Study No. 5

Human Resources

Final Report

Prepared for

JICA Study Team

by

Development Solutions for Africa

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Abbreviations

AIDS	- Acquired Immune Deficiency Syndrome
AIE	- Authority to Incur Expenditure
AMREF	- African Medical Research and Education Foundation
ARI	- Acute Respiratory Infection
CBD	- Community Based Distributors
CBH	- Community Based Health Worker
CBS	- Central Bureau of Statistics
CDD	- Control of Diarrhoeal Disease
CHANIS	- Child Health & Nutrition Information System
CHW	- Community Health Worker
CIDA	- Canadian International Development Agency
CMU	- Central Management Unit
CO	- Clinical Officer
COHO	- Community Oral Health Officer
DANIDA	- Danish International Development Agency
DCO	- District Clinical Officer
DDC	- District Development Committee
DFH	- Division of Family Health
DHEO	- District Health Education Officer
DHIS	- District Health Information System
DHMB	- District Health Management Board
DHMT	- District Health Management Team
DMOH	- District Medical Officer of Health
DMS	- Director of Medical Services
DNO	- District Nursing Officer
DO	- District Officer
DPHN	- District Public Health Nurse
DPHO	- District Public Health Officer
DSA	- Development Solutions for Africa
EC	- European Commission
ECN	- Enrolled Community Nurse
EPI	- Expanded Programme for Immunization
FGD	- Focus Group Discussion
FIF	- Facility Implementation Fund
FP	- Family Planning
GIS	- Geographic Information Systems
GOK	- Government of Kenya

SDP	- Service Delivery Point
STD	- Sexually Transmitted Disease
STI	- Sexually Transmitted Infection
TBA	- Traditional Birth Attendant
TFR	- Total Fertility Rate
TT	- Tetanus Toxoid
UNICEF	- United Nations Children's Fund
URTI	- Upper Respiratory Tract Infection
USAID	- United States Agency for International Development
VHC	- Village Health Committee
VSC	- Voluntary Surgical Contraception
WB	- World Bank
WCBA	- Women of Child Bearing Age
WHO	- World Health Organization
WHO/GPA	- World Health Organization Global Programme on AIDS
WISN	- Workload Indicators of Staffing Need

Study 5

Human Resources

1. Introduction

1.1 Background and Objectives

Study 5 is one of four studies being implemented by the Development Solutions for Africa team (DSA, AMREF and PAS). The objectives for the study on Human Resources, as written in the Terms of Reference are:

1. To identify actual deployment of human resources in each level of facilities.
2. To identify recruiting institutions of human resources and verify their functions.
3. To identify retaining systems (including regulation on work place) and verify their function.
4. To identify existing quality control system.
5. To identify training institution and organizations.
6. For institution identified above, to survey:
    a. Type of training provided;
    b. Curricula used and relevance to health sector reforms.
7. To identify quantitative flow of human resources of recruiting, retaining, training and deployment.
8. To identify major problems to strengthen human resources in terms of quantity and quality and their causes.
9. To propose possible most effective and efficient interventions.

In Appendix C to the Terms of Reference, Objective 7 was revised to substitute "qualitative flow" for "quantitative flow." The extensive research required for a quantitative investigation were not within the budget for the study.

1.2 Methodology

1.2.1 Preparatory Activities

The DSA team met as a Team and with the JST to discuss the objectives and the terms of reference for all four studies. Members of both teams shared information on what they already knew as well as sources of information and documents which would assist in completing the work needed to reach the objectives.

Based on the objectives, tools for data collection were drafted, reviewed and finalized. Some of the study instruments for Study 5 were presented in Annex 1 of "The Mid Term Report for Study 5: Human Resources." Data related to supervision, training and the information system on health personnel (Study 5 issues) were included in the instruments for Study 1 and were submitted to the JST as part of the "Mid Term Report for Study 1: Health Organization and Systems." Data on students, tutors and curricula was collected from the KMTC in Nairobi, in order to update the information in Chapter 13 of The Health Sector In Kenya: Health Personnel, Facilities, Education and Training (Schwarz, DSA, 1996 edition).[1] Documents for literature review were identified for collection before departure to the field.

1.2.2 Field Work

Preparations were made for field work, and the members of the DSA teams shared in collecting data for all of the DSA contracted studies. DSA team members met with the district officer and members of the DHMT in each of the five districts. They were briefed on the study objectives and the team's work schedule. Focus Group Discussions with members of the DHMTs were held in four of the five districts. The health centers and dispensaries to be studied were chosen by the DHMTs in conjunction with KEIPET. The hospitals had been identified in the Terms of Reference written by the JICA Study Team. The DSA team confirmed these preselected study sites with the DHMT and added facilities necessary for this study. Due to heavy rains and impassable roads, alternative facilities were selected by the DHMT in two districts (Kericho and Kisii).

The instruments for data collection were pretested at facilities in Kericho District. Modifications were made to one instrument. Various methods of data collection were used including interviews, observation and review of existing records. To collect the required information on health personnel, visits were made to the offices of the DPHN, DPHO, MOH, the District Personnel Department and the Nursing Officer in Charge at the District Hospital. Every facility that was selected as a study site was visited. The list of facilities visited is in Annex 1.

Every evening, team members met to review daily activities and the data that had been collected and to plan the activities for the following day. If any data were incomplete or inconsistent, plans were made to revisit the source of the data on the following day.

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[1] In this report, this study is referred to as The Health Sector in Kenya.

1.2.3 Study Instruments and Data Collection Issues

The Study Instruments for the collection of data on the type and numbers of health personnel were based on instruments which were developed and extensively field tested for A Study of Ministry of Health Personnel in Kenya (Schwarz and Guild, DSA, 1994), and The Health Sector in Kenya (Schwarz, DSA, second edition 1996). As The Health Sector in Kenya explains, no accurate central data were available for the Ministry of Health, NGOs nor the private sector (see Chapter 1, pages 7-9).

The Ministry of Health commissioned DSA to conduct A Study of Ministry of Health Personnel in Kenya (1994) in order to resolve the questions of GOK health personnel. During the implementation of this study, DSA confirmed that district level information was not accurate, and that reliable data could only be obtained by visiting all of the GOK facilities in the country. This was how data were collected in the 1994 study.

The first instrument in Annex A is based on the one developed the for A Survey of Ministry of Health Personnel in Kenya (1994): HEALTH PERSONNEL IN HOSPITALS AND OFFICES. It has proven to be an reliable instrument for collecting data from hospitals. At each hospital, the Nursing Officer in Charge (matron) was assisted by a DSA team member with experience in the completion of this form during the other studies. No revisions to this form were necessary. The responses to the questionnaires were entered into a database and are presented in Annex 1 and summarized by type of facility in Annex 2.

The second instrument in Annex A, HEALTH PERSONNEL -- DISPENSARIES AND HEALTH CENTRES is also based on the data collection instrument developed for gathering personnel data in health centers and dispensaries for A Survey of Ministry of Health Personnel in Kenya (1994). *It was revised to collect data specific for this report.* No additional revisions were made after field testing. At each facility visited, a DSA team member assisted the In-Charge to complete the form. The responses to the questionnaires were entered into a database and are presented in Annex 1 and summarized in Annex 2.

The third instrument in Annex A is the DISTRICT PERSONNEL FORM. It was designed to collect data on GOK, NGO/Mission and Private Health Facilities and Offices (one for each district). The prior experience of DSA was that this data could not be collected without visits to individual facilities, i.e. it is not available at the district level. (See: "The Health Sector in Kenya and Health and Family Planning in _____ District, a GIS Analysis" (completed for 13 districts for UNFPA and the Ministry of Health, DSA, 1995 and 1996).

However, visits to each facility were not budgeted for this study. Instead, the Terms of Reference plan for this information to be collected by "Testing the Communication Channel", which was implemented by the JICA Study Team. It is the experience of DSA that this methodology would not provide complete and accurate data (see: studies cited above.) Therefore, in order to supplement "Testing the Communication Channel", the DSA team developed this third instrument. Since the completion of The Health Sector in Kenya in 1995, health personnel offices have been established in each district and we hoped they would provide accurate personnel the information. However, except for Nyamira, neither the district

offices nor the DHMTs had accessible, current data on MOH personnel and their deployment. Neither did they have data on personnel with NGO/Missions or private facilities.

In order to obtain district level data on MOH staff, the DSA team contacted the Provincial Medical Office in Nyanza and Rift Valley Provinces. They provided summaries of all MOH health personnel for each district. There are, however, problems with these returns which had to be dealt with. They are:

Problem in District Returns	How Problem was Addressed
Personnel for Kisii and Gucha Districts (Nyanza Province) are aggregated	Data were disaggregated using information from 1997 sample survey and 1994 DSA survey
Under reporting of nurses for Kericho District	Figure adjusted by using data from the MOH Survey (1994, DSA)and the percentage change from the district data from the other 4 districts
Missing data on Public Health and Preventive/Promotive staff from Kericho and Bomet Districts	Figures adjusted by using data from the MOH Survey (1994, DSA)and the percentage change from the district data from the other 3 districts
Under reporting of Laboratory staff and Drivers in Bomet District	Figure from sample in field survey used *(this still may be less than the actual number)*
Under reporting of Family Planning and Nutrition staff in Gucha District	Figure from sample in field survey used *(this still may be less than the actual number)*

There is a large variation between the district figures reported for Subordinate Staff in the 1997 Provincial data and those in the 1994 survey. This is related to the following:

- The lower level cadres (Job Groups A through G) were most affected by the Civil Service Reform program (they were targeted for reduction);

- Subordinate Staff are sometimes hired locally by the health facility and are *not* MOH employees. It was not possible to adjust figures for Subordinate Staff based on data available and the number presented in the 1997 PMO returns for each district are, except for Nyamira, are, used.

The fourth form, HEALTH PERSONNEL STUDY (STUDY 5) -- TRAINING INSTITUTIONS (*see Annex in* Study 5, Human Resources: Mid Term Report) was developed for this study. No revisions were made during field testing. A summary of the information on each training institution visited by the DSA team in the field is included in this report.

Data on retaining systems (objective #3) and quality control systems (objective #4) were collected using questionnaires, focus group discussions, patient exit interviews and observation in conjunction with the collection of data for Study #1. The instruments are

included in the Annex to Health Organization and Systems: Study 1, Mid Term Report, and the findings are presented in sections of this report and as an Annex in Study 1.

1.3 The Analysis and Estimates for Personnel Requirements

These were done using the analytical framework and staffing norms presented in The Health Sector in Kenya. It takes a combined "population, health needs and service delivery target" approach to health personnel planning. The current distribution of MOH personnel are done for each district. The estimates for all health personnel in the study area (MOH plus NGO/Mission and Private agencies) are done for 2 groups of districts (1. Kisii, Gucha, Nyamira; 2. Kericho and Bomet) and for the study area as a whole. This is due to the fact that **a great deal of the data on NGO/Mission and private practitioners are based on data sets that have not been updated to reflect districts created since 1989.**

The time allowed by PCI for data collection on health personnel was not sufficient to update data on NGO/Mission and health personnel in the private sector. The data used are from the DSA database in which data on health personnel in the private sector, and to a lesser extent in the NGO/Mission sector, are from records that are not regularly, nor accurately, updated (e.g. licences for doctors and dentists, nurses and clinical officers in private practice). For this reason, **the data on these sectors should be used with caution.** They should be updated in the next stage of planning and/or during the first year of project implementation.

The analysis of personnel needs and projections distinguish between in OUTPATIENT AND COMMUNITY-BASED services, and those for hospital-based INPATIENT care. Using this method, outpatient services provided at hospitals are considered to be similar to those at health centers. In this approach, fifteen percent (15%) of hospital-based nurses are estimated to work in outpatient services. The same percentage is used for other hospital-based staff (i.e. 15% of administrative staff and 15 % of subordinate staff working in hospitals are allocated to "outpatient services). For clinical officers based at hospitals, half are allocated to outpatient services. These estimates are based on the analysis of workload data collected by the MOH HIS and by DSA as part of the studies on health personnel in 1994 and 1995.

2. Health Personnel: An Overview

2.1 Policy and Educational Reforms

National Health policy guidelines in Kenya's National Development Plans during the past 20 years emphasize preventive strategies and target the rural sector. The Plan for 1984-1988 recommended the decentralization of management to the district level, and increased support to preventive, promotive and MCH/FP services. However, **after two decades of sound policies, more than half of all health personnel are found in urban centers and the almost 70 percent of the MOH recurrent expenditures are to hospitals** (The Health Sector in Kenya, 1996).

