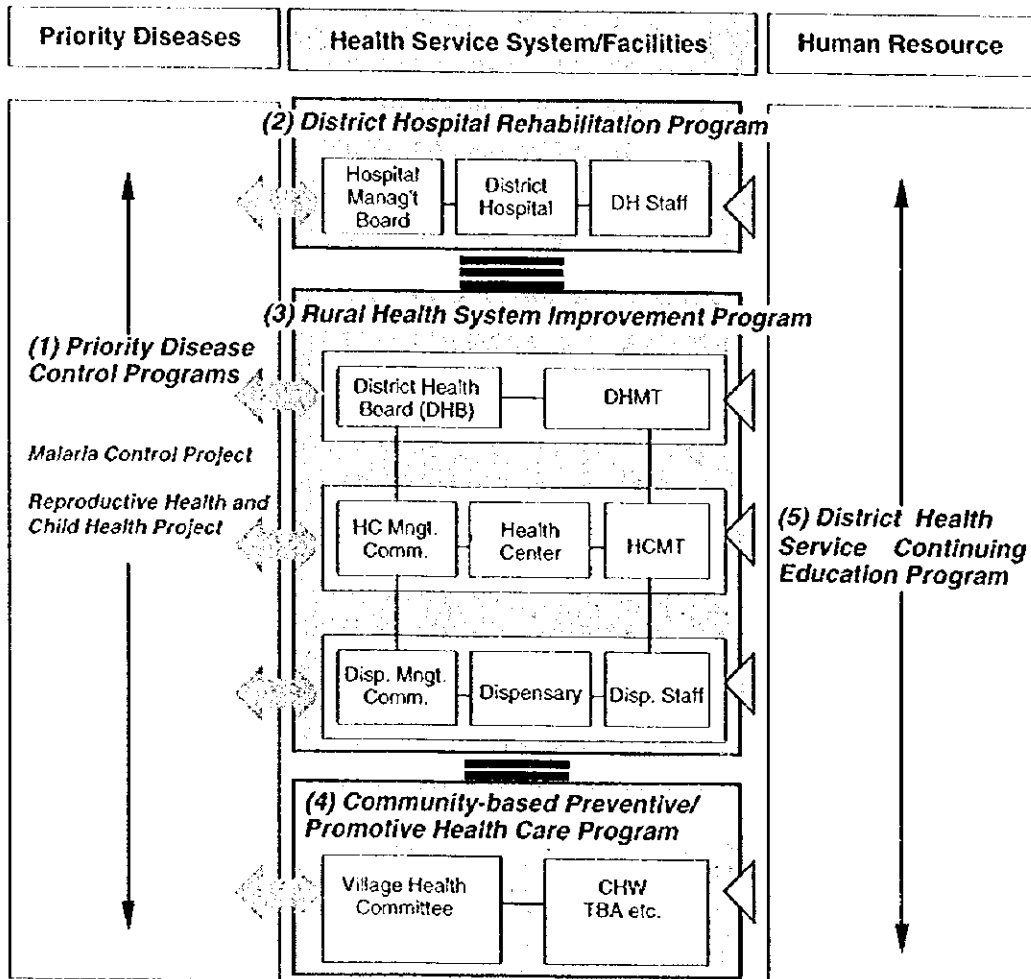


Fig. 16.3.1 Composition of Proposed Priority Project Package

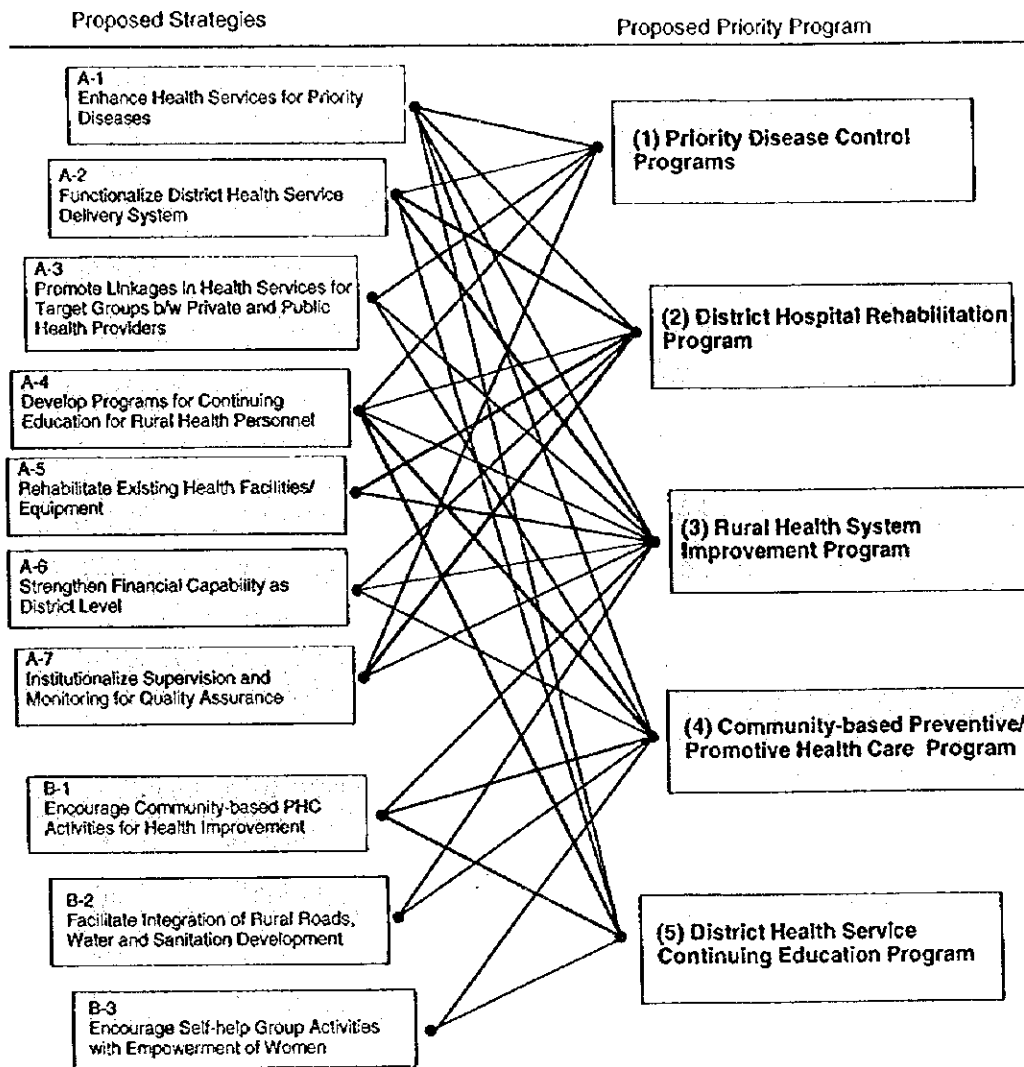


Fig. 16.3.2 Linkages Between Proposed Strategies and Priority Programs

Table 16.3.1 Proposed Components of Priority Project Package

Priority Project Package	Components (Priority Project/Programme)
(1) Priority Disease Control Programme	No. 1 Strengthening Strategic Malaria Programme for Highland Malaria No. 2 Improving Measures for Pneumonia into District Health Delivery System No. 3 Strengthening Child Survival Programme of District Health System No. 4 Strengthening of institutional capacity for HIV/AIDS programmes and extending of preventive measures No. 5 Strengthening of Reproductive Health Programme at district level
(2) District Hospital Rehabilitation Project	No. 14 Establishment of "New Maintenance System" for District Hospitals Nos. 15, 16, 17, 18 Renovation of facilities and replacement of equipment of district hospitals
(3) Rural Health System Improvement Project	No. 7 Strategic Strengthening of Functional Basic Health Care Delivery System No. 19 Rehabilitation/Improvement of Priority Health Centres and Priority Dispensaries Nos. 21, 22, 23 Resource Mobilization and Cost-sharing System No. 24 Strengthening of DHMT's capability No. 26 Development of District Health Information Management System No. 34 Improvement of Water and Sanitation No. 36 Promotion of Co-ordination with Public Transport Service
(4) Community-based PHC Promotive and Preventive Health Care Project	No. 29 Promotion of Awareness and Knowledge on Health through mass communication No. 30 Promotion of Recognition and Knowledge on Health through "Community Health School" No. 31 Promotion of health living environment resistant to diseases No. 32 Involvement of Traditional Health Providers
(5) District Continuing Education System Development Project	No. 12 Establishment of Continuing Education Programme for All the Health Personnel at District Level No. 13 Increase Community Health Activities through Training of Community Health Workers

Notes: The project number refers to those in the long list and the project profiles attached.