In late 1994, the Government released Kenya's Health Policy Framework. It acknowledges the shortcomings in implementation of previous policies and outlines a set of Strategic Imperatives and An Agenda for Reform. The policy goal for the year 2010 is:

> ***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.***

In regard to health personnel, the policy framework calls for the "reorientation, retraining and redeployment of health manpower to meet manpower . . . projections" (MOH 1994). It suggests the following measures be included plan for health sector reform:

- The deployment of an adequate number of personnel to the peripheral dispensaries and health centers.
- The identification of staffing norms to ensure a proper mixture among the various cadres.
- The formulation of norms and targets to correct manpower imbalances between provinces, between rural and urban areas, and between inpatient services, outpatient and community-based services.
- The improvement of educational programs to ensure that professionals have a high level of skill to implement basic packages of essential curative and public health services.
- The organization of continuing education programs based upon district assessments of local health problems and training needs.
- The harmonization of personnel policies, the strengthening of personnel management practices and the introduction of incentives to attract and retain personnel in under served areas.

3. Human Resources: Kenya and the JICA Study Area [2]

The following pages describe the distribution of health personnel in Kenya. The classification of Health Personnel used in this report is adapted from one developed by Development Solutions for Africa (DSA) in consultation with Ministry of Health (Schwarz 1994). The system used in this report considers profession and function.

[2]The first part of this section is taken (with updating) from The Health Sector in Kenya, R. Schwarz, Development Solutions for Africa, Nairobi, Kenya, 2nd ed. 1996.

3.1 Categories and Major Classifications

The major classification and categories of professional cadres was developed from 488 MOH job designation codes for the MOH Personnel Database. It was modified for The Health Sector in Kenya to take into account the categories used by the major NGO/Mission organizations in their information systems. It has four basic categories and 15 major classifications for health sector personnel.

Key Health Personnel (KHP)

The "Key Health Personnel" are doctors, dentists, clinical officers and nurses. Their main function is to provide curative care and other services directly to patients and clients in a health facility. They deliver inpatient as well as outpatient services. Some, particularly nurses, play a major role in preventive programs such as KEPI, CDD and Family Planning. About one thousand KHP work at national, provincial and district headquarters, and at training institutions. Many also hold administrative positions at health facilities.

Clinical Support Personnel (CLS)

The "Clinical Support Personnel" are health professionals and technical staff who support the activities of the Key Health Personnel (KHP). They help in the diagnosis of disease (e.g. laboratory and radiology), treatment (e.g. pharmacists, therapists), and in the production of appliances and other devices (e.g. orthopaedic technologists). The major cadres that provide clinical support services are laboratory staff (mostly technologists and technicians), pharmacists and pharmaceutical technologists, radiographers and radiographic film processors, occupational and physical therapists, orthopaedic technologists, appliance makers, plaster technicians, and dental technologists.

Public and Promotive Health Personnel (PPH)

"Public and Promotive Health Personnel" (PPH) refers to cadres whose main activities are the prevention of disease and promotion of healthy behavior. Some are facility-based, but most work in the community. Most public and promotive personnel are Public Health Officers (PHO) and Technicians (PHT). Other PPH are Family Planning Field Educators, Community Oral Health Workers, Nutritionists and Nutrition Field Educators. Vector Borne Disease personnel, mostly scientists and laboratory technicians and technologists, are included in the PPH category. Their work is closely tied to environmental health, although it also has implications for clinical interventions.

Administration and Maintenance (AMS)

The "Administration and Maintenance" (AMS) category refers to all personnel involved in management and maintenance activities in offices and health facilities. "Administration" includes senior management (e.g., the PS, DMS, Chief Nursing Officer), accountants, clerical

officers, medical records and secretarial staff. "Maintenance" refers to engineers, drivers, housekeepers and others who keep the facilities and vehicles in operation. The AMS category includes all personnel classified as "subordinate staff." Most work in facility support services (e.g., kitchen, cleaning), the upkeep of buildings, grounds and equipment, and in security (guards, watchmen). Some subordinate staff (e.g. nursing assistants, ungraded nurses) help in patient care, laboratory work and other technical tasks.

Health Personnel[3]					
CATEGORY	MAJOR CLASSIFICATION		TOTAL*	Percent	Per 100,000 Population
Key Health Personnel (KHP)	DOC	Medical Doctors	3,300	4%	13
	C.O.	Clinical Officers	2,300	3%	9
	DEN	Dentists	400	0.5%	2
	NUR	Nurses/Midwives	24,600	31%	98
		KHP Subtotal	*30,600*	*39%*	*122*
Clinical Support Staff (CLS)	LAB	Medical Laboratory**	2,800	4%	11
	PHA	Pharmacy	1,900	2%	8
	RAD	Radiology	700	1%	3
	THE	Therapy	800	1%	3
	TES	Technology Support	500	0.6%	2
		CLS Subtotal	*6,700*	*8%*	*27*
Public and Promotive Health (PPH)	PHS	Public Health (PHO/PHT)	4,000	5%	16
	PPP	Preventive/Promotive	1,300	2%	5
	VBD	Vector B. Disease Lab***	300	0.4%	1
		PPH Subtotal	*5,600*	*7%*	*22*
Administration and Maintenance (AMS)	ADM	Administration	6,100	8%	24
	MSP	Maintenance Support	5,300	7%	21
	SUB	Subordinate Staff	24,600	31%	98
		AMS Subtotal	*36,000*	*46%*	*143*
		TOTAL:	78,900	100%	314

** Figures in this column are rounded to the nearest 100.*
*** Medical laboratory personnel who support clinical services.*
**** Laboratory staff assigned to the Division of Vector Borne Diseases.*

Table A: Health Sector Personnel by Cadre and Population (1994 data).

3.2 Distribution of Health Personnel in Kenya

Health Personnel in Kenya are not evenly distributed. The following describes their distribution by cadre, gender and geography.

[3] There are slight variations in the number of health personnel in the tables in this chapter. This is due to the lack of full information in all categories for all agencies, and is also due to errors introduced by rounding the actual numbers. The range of variation is less than one percent.

officers, medical records and secretarial staff. "Maintenance" refers to engineers, drivers, housekeepers and others who keep the facilities and vehicles in operation. The AMS category includes all personnel classified as "subordinate staff." Most work in facility support services (e.g., kitchen, cleaning), the upkeep of buildings, grounds and equipment, and in security (guards, watchmen). Some subordinate staff (e.g. nursing assistants, ungraded nurses) help in patient care, laboratory work and other technical tasks.

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Distribution by Cadre

There are approximately 79,000 people directly employed in the health sector. Administration and Maintenance (AMS) is the largest category with 46 percent of all personnel. The category includes employees classified as "subordinate staff." While the vast majority of subordinate personnel do administrative and maintenance work, several thousand assist doctors and nurses in patient care activities. Key Health Personnel (KHP) is the next largest category with 39 percent of the employees.

There are almost 25,000 nurses employed in the health sector. They are the largest single cadre (31 percent). In Kenya today, there is one nurse for every 1,000 residents. Medical doctors, dentists and clinical officers are the major cadres trained to diagnose and treat illness and disease. They constitute approximately 7.5 percent of all health sector personnel.

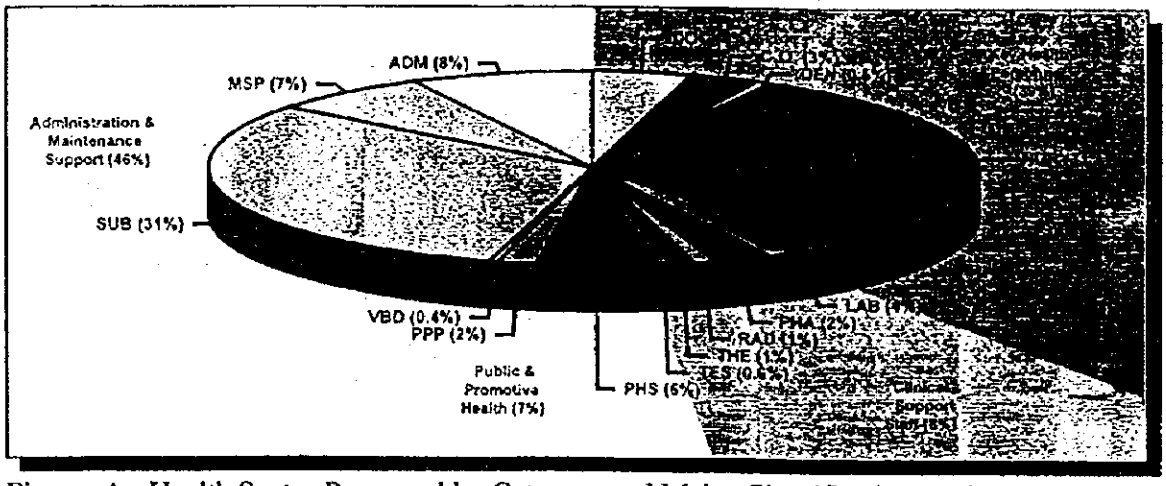

Figure: A: Health Sector Personnel by Category and Major Classification (1994).

Distribution by Gender

Gender issues in human resources in health remain unbalanced. While for the MOH as a whole, employment is equally divided between men (49%) and women (51%), there are more men in all cadres except for nursing. The nursing cadre, which is 35 per cent of the total of all MOH employees, is predominantly female (77%). Subordinate staff, an additional 25 per cent of the total, is the most equally divided (53% men and 47% women). In all of the other cadres, men are predominate:

- 81% of all doctors and medical specialists;
- 78% of all clinical officers;
- 73% of all dentists & clinical support staff (laboratory, radiology, therapy, etc.);
- 81% of all public health staff;

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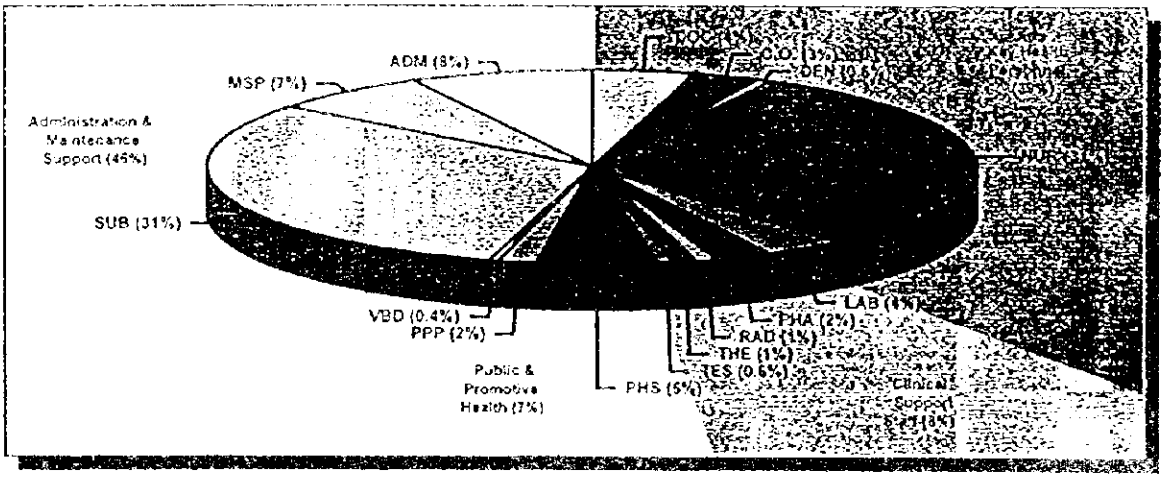

Figure: A: Health Sector Personnel by Category and Major Classification (1994).

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- 81% of all doctors and medical specialists;
- 78% of all clinical officers;
- 73% of all dentists & clinical support staff (laboratory, radiology, therapy, etc.);
- 81% of all public health staff;

- 67% of all administrative staff; and
- 82% of all maintenance and support staff.[4]

Geographic Distribution

Health sector employees are concentrated in urban areas. While only 16 per cent of the population lives in an urban center, more than half of the health sector personnel (56%) work in them. Nairobi, which has only 7 per cent of Kenya's population, has almost one-quarter of all health sector personnel. For the other provinces, Rift Valley has the most health personnel and North Eastern the least. When the number of health professionals in each province is compared to the population, North Eastern does not appear to be under served. (See table below.) On this basis, Western Province has the least number of health professionals for its population, and Nyanza is second from the bottom.

	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Total
Urban	19,000	2,900	3,700	3,800	600	4,400	6,400	3,700	44,600
Rural		6,800	3,000	6,800	800	5,300	9,600	2,200	34,500
Total	19,000	9,700	6,700	10,800	1,400	9,700	16,000	5,900	79,000
Percent	24%	12%	8%	13%	1.8%	12%	20%	7%	100%
Percent Population	7%	14%	8%	17%	1%	16%	24%	12%	100%
Health Personnel per 100,000 Population	1,146	267	309	240	483	239	260	196	312

Note: Numbers are rounded. Calculations for percentage, and personnel per 100,000 population based on actual figures.

Table B: Urban-Rural Distribution of Health Sector Personnel by Province (1994).

3.3 Community-Based Health Workers and Traditional Health Practitioners

There are other types of health workers who provide curative and preventive services, but whose numbers are not reflected in the tables. Some are practitioners of traditional medicine. Most, however, work on a part time or voluntary basis in support of programs organized by the MOH and NGO/Mission organizations. They include 12,000 to 15,000 Community-Based Distributors (CBDs), and approximately 8,000 Community Health Workers (CHWs). Traditional Birth Attendants (TBAs), herbalists and other traditional healers also provide health services in Kenya. Although several studies have been done on traditional healers, there are no reliable data on their numbers.

A recent case study of CHWs suggests that they effectively contribute to primary health care in the community and enjoy widespread local support (Maina 1991). CBDs have increased community information and access to contraceptives in many parts of the country. They are organized through projects run by GTZ, Maendeleo Ya Wanawake, CHAK and other

[4] A Survey of Ministry of Health Personnel in Kenya, Schwarz, R.A. and Guild, S., Development Solutions for Africa, Nairobi, Kenya, 1994.

NGO/Mission groups. Approximately half (6,000 to 7,000) are part of projects supported by GTZ (Ferguson 1995, personal communication). TBAs play an important role in deliveries in Kenya. The 1993 KDHS estimates that 21 percent of births are assisted by a trained or untrained traditional birth attendant (NCPD1994:99).

A recent study of non-governmental health care in Kenya indicates that traditional healers are predominantly male, learn their trade from members of their families, and provide services on a fee-for-service basis. Most traditional healers vary their fees to take account of the age of the client (fees for children are less than for adults) and their economic status. Over half the traditional healers surveyed were found to have been in practice for over twenty years (Berman 1994:35). This suggests their numbers are likely to decline in future years.

3.4 Key Health Personnel - An Overview

In 1994 there were approximately 30,600 persons classified as Key Health Personnel (KHP). Nurses are the largest group accounting for 80 per cent of KHP. This is a 4:1 ratio of nurses to other KHP cadres. Doctors are the second largest cadre accounting for 11 per cent of the total. There are more than eight doctors for every dentist and the number of doctors exceeds the number of clinical officers by 1,000.

These cadres are the ones directly involved in the delivery of curative and preventive services to clients at the health facilities.

The Government is the largest employer of Key Health Personnel. One third of doctors and over 70 per cent of clinical officers and nurses work for the G.O.K. Almost 6,000 KHP (19%) work in the private sector. The table below presents the distribution of KHP by sector.

Major Classifications (1994)		GOK		NGO/Mission		Private		Total	
DOC	Medical Doctors	1,100	*33%*	300	*9%*	1,900	*58%*	3,300	*100%*
CO	Clinical Officers	1,600	*70%*	100	*4%*	600	*26%*	2,300	*100%*
DEN	Dentists	170	*43%*		*0*	230	*57%*	400	*100%*
NUR	Nurse/Midwives	18,000	*73%*	3,400	*14%*	3,200	*13%*	24,600	*100%*
	TOTAL	**20,870**	*68%*	**3,800**	*12%*	**5,930**	*19%*	30,600	*100%*

There are major differences in the distribution of Key Health Personnel between sectors. In the GOK, the ratio of nurses to doctors and clinical officers is almost 7:1. In the NGO/Mission sector it is almost 9:1 but in the private sector there are less than 2 Nurses for every Doctor/Clinical Officer.

Urban-Rural Distribution

There is a concentration of Key Health Personnel in urban areas. Whereas only 16 per cent of the population of Kenya live in urban areas, 55 per cent of Key Health Personnel work there. This means that while for every 100,000 urban residents there are 413 Key Health Personnel, but **for every 100,000 rural residents there are only 65 Key Health Personnel.**

- Nationally, there are 14 doctors for every 100,000 people (1 doctor for every 7,700 persons). In urban areas there is 1 doctor for every 1,500 persons. **In rural areas there is only 1 doctor for every 33,000 people.**

- The distribution of clinical officers in Kenya is 1 CO for every 3,500 persons in urban areas and **1 CO for every 20,000 persons in rural areas.**

- Nationally, there are 3 nurses for every 1,000 persons in urban areas (1 nurse for every 333 people) while **in rural areas there is 1 nurse for every 1,755 persons.**

3.5 The JICA Study Area (5 Districts)

This section presents information on personnel collected during the field work and desk studies. The first section presents the findings from the health facilities visited by DSA personnel. The second section contains information on Ministry of Health personnel in each of the five districts. The third section presents information on health personnel from all sectors -- MOH, NGO/Mission, and private.

3.5.1 Personnel in the Sample of 37 Health Facilities (Five Districts)

The DSA Team collected personnel data at 37 health facilities. They included five hospitals, 16 health centers and 16 dispensaries. Other personnel data were obtained from training institutions and are reported in a later section of this report. Table 1 and Figures 1 and 2 on the following page present a summary of the data collected in the facility survey. The facility level data can be found in Annex 1. Annex 2 contains a summary of the district level by type of health facility.

The sampling method selected by the PCI team is heavily biased towards hospitals. For example, more than 82 percent (82.1%) of the health personnel in the sample work in hospitals compared to 55 percent nationally. Health centers had just over 13 percent (13.4%) and dispensaries had 4.5 percent (4.5%). Nurses are the most numerous cadre with 646 people (31% of the total). They are followed by Subordinate Staff (545) who make up 26 percent (26%) of all personnel. Five percent (5%) are Clinical Officers and Clinical Support Staff (laboratory, pharmacy etc.) make up nine percent (9%). If one subtracts the Public Health and other Preventive/Promotive staff from profile, the percentage of Nurses increases from 31 to 36 percent *(see the column to the far right in Table 1).*

Table 1: Summary Table of Personnel in Sample Area

Cadre	Sub-Group	Facility Type						Sub-Total	Total	Percentage	Percentage (less PH, PP)
		Hospitals		H/Centres		Dispensaries					
		No.	%	No.	%	No.	%				
Sub-Total: Doctors (DOC)		26	2%	1	0%			27	27	1%	1%
Sub-Total: Clinical Officers (CLO)		100	6%	9	3%			109	109	5%	6%
Nurses (NUR)											
	RNs	91	5%	6	2%			97			
	ENs	438	26%	86	31%	25	27%	549			
Sub-Total: Nurses		529	31%	92	33%	25	27%		646	31%	36%
Clinical Support (CLS)											
	Lab.	95	6%	19	7%	2	2%	116			
	Phar.	11	1%					11			
	Rad.	19	1%					19			
	Other	50	3%					50			
Sub-Total: Clinical Support		175	10%	19	7%	2	2%		196	9%	11%
Public Health (PHS)											
	PHOs	14	1%	6	2%	1	1%	21			
	PHTs	95	6%	28	10%	15	16%	138			
Sub-Total: Public Health		*109*	*6%*	*34*	*12%*	*16*	*17%*		*159*	*8%*	
Preventive & Promotive (PPP)											
	FP	26	2%	14	5%	3	3%	43			
	Nutrition	29	2%	9	3%	2	2%	40			
	Other	17	1%					17			
Sub-Total: Preventive & Promotive		*72*	*4%*	*23*	*8%*	*5*	*5%*		*100*	*5%*	
Administration (ADM)											
	Accts/CLOs	91	5%	27	10%	2	2%	120			
	MRO/Ts	17	1%	2	1%			19			
	Other	39	2%					39			
Sub-Total: Administration		147	9%	29	10%	2	2%		178	9%	10%
Maintenance Support (MSP)											
	Watchmen	13	1%	10	4%	10	11%	33			
	Hou.,Coo.,Oth.	30	2%			1	1%	31			
	Drivers	39	2%	3	1%			42			
Sub-Total: Maintenance Support		82	5%	13	5%	11	12%		106	5%	6%
Sub-Total: Subordinate Staff (SBS)		457	27%	57	21%	31	34%	545	545	26%	30%
Total(All Staff)		1,697	100%	277	100%	92	100%		2,066	100%	100%
Percentage (All Staff)		82.1%		13.4%		4.5%			100%		
Total (minus PH, FP, other P/P)		1,516		220		71		1,807	1,807	1,807	
Percentage (less PH, FP, other P/P)		83.9%		12.2%		3.9%		100%	100%	100%	

Figure 1

Personnel in Sample Area by Category

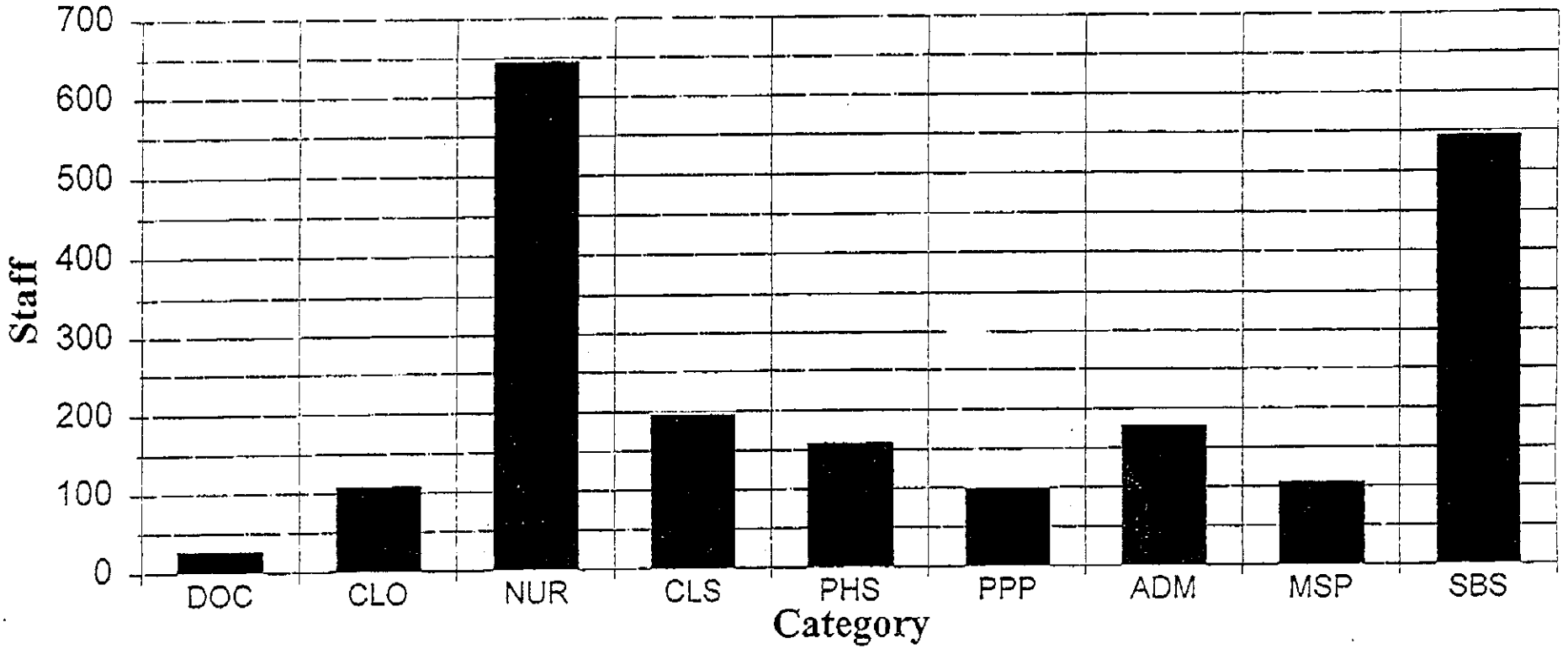
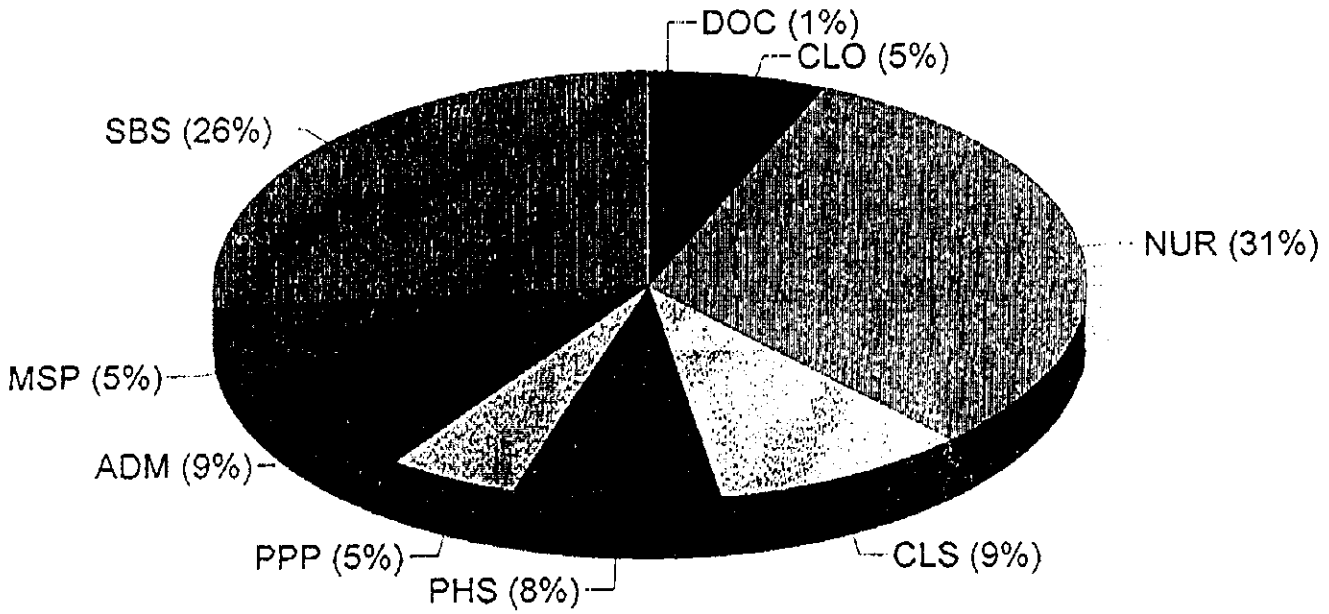


Figure 2

Personnel in Sample of Facilities



Gender

The gender profile for the facilities sampled in the study area is very similar to the national profile. While the overall male to female ratio is very similar (46% male to 53% female), this is due to the large number of female nurses. The other cadres are predominantly male:

- 89% of all doctors and clinical officers;
- 90% of all dentists & clinical support staff (laboratory, radiology, therapy, etc.);
- 86% of all public health staff;
- 86% of all administrative staff; and
- 62% of all maintenance and support staff.

Community Health Workers

The 33 rural health facilities sampled in the Study Area had 135 community workers affiliated with them. This is in contrast to 358 employees reported to be working at the facility (207 health professionals and 159 in administration, maintenance and support). While the employees were spread among the 33 facilities, the community workers were concentrated in 8 facilities.

Only three (3) facilities in the sample reported community health workers. One facility had eight women, and the others each had one man (10 CHWs reported.) These facilities did not have any other community workers.

Two (2) facilities reported 62 CBDs, of which 25 are men and 37 are women; these same two facilities reported 8 TBAs. An additional 34 TBAs were reported by three facilities who had no other community workers affiliated with them.

3.5.2 Ministry of Health Personnel in the Five Districts

There was no person or place in four of the five districts who had full information on MOH staff. Nyamira was the only district where these data could be easily retrieved. Records in the District Health Personnel Departments were in disarray, and out of date. Individual cadres report to the District MOH, DPHO or the hospital matron for assignment, but none had up to date records for the district as a whole. The Personnel Section at the MOH headquarters was also visited, but the officers stated that no recent data were available as there has been no new data from the districts since 1994 when the survey for the MOH Personnel Database was completed. Eventually, the District level data were obtained at the Provincial Medical Offices in Nakuru and Kisumu, but even these were sometimes incomplete and adjustments had to made for a few cadres in several districts.

In order to provide a more accurate picture of the MOH personnel in the study districts, gaps had to filled for missing data and corrections to PMO data made from the results of the field

survey *(see methodology section for details)*. This led to the production of a profile of MOH health personnel in the study districts which uses "1997 adjusted figures." ("1997 adj." in the tables)."

The details of the district data from the 1994 database (DSA) and the 1997 district data from the PMO Offices (and Nyamira) are presented in Annex 3. These district level data are summarized and compared with the adjusted figures for 1997 in Annex 4.

Summary of Data for the Five Districts

The total number of personnel employed by the MOH in the five districts is 2,611 (1997 adjusted figures). There are only a few small differences between the national profile of MOH personnel (Schwarz and Guild 1994:3:2) and the one for the study area. For example, in the national study, Public Health staff (PHOs/PHTs) make up 9 percent of the total whereas in the five Western Kenya districts in they constitute 14 percent. There is also a smaller percentage of Subordinate Staff in the JICA study area (22% compared to 25% in the national survey).

Doctors and dentists make up less than one percent (0.9%) of all personnel in the study area. Clinical Officers are just over 4 percent. Nurses are the largest category with 34 percent (34%) of the total staff and are followed by Subordinate Staff with 22 percent (22%). Table 2 on the following page summarizes the data on MOH personnel in the study area from the three data sets (DSA 1994, 1997 District/PMO records and the 1997 adjusted figures).

The 1994 survey collected data for each MOH facility by visiting each facility. The data are highly reliable. The total MOH personnel in the study districts in 1994 are 2,794. The figure reported by the PMOs for 1997 is 2,202 and the 1997 adjusted total is 2,611. Since the PMO data were not complete, the comparison in the table is between the 1994 DSA survey data and the 1997 adjusted figures. While there is a decrease in the total number of MOH employees (183 less in 1997), the decrease in subordinate staff is 221, higher than the total decrease.

Nine categories show an increase in staff and seven have decreases. Clinical Officers in the JICA study area increased by 13 (14%) during the three years, while the number of MOH nurses decreased by 76 (-8%). The most dramatic increase is in the number of public health staff (PHOs/PHTs) although this must be viewed with caution since data for Kericho and Bomet Districts are based on extrapolations from the other three districts.

Table 2: Summary Table of MOH Personnel in JICA Study Area

MAJOR CLASSIFICATION and Job Category	Total			Change (+/-) between 1994 and 1997 (Adj.)	Percentage Change	Percentage of 1997 (Adj.) Total	Major group Percentage
	DSA 1994	PMO 1997	1997 (Adj.)				
N/A (Not Found)	17						
Medical/Dental Officers (DOC)							
Medical Officers	20	22	21	1	5%	1%	
Dental Officers	4	3	3	-1	-25%	0%	
Sub-Total: Med/Den	24	25	24				1%
Clinical Officers (CLO)	95	109	108	13	14%		4%
Nurses (NUR)	952	792	876	-76	-8%		34%
Clinical Support (CLS)							
Laboratory	122	110	115	-7	-6%	4%	
Pharmacy	19	18	18	-1	-5%	1%	
Radiography	17	17	20	3	18%	1%	
Other	70	71	72	2	3%	3%	
Sub-Total: Clinical Support	228	216	225	-3	-1%		9%
Public Health (PHS)	254	151	360	106	42%		14%
Preventive & Promotive (PPP)							
Family Planning	49	34	62	13	27%	2%	
Nutrition	39	24	59	20	51%	2%	
Other	9	10	18	9	100%	1%	
Sub-Total: Preventive & Promotive	97	68	139	42	43%		5%
Administration (ADM)							
Accts/Clerical	185	144	146	-39	-21%	6%	
MRO/Ts	19	31	33	14	74%	1%	
Other	35	37	40	5	14%	2%	
Sub-Total: Administration	239	212	219	-20	-8%		8%
Maintenance & Support (MSP)							
Bldgs/Grounds	29	13	13	-16	-55%	0%	
Cateress/Cook	9	3	3	-6	-67%	0%	
Driver	56	44	48	-8	-14%	2%	
Other	1	23	24	23	2300%	1%	
Sub-Total: Maintenance & Support	95	83	88	-7	-7%		3%
Subordinate Staff (SBS)	793	546	572	-221	-28%		22%
Grand Total	2,794	2,202	2,611	-183	-7%		100%

Table 5 Summary Table of MOH Personnel in JICA Study Area

MAJOR CLASSIFICATION and Job Category	Total			Change (+/-) between 1994 and 1997 (Adj.)	Percentage Change	Percentage of 1997 (Adj.) Total	Major group Percentage
	DSA 1994	PMO 1997	1997 (Adj.)				
N/A (Not Found)	17						
Medical/Dental Officers (DOC)							
Medical Officers	20	22	21	1	5%	1%	
Dental Officers	4	3	3	-1	-25%	0%	
Sub-Total: Med./Den.	24	25	24				1%
Clinical Officers (CLO)	95	109	108	13	14%		4%
Nurses (NUR)	952	792	876	-76	-8%		34%
Clinical Support (CLS)							
Laboratory	122	110	115	-7	-6%	4%	
Pharmacy	19	18	18	-1	-5%	1%	
Radiography	17	17	20	3	18%	1%	
Other	70	71	72	2	3%	3%	
Sub-Total: Clinical Support	228	216	225	-3	-1%		9%
Public Health (PHS)	254	151	360	106	42%		14%
Preventive & Promotive (PPP)							
Family Planning	49	34	62	13	27%	2%	
Nutrition	39	24	59	20	51%	2%	
Other	9	10	18	9	100%	1%	
Sub-Total: Preventive & Promotive	97	68	139	42	43%		5%
Administration (ADM)							
Accts/Clerical	185	144	146	-39	-21%	6%	
MRO/Ts	19	31	33	14	74%	1%	
Other	35	37	40	5	14%	2%	
Sub-Total: Administration	239	212	219	-20	-8%		9%
Maintenance & Support (MSP)							
Bldgs/Grounds	29	13	13	-16	-55%	0%	
Cateress/Cook	9	3	3	-6	-67%	0%	
Driver	56	44	48	-8	-14%	2%	
Other	1	23	24	23	2300%	1%	
Sub-Total: Maintenance & Support	95	83	88	-7	-7%		3%
Subordinate Staff (SBS)	793	546	572	-221	-28%		22%
Grand Total	2,794	2,202	2,611	-183	-7%		100%

MOH Health Personnel in the Study Area (district level data)

Almost one third of all MOH employees in the five JICA project districts are in Kisii (848 staff, 32%). Kericho has 28 percent (735 MOH employees), followed by Nyamira (23%). Table 3 on the following page presents the 1997 adjusted personnel figures for each district. Kisii has the highest number (848) followed by Kericho with 735. Gucha has the smallest number of MOH staff (140).

Annex 4 presents a breakdown of district figures from two sets of records (1994 DSA study and the 1997 District PMO records) and the 1997 adjusted figures generated for the JICA study. Some figures such as the decline in Clinical Officers in Bomet from 13 (1994) to 5 (1997) do not fit the overall pattern and need further verification. The rationale for the use of adjusted figures is explained in the section on methodology.

Table 3: MOH Personnel-1997(Adjusted)Figures

MAJOR CLASSIFICATION and Job Category	1997 (Adjusted) Figures					1997 (Adj) Total	Percentage
	Kisii	Gucha	Nyamira	Kericho	Bomet		
Medical/Dental Officers							
Medical Officers	10	1	3	6	1	21	
Dental Officers	1	0	0	2	0	3	
Sub-Total: Med/Den	11	1	3	8	1	24	1%
Clinical Officers	35	3	23	46	5	108	4%
Nurses	283	36	195	268	94	876	34%
Clinical Support							
Laboratory	26	4	25	47	13	115	
Pharmacy	4	1	1	9	3	18	
Radiography	8	0	4	7	1	20	
Other	28	0	11	29	4	72	
Sub-Total: Clinical Support	66	5	41	92	21	225	9%
Public Health	50	33	75	112	90	360	14%
Preventive & Promotive							
Family Planning	12	6	16	14	14	62	
Nutrition	11	6	12	21	9	59	
Other	8	1	1	3	5	18	
Sub-Total: Preventive & Promotive	31	13	29	38	28	139	5%
Administration							
Accts/Clerical	54	6	46	33	7	146	
MRO/Ts	6	2	6	14	5	33	
Other	12	1	16	6	5	40	
Sub-Total: Administration	72	9	68	53	17	219	8%
Maintenance & Support							
Bldgs/Grounds	10	3	0	0	0	13	
Cateress/Cook	0	0	3	0	0	3	
Driver	22	2	8	10	6	48	
Other	9	0	8	5	2	24	
Sub-Total: Maintenance & Support	41	5	19	15	8	88	3%
Subordinate Staff	258	35	147	103	29	572	22%
Grand Total	848	140	595	735	293	2,611	100%
Percentage	32%	5%	23%	28%	11%	100%	

Table 5: MOH Personnel-1997(Adjusted)Figures

MAJOR CLASSIFICATION and Job Category	1997 (Adjusted) Figures					1997 (Adj) Total	Percentage
	Kisii	Gucha	Nyamira	Kericho	Bomet		
Medical/Dental Officers							
Medical Officers	10	1	3	6	1	21	
Dental Officers	1	0	0	2	0	3	
Sub-Total: Med./Den.	11	1	3	8	1	24	1%
Clinical Officers	35	3	18	46	5	108	4%
Nurses	283	36	195	268	94	876	34%
Clinical Support							
Laboratory	26	4	25	47	13	115	
Pharmacy	4	1	1	9	3	18	
Radiography	8	0	4	7	1	20	
Other	28	0	11	29	4	72	
Sub-Total: Clinical Support	66	5	41	92	21	225	9%
Public Health	50	33	75	112	90	360	14%
Preventive & Promotive							
Family Planning	12	6	16	14	14	62	
Nutrition	11	6	12	21	9	59	
Other	8	1	1	3	5	18	
Sub-Total: Preventive & Promotive	31	13	29	38	28	139	5%
Administration							
Accts/Clerical	54	6	46	33	7	146	
MROffs	6	2	6	14	5	33	
Other	12	1	16	6	5	40	
Sub-Total: Administration	72	9	68	53	17	219	8%
Maintenance & Support							
Bldgs/Grounds	10	3	0	0	0	13	
Cateress/Cook	0	0	3	0	0	3	
Driver	22	2	8	10	6	48	
Other	9	0	8	5	2	24	
Sub-Total: Maintenance & Support	41	5	19	15	8	88	3%
Subordinate Staff	258	35	147	103	29	572	22%
Grand Total	848	140	595	735	293	2,611	100%
Percentage	32%	5%	23%	28%	11%	100%	

Figure 3

MOH Personnel in Study Area-1997

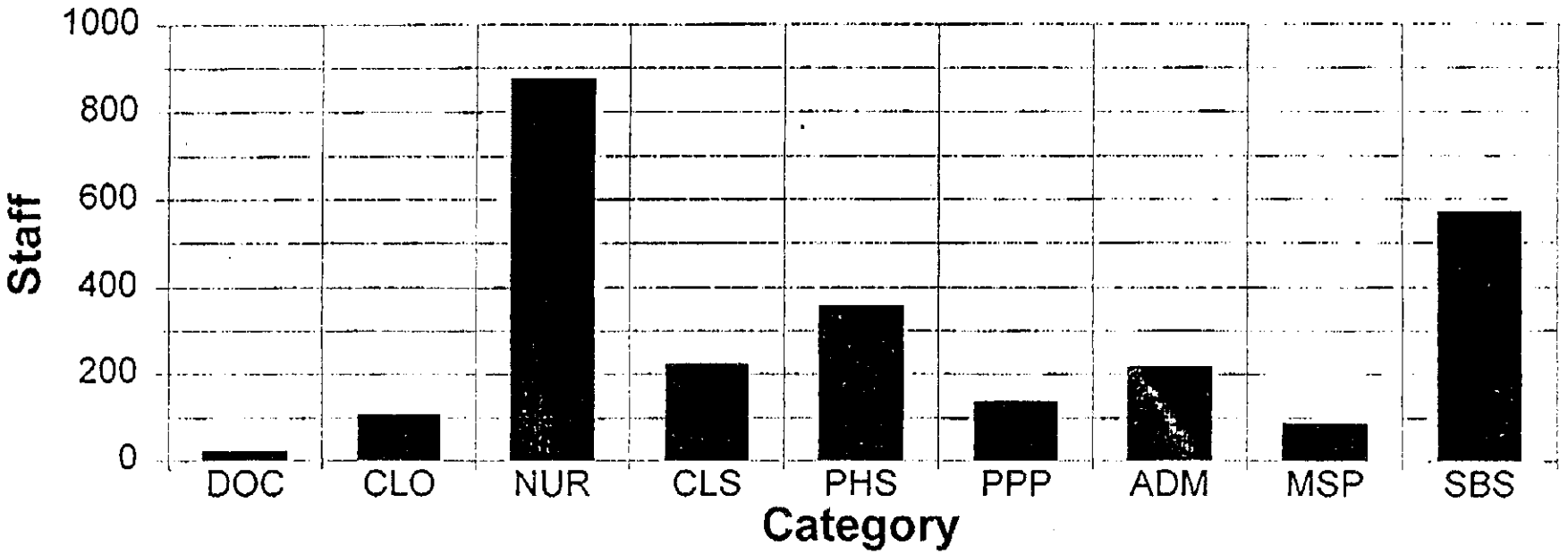
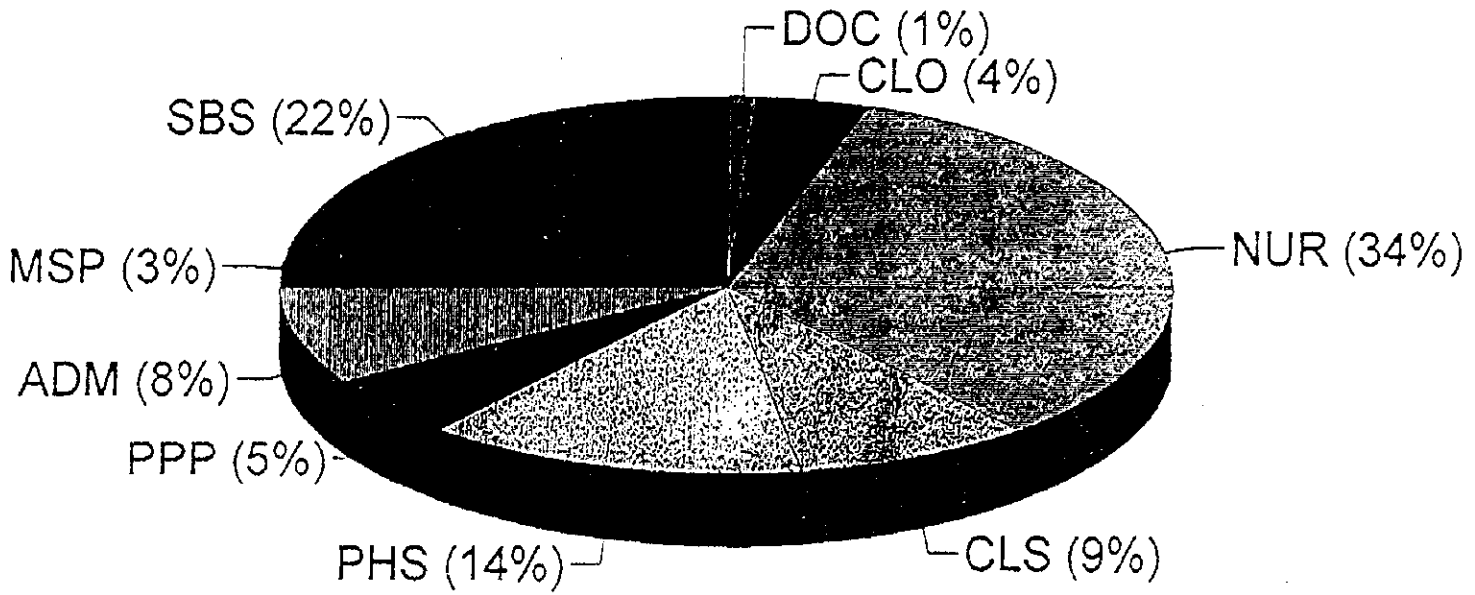


Figure 4

MOH Personnel in Study Area-Percentage



3.5.3 Health Personnel in the Five Districts (All Agencies)

The time allowed for the field work was too short to include the collection of data on the number and types of personnel employed by NGO/Mission and private health facilities. These data require lengthy investigation since records for these sectors are not kept in a central place nor are they systematically updated.

The data used to estimate personnel in the NGO/Mission and private sectors are from the DSA database produced for a national study on health personnel. The problems and limitations of these data are discussed in The Health Sector in Kenya: Health Personnel, Facilities, Education and Training (Schwarz, second edition 1996).

For the purposes of this study, it is useful to note that data on private sector hospitals in the 1995/96 health sector study show a high density of personnel per bed since the sample had a relatively high proportion of data from private hospitals in Nairobi, Mombasa and Kisumu that provide tertiary care. Since the level of tertiary care in the private hospitals in the study area is relatively low, the estimated figures on private doctor, nurses, clinical support and other staff may be higher than the actual numbers.

There are approximately 5,000 people employed in the health sector in the five study districts. About half work for the MOH, about one third are in the private sector, and the remainder work at an NGO/Mission health facility. Table 4 on the following page shows the distribution of these personnel in two groups of districts:

- Kisii, Gucha and Nyamira; and
- Kericho and Bomet.

This aggregation is necessary since the classification by administrative location for personnel in the records used to create the DSA database are based on pre 1989 districts. Nyamira and Gucha were carved out of the 1989 Kisii District, and before 1989, Bomet was part of Kericho.

Table 4: Personnel in JICA Study Area (All Agencies)

MAJOR CLASSIFICATION and Job Category	Kisii, Gucha & Nyamira				Kericho & Bomet				Total			
	MOH 1997 (Adj.)	1994 NGO/MIS	1994 PRIV.	TOTAL 1997 (Est.)	MOH 1997 (Adj.)	1994 NGO/MIS	1994 PRIV.	TOTAL 1997 (Est.)	MOH 1997 (Adj.)	1994 NGO/MIS	1994 PRIV.	TOTAL 1997 (Est.)
Medical/Dental Officers	15	6	62	83	9	36	92	137	24	42	154	220
Clinical Officers	57	4	4	65	51	4	3	58	108	8	7	123
Nurses	514	103	206	823	362	114	208	684	876	217	414	1,507
Clinical Support												
Laboratory	55	18	38	111	60	19	30	109	115	37	67	219
Pharmacy	6	3	22	31	12	6	16	34	18	9	38	65
Radiography	12	1	13	26	8	5	10	23	20	6	22	48
Other	39				33				72			72
Sub-Total: Clinical Support	112	22	72	206	113	30	56	199	225	52	128	405
Public Health	158	0	0	158	202	0	0	202	360	0	0	360
Preventive & Promotive	73	0	0	73	66	0	0	66	139	0	0	139
Administration	149	14	59	222	70	54	89	213	219	68	148	435
Maintenance & Support	65	41	81	187	23	127	109	259	88	168	190	446
Subordinate Staff	440	202	169	811	132	119	253	504	572	321	422	1,315
Grand Total	1,583	392	654	2,629	1,028	484	809	2,321	2,611	876	1,464	4,951

Table 4: Personnel in JICA Study Area (All Agencies)

MAJOR CLASSIFICATION and Job Category	Kisii, Gucha & Nyamira				Kericho & Bomet				Total			
	MOH 1997 (Adj.)	1994 NGO/MIS	1994 PRIV.	TOTAL 1997 (Est.)	MOH 1997 (Adj.)	1994 NGO/MIS	1994 PRIV.	TOTAL 1997 (Est.)	MOH 1997 (Adj.)	1994 NGO/MIS	1994 PRIV.	TOTAL 1997 (Est.)
Medical/Dental Officers	15	6	62	83	9	36	92	137	24	42	154	220
Clinical Officers	57	4	4	65	51	4	3	58	108	8	7	123
Nurses	514	103	206	823	362	114	208	684	876	217	414	1,507
Clinical Support												
Laboratory	55	18	38	111	60	19	30	109	115	37	67	219
Pharmacy	6	3	22	31	12	6	16	34	18	9	38	65
Radiography	12	1	13	26	8	5	10	23	20	6	22	48
Other	39				33				72			72
Sub-Total: Clinical Support	112	22	72	206	113	30	56	199	225	52	128	405
Public Health	158	0	0	158	202	0	0	202	360	0	0	360
Preventive & Promotive	73	0	0	73	66	0	0	66	139	0	0	139
Administration	149	14	59	222	70	54	89	213	219	68	148	435
Maintenance & Support	65	41	81	187	23	127	109	259	88	168	190	446
Subordinate Staff	440	202	169	811	132	119	253	504	572	321	422	1,315
Grand Total	1,583	392	654	2,629	1,028	484	809	2,321	2,611	876	1,464	4,951

Table 5 (on the following page) summarizes the data by agency for the study area districts. More than half of all health personnel in the study area (53%) are MOH employees. Thirty percent (30%) work in the private sector and the remainder are emplyed by NGO/Mission organizations. This distribution indicates the importance of these non-GOK sectors in the provision of health care in the JICA project districts. Project interventions such as continuing education and district health planning should take them into account.

Nurses (Registered plus Enrolled) are the largest category with 30 percent (30%) of all personnel. They are followed by Subordinate Staff with more than one quarter (27%) and four categories with between 7 and 9 percent each -- Clinical Support Staff, Public Health, Administration, Maintenance and Support.

All public health officers (PHOs) and technicians (PHTs) are public sector employees. This fact underscores the importance of the MOH in the effort to carry out activities that address the environmental problems related to disease control. NGO/Mission agencies may not hire these staff because they do not generate revenue which they need, and only a few private sector agencies hire one or two (mostly large firms in Nairobi).

Table 5: Summary Table - Personnel in JICA Study Area (All Agencies)

MAJOR CLASSIFICATION and Job Category	MOH 1997 (Act.)	1994 NGO/MIS	1994 PRIV	TOTAL 1997 (Est.)	Major Category Percentage
Medical/Dental Officers (DOC)	24	42	154	220	4%
Clinical Officers (CLO)	108	8	7	123	2%
Nurses (NUR)	876	217	414	1,507	30%
Clinical Support (CLS)					
Laboratory	115	37	67	219	
Pharmacy	18	9	38	65	
Radiography	20	6	22	48	
Other	72	0	0	72	
Sub-Total Clinical Support	225	52	128	405	8%
Public Health (PHS)	360	0	0	360	7%
Preventive & Promotive (PPP)	139	0	0	139	3%
Administration (ADM)	219	68	148	435	9%
Maintenance & Support (MSP)	86	168	190	446	9%
Subordinate Staff (SBS)	572	321	422	1,315	27%
Grand Total	2,611	876	1,464	4,951	100%
Percentage	53%	18%	30%	100%	

Table 6: Summary Table - Personnel in JICA Study Area (All Agencies)

MAJOR CLASSIFICATION and Job Category	MOH 1997 (Adj.)	1994 NGO/MIS	1994 PRIV	TOTAL 1997 (Est.)	Major Category Percentage
Medical/Dental Officers (DOC)	24	42	154	220	4%
Clinical Officers (CLO)	108	8	7	123	2%
Nurses (NUR)	876	217	414	1,507	30%
Clinical Support (CLS)					
Laboratory	115	37	67	219	
Pharmacy	18	9	38	65	
Radiography	20	6	22	48	
Other	72	0	0	72	
Sub-Total: Clinical Support	226	52	128	405	8%
Public Health (PHS)	360	0	0	360	7%
Preventive & Promotive (PPP)	139	0	0	139	3%
Administration (ADM)	219	68	148	435	9%
Maintenance & Support (MSP)	88	168	190	446	9%
Subordinate Staff (SBS)	572	321	422	1,315	27%
Grand Total	2,611	876	1,464	4,951	100%
Percentage	53%	18%	30%	100%	

Fig.5 - Personnel in JICA Study Area

All Agencies

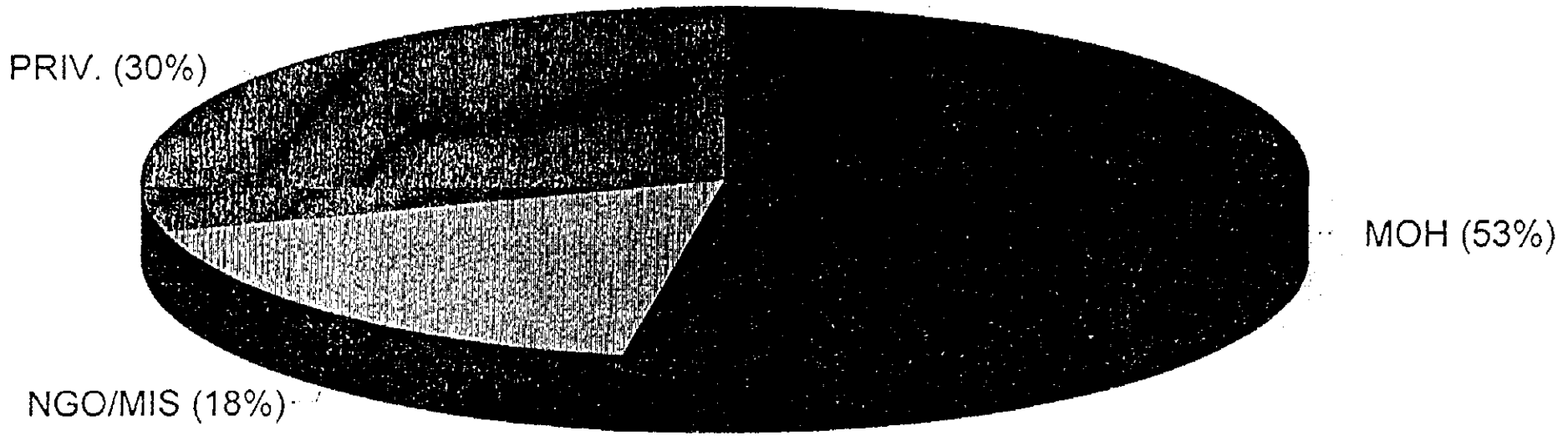


Fig.6 - Personnel in JICA Study Area

All Agencies

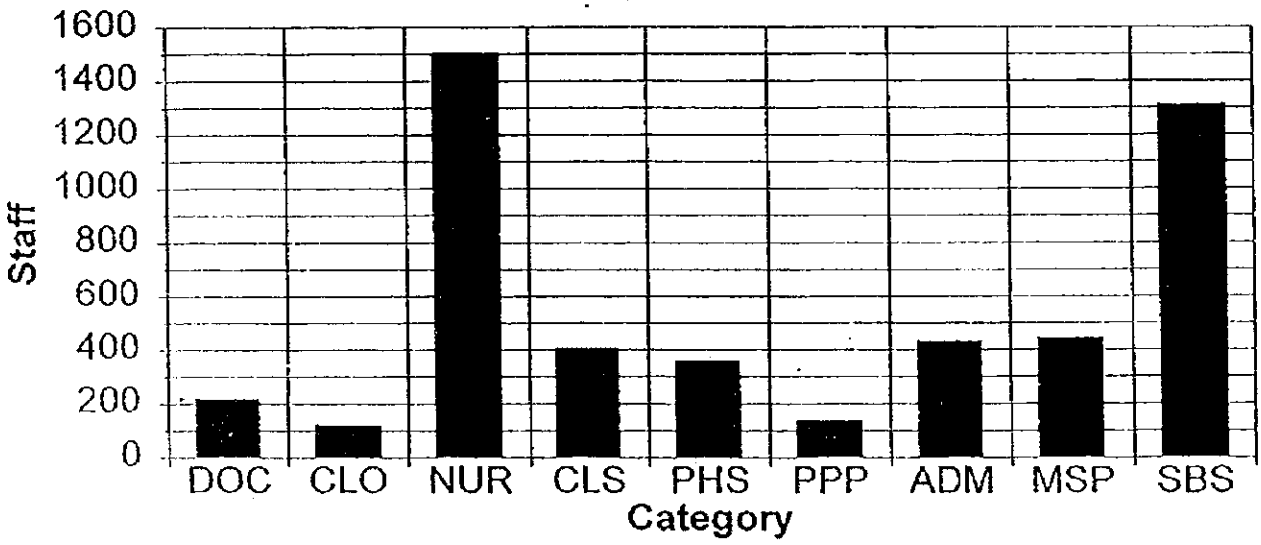
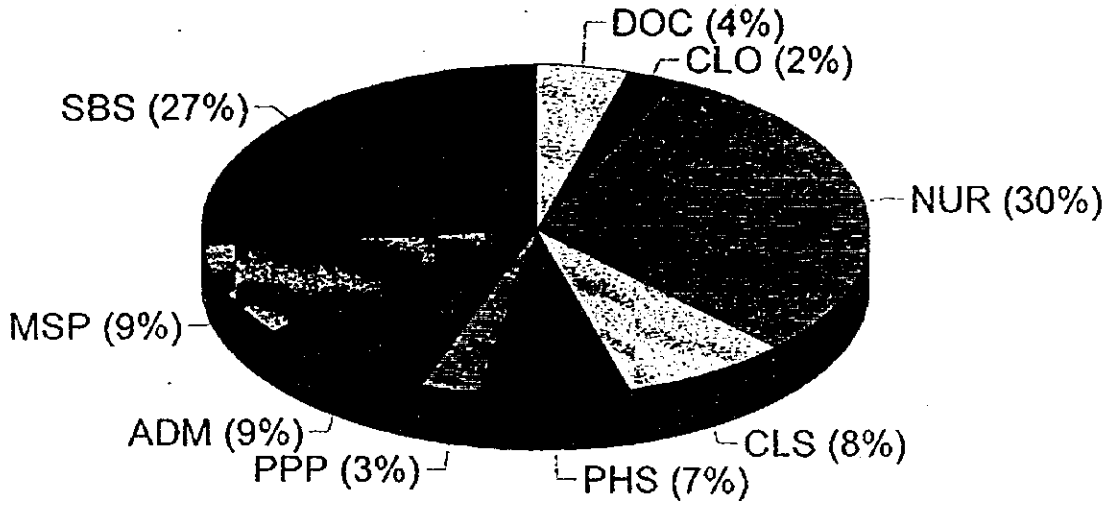


Fig.7 - Personnel in JICA Study Area

All Agencies - Major Categories



3.6 Analysis of Health Personnel Issues

This section examines the major health personnel problems in the JICA project area. The reader should keep in mind that **the analysis refers to health personnel in all agencies, not just MOH staff.** The analysis of the staff situation is based on the application of national staffing norms presented in The Health Sector in Kenya: Health Personnel, Facilities, Education and Training (Schwarz, 1995/1996). These are national norms and include personnel employed by NGO/Mission facilities, health personnel in the private sector and MOH staff posted to MOH headquarters, the KMTCs, KNH, Provincial and District administrative offices. For these and other reasons, **the norms used in the health sector study need to be adapted to district and regional conditions.** This should lead to a major revision in the requirements for doctors and modest declines in the norms and targets for nurses and a few other cadres. As part of the next phase of planning for Western Kenya, the JST should re-examine personnel needs and formulate a revised set of norms based on the the type and distribution of facilities, population and socioeconomic conditions.

Table 6 on the following page shows the actual numbers and ratios of major categories of health personnel in 1997, staffing norms and resources required to meet the norms for the years 1997 and 2005. They show a current deficit of 99 Clinical Officers, more than 750 nurses, 115 pharmaceutical staff, and more than 100 in public health and other preventive/promotive cadres.

The right hand column shows the annual net increase for each category required to meet the national norms for the year 2005.[5] Using the national norms, the table shows that there are only 4.8 Clinical Officers per 100,000 population which is about half the 1997 target of 9/100,000. The current ratio of nurses/100,000 residents is 59 compared to the 1997 target of 88/100,000 -- a deficit of 754 nurses. There is currently an oversupply of laboratory staff (26). The oversupply is even greater when one considers the shortage of laboratory equipment and essential supplies.

There are shortfalls in the number of pharmaceutical staff (115) and public health personnel (50) in the five districts. While there is clearly a shortage of the former at rural health facilities, additional data on the actual number of pharmacies and trained pharmaceutical personnel in the urban centers is needed. This is related to the problem of data on the pharmaceutical cadres (pharmacists and technologists), most of whom are in the private sector. While the data on subordinate staff indicates there is a major deficit in this cadre, the actual situation may be better than the figures suggest because of the new trend (since 1994) for direct hire of subordinate staff by facilities.

[5] The norms for the year 2005 are the same as those found for the year 2010 in The Health Sector in Kenya: Health Personnel, Facilities, Education and Training. As part of the next phase of planning, it would be useful to re-examine these norms and adapt them to requirements for the year 2005.

Table 6: Staffing Ratios, Resources and Targets for Years 1997 and 2005

All Health Sector Personnel CATEGORIES and Major Personnel Classifications		Actual Ratios in 1997	Ratios Required To Meet Kenya Norms (per 100 beds) Current Year 1997	Ratios Required To Meet Kenya Norms (per 100 beds) Target Year 2005	Actual Number in 1997	Number Required to Meet Norms for Kenya Current Year 1997	Number Required to Meet Norms for Kenya Target Year 2005	Additional Net Resources Required (Temporary Oversupply) In Year 1997	Additional Net Resources Required (Temporary Oversupply) By the Year 2005	Annual Net Increase Required
Population:					2,559,500	2,559,500	3,307,700			
Number of Hospital Beds:					2,641	2,559	2,977	(82)	336	42
Hospital beds per 1,000 Population:		1.0	1.0	0.9						
TOTAL KEY HEALTH PERSONNEL (KHP)	Doctors	8	12	13	216	308	413	92	197	25
	Dentists	0.2	1.6	2	4	41	66	37	62	8
	Clinical Officers	4.8	9	14	123	222	453	99	330	41
	Nurses	59	88	93	1,507	2,261	3,089	754	1,582	198
TOTAL KHP	KHP TOTAL	72	111	122	1,850	2,832	4,022	982	2,172	272
TOTAL CLINICAL SUPPORT STAFF (CLS)	Laboratory	9	8	9	219	193	309	-26	90	11
	Pharmacy	3	7	9	65	180	294	115	229	29
	Radiology	2	2	2	48	53	74	5	28	4
	Therapy	2	3	3	48	66	93	18	45	6
	Technology Support	1	2	2	24	39	69	15	45	6
TOTAL CLS	CLS TOTAL	16	20	25	405	523	840	129	438	55
PUBLIC HEALTH & PREVENTIVE/PROMOTIVE	PHO/PHT	14.1	16	22	360	410	728	50	368	46
	Nut., FP, H ed, etc.	3.8	6	7	139	144	219	52	127	16
TOTAL PH & P/P	PH &P/P TOTAL	18	22	29	499	553	947	102	495	62
TOTAL ADMINISTRATION and SUPPORT	Administration	17	22	29	435	555	744	100	309	39
	Maint. & Support	17	19	24	446	475	625	20	170	21
	Subordinate Staff	51	91	98	1,316	2,324	2,501	1,008	1,185	148
TOTAL AMS	AMS TOTAL	86	131	151	2,197	3,354	3,870	1,148	1,664	208
TOTAL Staff *					4,951			2,361	4,769	596

* Note: The total of Inpatient and Outpatient is 50 less than the total for all personnel. This is due to rounding of figures in various parts of the working spreadsheets.

The major human resource issues in the study area are:

- **Major shortages in most cadres in curative care, some clinical support service and public health.** For example, the number of clinical officers is only about half of the number needed, and there is a deficit of more than 750 nurses. The number of trained pharmacy staff is less than half the number needed.

- **A major deficit in the personnel in smaller, rural health facilities.** For example, eight of the health centers in the study sample did not have a single clinical officer. Most health centers have less than six nurses and most are staffed exclusively by Enrolled Nurses. Most dispensaries have only one or two nurses and many have catchment populations of more than 10,000. None of the health centers in the study sample had a single pharmaceutical technologist.

- **The performance of curative tasks and management activities was below requirements.** Problems were observed in history taking, physical examinations, the collection and management of information, supervision and planning.

As part of the next phase of planning, the JST should revise and adapt the national staffing norms for inpatient and outpatient services to the needs and resources in the JICA project area.

3.6.1 Personnel for Hospital Inpatient Services

The staffing norms for hospital inpatient services are for personnel needed per 100 beds. The setting of targets for hospital beds was done in collaboration with the MOH as part of the Health Sector in Kenya study. The planning assumption is that 0.9 hospital beds per 1,000 population are adequate to meet the needs of the Kenyan population.

Hospital Beds in the Five Districts

There are 2,641 hospital beds in the five districts. Kericho has the largest number of beds (916) and Gucha the least (25). The figure for Gucha is based on the beds in the Ogembo health center which will soon become the district hospital. With an estimated population of 2.6 million, there are enough beds in the five districts to meet current requirements. Only 336 additional hospital beds, approximately 42 per year, will be needed by the year 2005 to maintain the target ratio of 0.9 beds per 1,000 residents. Table 7 on the following page displays the hospitals and hospital beds in each district.

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Table 7: Hospitals in Study Area

Code	Health Facility	Type	Agency	District	Division	Town	Beds			MOH Total
							Gen.	Mat.	Cots	
Kisii District										
1265	KISII DISTRICT HOSP.	HOS	MOH	Kisii	KISII MUNICIPA	KISII	248			248
1266	TABAKA MISSION HOSP.	HOS	NGO	Kisii	BOSONGO	TABAKA MKT	300			300
1264	CHRIST MARIANA HOSP.	HOS	PRI	Kisii		KISII	220		10	230
Sub-Total: Kisii District		3					768	0	10	778
Nyamira District										
	ST. JOSEPH'S HOSP. NYANSIONGO	HOS	PRI	Nyamira		SOTIK	52			52
1512	NYAMIRA DISTRICT HOSP.	HOS	MOH	Nyamira	NYAMIRA	NYAMIRA	250			250
Sub-Total: Nyamira District		2					302	0	0	302
Kericho District										
1666	KIPCHIMCHIM MISSION HOSPITAL	HOS	NGO	Kericho	BELGUT	KERICHO	60			60
1674	ST. FRANCIS HOSPITAL(KERICHO)	HOS	PRI	Kericho	KIPKELION	KIPKELION	40			40
1676	CENTRAL BROOKE BOND HOSP.	HOS	PRI	Kericho	BELGUT	KERICHO	67			67
1677	CHEMUGUNDAI HOSP.	HOS	PRI	Kericho	KIPKLELION	KERICHO	76		14	90
1680	KERICHO DISTRICT HOSP.	HOS	MOH	Kericho	BELGUT	KERICHO TOWN	260			260
1681	LITEIN (AIC) HOSP.	HOS	NGO	Kericho	BURET	LITEIN	69			69
1682	LONDIANI SUB-DISTRICT HOSP.	HOS	MOH	Kericho	LONDIANI	LONDIANI	39	10	1	50
3448	ST. LEONARD HOSP.	HOS	PRI	Kericho	BELGUT	BELGUT	124			124
6176	KAPKATET SUB D. HOSPITAL	HOS	MOH	Kericho	BURET	KAPKATET	124	16	16	156
Sub-Total: Kericho District		9					859	26	31	916
Bomet District										
1624	*LONGISA HOSPITAL**	HOS	MOH	Bomet	LONGISA	LONGISA				0
	TENWEK (AGC) HOSPITAL	HOS	PRI	Bomet			299		50	349
1679	KAPLONG CATHOLIC HOSP.	HOS	NGO	Bomet	KONOIN	SOTIK	220		51	271
Sub-Total: Bomet District		3					519	0	101	620
Gucha District										
1261	*GUCHA DISTRICT HOSPITAL***	HOS	MOH	Gucha	OGEMBO	OGEMBO	25			25
Sub-Total: Gucha District		1					25			25
Grand Total		18					2,473	26	142	2,641

NOTE:

**Longisa Hospital: Buildings and other physical facilities for 100 beds are present.*
Constraints to operation are water, staff & supplies.

***Gucha District Hospital: Ogembo H/C now has 25 beds & is planned to be upgraded to a hospital with 100 beds.*

Staffing Norms and Targets

Table 8 on the following page outlines the current situation in regard to personnel for hospital-based inpatient services and future requirements. While the table shows there is a major shortage in the number of doctors, the national norm used (4.4 doctors per 100 beds for 1997) appears to be high for the study area since one MOH hospital provides tertiary care. Also, as the Health Sector in Kenya points out, doctors are concentrated in Nairobi and Mombasa. While more are needed in the hospitals, doctors play a very minor role in the delivery of health care in rural Kenya. There are also shortfalls in the number of clinical officers (10) and nurses (229) for hospital inpatient care.

The average annual increase in the numbers required to meet the norms for 2005 is relatively modest and achievable if sound personnel management practices are followed. For example, only six clinical officers, 61 nurses and 11 administrative staff need to be added each year to meet the targets for inpatient, hospital-based care.

The reader should note that the above scenario refers to personnel at hospitals who provide and support inpatient care. Other staff at hospitals provide outpatient services. They are included and discussed in the following section on outpatient and community based services.

Table 8: Staffing Norms and Targets for Hospital Inpatient Services

Hospital Inpatient CATEGORIES and Major Personnel Classifications		Actual Ratios in 1997	Ratios Required To Meet Kenya Norms (per 100 beds)		Actual Number in 1997	Number Required to Meet Norms for Kenya		Additional Net Resources Required (Temporary Oversupply)		Annual Net Increase Required
			Current Year 1997	Target Year 2005		Current Year 1997	Target Year 2005	In Year 1997	By the Year 2005	
Population:					2,559,500	2,559,500	3,307,700			
Number of Hospital Beds:					2,641	2,559	2,977	(82)	336	42
Hospital Beds per 1,000 population:		1.0	1.0	0.9						
Key Health Personnel	Doctors	3.5	4.4	5	92	116	149	25	57	7
	Clinical Officers	1.7	2.1	3	45	55	89	10	44	6
	Nurses	33.3	42	46	880	1,109	1,369	229	489	61
Clinical Support Staff	Laboratory	3.0	1.5	1.5	79	40	45	-39	-34	-4
	Pharmacy	0.7	1	1	20	26	30	7	10	1
	Radiology	1.7	2	2.5	46	53	74	7	28	4
	Therapy	1.5	1.5	2	40	40	60	0	20	2
	Technology Support	0.7	1	1.2	18	26	36	8	18	2
Preventive/Promotive	Nutrition/Soc. Welfare	1.1	0.6	1.25	30	16	37	14	7	1
Administration Maintenance and Support	Administration	12.5	12	14	330	317	417	13	87	11
	Maint. & Support	10.1	11	13	267	291	387	24	120	15
	Subordinate Staff	33.4	36	41	882	951	1,221	69	339	42
TOTAL Staff					2,728			281	1,154	145

3.6.2 Personnel for Outpatient and Community Based Services

The staffing norms and requirements for outpatient and community-based services in the JICA Study area are presented in Table 9 on the following page. The norms are for the number in each cadre needed to provide services per 100,000 population for the years 1997 and 2005. The table shows that there is a current deficit of 88 clinical officers, 525 nurses and 108 pharmaceutical personnel. There is a current shortfall of 50 public health staff and more than 130 administrative personnel.

By the year 2005, the districts in the study area will have to add almost 300 clinical officers and more than 1,000 nurses to meet the higher norms and the increased demand due to increases in the population. More than 360 public health staff will be needed by 2005, an average annual increase of 46. Norms, targets and average annual increases for all major cadres are outlined in the table.

Table 9: Staffing Norms and Targets for Outpatient Services (all health facilities) and Community Based Professional Personnel

Out-Patient Facilities and Community-Based Professionals (hospital outpatient, H/C, dispensaries, clinics) CATEGORIES and Major Personnel Classifications		Actual Ratios In 1997	Ratios Required To Meet Kenya Norms (per 100,000 pop.) Current Year 1997	Ratios Required To Meet Kenya Norms (per 100,000 pop.) Target Year 2005	Actual Number in 1997	Number Required to Meet Norms for Kenya Current Year 1997	Number Required to Meet Norms for Kenya Target Year 2005	Additional Net Resources Required In Year 1997	Additional Net Resources Required By the Year 2005	Annual Net Increase Required
Population:					2,559,500	2,559,500	3,307,700			
KEY HEALTH PERSONNEL	Doctors	4.9	7.5	8	124	192	265	68	*140*	*18*
	Dentists	0.2	1.6	2	4	41	66	37	*62*	*8*
	Clinical officers	13.0	6.5	11	78	166	364	88	*286*	*36*
	Nurses	24.5	45	52	627	1,152	1,720	525	*1,093*	*137*
CLINICAL SUPPORT STAFF	Laboratory	5.5	6.0	8	140	154	265	14	*125*	*16*
	Pharmacy	1.8	6.0	8	46	154	265	108	*219*	*27*
	Radiology	0.0	Included in Inpatient							
	Therapy	0.3	1.0	1	8	26	33	18	*25*	*3*
	Technology Support	0.2	0.5	1	6	13	33	7	*27*	*3*
PUBLIC HEALTH &	PHO/PHT	14.1	16	22	360	410	728	50	*368*	*46*
Preventive/Promotive	Nut., FP, H ed, etc.	2.4	5	5.5	62	128	182	66	*120*	*15*
ADMINISTRATION, MAINTENANCE and SUPPORT	Administration	4.0	9	11	105	238	327	133	*222*	*28*
	Maint. & Support	6.8	7	8	179	185	238	6	*59*	*7*
	Subordinate Staff	16.4	52	43	434	1,373	1,280	939	*846*	*106*
TOTAL Staff					2,173			1,817	*3,592*	*449*

4 Educational Resources and Programs

The quality of health personnel is dependent upon their training -- basic training, post graduate training and continuing education after deployment. The resources available in Kenya, and more specifically in the JICA Study Area, are described in this section of the report.

4.1 National

There are many institutions which train personnel for Kenya's Health Sector. The Kenya Medical Training College (KMTC) is the major one, but the universities, technical colleges and mission and private hospitals also play important roles. This section of the report describes the major training institutions, their resources and their educational programs.

4.1.1 Kenya Medical Training College (KMTC)

The KMTC trains 70 per cent of the health care and public health professionals in Kenya. The college consists of 25 campuses distributed throughout all eight provinces with the main campus in Nairobi. The table on the following page shows the list of KMTC and constituent colleges by province and district.

KMTC Programs
The KMTC currently offers training at four levels: Certificate, Post Basic Certificate, Diploma and Post Basic/Higher Diploma. It is the single source of education in Kenya for:

- clinical officers;
- environmental health staff (public health officers and technicians);
- occupational and physiotherapists;
- pharmacy, radiology, dental and orthopedic technologists;
- nutrition and communal oral health workers;
- medical records technicians and officers.

In addition, it is the major source of training for:

- nurses;
- laboratory technologists and technicians; and
- medical and health educators.

There are seven basic and five post-basic certificate courses. At the diploma level, there are 13 basic programs and 32 post-basic courses of study. The basic certificate and diploma courses have annual entering classes and several for nurses have double intakes (i.e. two separate entering classes per year).[6]

In response to Health Sector Reform, two new post-basic diploma courses have recently been added to the curriculum: epidemiology and occupational health. Both are one year courses. At the present time they are only offered to MTC tutors and senior staff.

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[6] A complete list of all programs and courses offered is in The Health Sector in Kenya, Schwarz, Chapter 13, page 5.

Kenya Medical Training College

Province	District	Name
Nairobi	Nairobi	MTC Main Campus
		MTC Mathare
		Karen College
Central	Thika	MTC Thika
	Muranga	MTC Muranga
	Nyeri	MTC Nyeri
Coast	Kilifi	MTC Kilifi
	Kwale	MTC Matunga
	Mombasa	SCH Clinical Medicine
	Mombasa	MTC Mombasa
Eastern	Embu	MTC Embu
	Meru	MTC Meru
	Meru	HMTS Meru
	Machakos	MTC Machakos
North Eastern	Garissa	MTC Garissa
	Lodwar	MTC Lodwar
Nyanza	Kisii	MTC Kisii
	Kisumu	MTC Kisumu
	Homa Bay	MTC Homa Bay
Rift Valley	Kajiado	HMTS Kajiado
	Nakuru	MTC Nakuru
	Uasin Gichu	MTC Eldoret
	Baringo	MTC Baringo
Western	Kakamega	MTC Kakamega

KMTC Students

For the past decade, 75 per cent of KMTC graduates were from the basic certificate or diploma. The rest are professionals who have returned to the KMTC for post-basic courses. Over 50 per cent of the students are nurses. The next largest cadre are public health officers and technicians (16%). Clinical officers represent 10 per cent.

These percentages are changing slightly in response to the findings of the studies for The Health Sector in Kenya. The intake of clinical officers has almost doubled in the past two years. This has been accomplished by reducing the numbers of students in cadres where there were an excess of graduates (i.e. medical laboratory). In addition, more of the MTC nursing programs have converted to the KRCHN curriculum (diploma course), gradually phasing out the ECHN cadre (certificate course). Since the ECHN have historically represented the largest percentage of all graduates (37%), this means that the ratio of certificate to diploma graduates will also change.

Recruitment
KMTC students are recruited nation-wide, and there are many more applicants than positions. A mix of students from different parts of the country and different ethnic groups is sought. This means that students with excellent qualifications may not receive placement while students from disadvantaged areas with poor educational standards and poor grades may. Entry requirements for the basic certificate programs are a D+ grade (Div III KCSE) in order to accommodate these poorer students.

Field Training
KMTC students are sent to nearby hospitals and special rural health centers for practical training. There are 27 Rural Health Demonstration Centers (RHDCs) and 6 Rural Health Training Centers (RHTCs) associated with the MTCs in their respective provinces.

Rural Health Demonstration Centers (RHDCs) were established to support the MTCs in practical clinical experience, particularly community health practical experience. They have between 20 and 40 staff which is about double the number of staff found at an average MOH health center. Approximately half of these are professional personnel, the rest are in support positions of administration, housekeeping, etc.

The six Rural Health Training Centers (RHTCs) are large health centers with classrooms and residential facilities for trainees. They have between 70 and 110 employees, about half of which are health professionals. There are two RHTCs in Central Province and one each in Coast, Eastern, Nyanza, and Rift Valley provinces.

Nationally, there are over 400 nurses at these training centers; they constitute approximately 30 percent of the personnel. Although primarily involved in the delivery of health services, they function as tutors when trainees are present. Other major groups of health professionals based at the RHDCs include clinical officers 5%, public health officers 10% and clinical support staff (laboratory, pharmacy, etc.) 8%.

The health personnel at many sites lack the education and motivation to train and supervise the trainees effectively. Most have only a basic diploma. During field work in the study area, many staff reported that the role of tutor is not in their job descriptions, and that they should receive extra pay for this additional work.

Problems with the facilities
The situation at many of the hospitals and health centers used for field training is of great concern. While some have adequate personnel, space and equipment, others do not have enough to provide students with the educational environment they require.

Student accommodation at the field training sites is inadequate and in poor condition. Cooking facilities are often not available or are in poor condition. In some areas, students must purchase and prepare their own meals, in other instances the training site bill the MTC for students' board.

4.1.2 Mission Training Schools and Programs

Training of nurses in Kenya was initiated in church health institutions in 1952. Currently there are programs for nurses at 18 mission hospitals run by KCS and CHAK. Prior to Structural Reform, GOK subsidies helped to finance the operation of the mission training schools. Now the schools must rely on tuition from the students and subsidies from the mission.

Training Programs
The training programs are certified by the Nursing Council in order to meet the same standards as the KMTC courses. All nurse graduates from the mission schools have exactly the same qualifications as those from the KMTC. In addition, the basic enrolled nurse training at the church run programs includes courses in midwifery and community health, which were only available in the post-basic certificate nursing programmes at KMTC.

Students
Students in the mission schools must pay tuition. Although it seldom covers the complete cost of their education, the students also provide valuable labor to the mission hospitals. The participate in patient care and allow the hospitals to function with fewer nurses than would be necessary if there were no students. Without student labor, most mission hospitals would have a very difficult time covering their expenses. However, the hospitals cannot afford to hire all of the graduates, and neither can the government. Many graduates are unable to find employment. They represent an important untapped source of trained health professionals.

Recruitment
The schools have individual recruitment policies, although the students must meed the same educational standards as those who apply for admission to the KMTC. For information about the mission schools in the JICA Study Area, please see the District Profiles in the last part of this section.

4.1.3 Universities

Kenyan universities play a major role in training health professionals and in research. The are the only national sources of education for doctors, dentists, pharmacists and scientists. In addition, three universities: University of Nairobi, Moi University and the East African University offer a B.Sc. in nursing.

4.1.4 Continuing Education[7]

During the past 20 years, continuing education courses and workshops for DHMT staff, doctors, nurses, C.O.s, and public health staff have been organized by the GOK and donor agencies through the Division of Family Health, the Kenya National Continuing Education Programme, the Division of Environmental Health and others. The principal ones have been in MCH/FP, KEPI, CDD, ARI, health planning and management, and health facility and equipment maintenance. These courses fill important gaps in the current training system, but have not been guided by a coherent strategy or administered in a coordinated manner.

In 1983 the MOH, with support from the Swedish International Development Agency (Sida), established a Kenya National Continuing Education Programme. The broad objective of the support is to improve the health status of the Kenyan population in rural areas, with special emphasis on women and children. The strategy is to conduct short courses for technical upgrading of health sector staff at all levels. Other components of the project include:

- training seminars on management and PHC
- development of libraries in health facilities
- development of health learning materials

The project is being implemented in 22 districts. Kericho is the only district in the JICA Study Area which is also in the Sida project area. However, the findings of the DSA Study Team in Kericho, which are discussed below, were similar to the findings in the other districts, i.e. an impact of the project was not seen in Kericho.

The critical role of continuing education is recognized in Kenya's Health Policy Framework (1994). It recommends the decentralization of CE to the districts, training needs assessments, the development of core CE courses and their adaptation to local conditions, monitoring and performance-based evaluation. Elements of the (decentralization) strategy will include:

> continuing education units with full time staff in each district. A core programme based upon epidemiological data and other assessments of training needs; adaptation of the core programme to local conditions; ongoing monitoring and performance based assessments.

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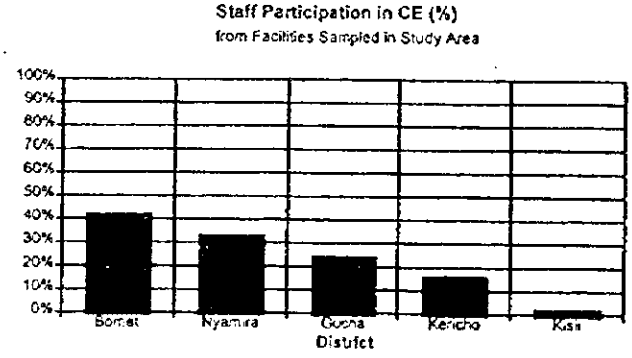
[7]Information for this section of the report is taken from Evaluation of the Kenya Continuing Education Programme Sida Supported Project, E. Tenambergen, R. Schwarz, and S. Guild., D S A, Nairobi, Kenya, 1997, and The Health Sector in Kenya, R. Schwarz, Development Solutions for Africa, Nairobi, Kenya, 2nd edition 1996. These documents should be consulted for more about the national programs.

Implementation has begun, but the core elements are not yet in place. Responsibility for planning and management of CE activities are being decentralized to the district level. District Continuing Education Coordinators (DCEC) have been appointed and trained in many districts. However, health personnel, including DHMT members, are not aware of the role of the DCEC. DCECs are not integrated into many of the DHMTs, and this limits their effectiveness. No DCECs were even found in the JICA Study Area.

District CE programs are not based on needs assessments, nor guided by properly formulated plans with targets and indicators. There is no National Master Plan for Continuing Education with clearly defined targets, and none of the districts surveyed have produced an adequate action plan for continuing education.

DCECs do not normally coordinate or participate in the planning, implementation and evaluation of CE activities organized and financed by other MOH Divisions, donor agencies and NGOs. Control over these activities is a struggle at the district level. The different roles of the District Public Health Nurse, the District Health Education Officer and the District Continuing Education Coordinator have not been defined.

The government training institutions visited in the JICA Study Area had no organized CE of their own. No seminars or updating workshops have taken place in any of the health centers or dispensaries visited and, except for Kericho, no libraries had been established. No learning materials have been supplied to the facilities.



A few members of the DHMTs have had the opportunity to attend a management course at either K.I.A. (Kenya Institute of Administration) or one of the D.D.I.s (District Development Institutes) in the country. Some have studied abroad. However, there is no provision for continuing education in any of the GOK health facilities visited in the JICA Study Area.

A small number of clinical officers and nurses from facilities which have been provided with STI/HIV treatment kits have attended either STI, FP or ARI seminars/workshops. These were are organized by the vertical program. Only 25 per cent of the professional staff in the rural health facilities had attended any form of training on the past two years. Bomet had the highest number of staff who had attended some form of training (42%); only 2 per cent of the staff in Kisii had received any training in the past two years.

4.1.5 Community Education and Programs

International donors and missions have also funded a wide range of community education projects in Kenya. Recently, the Health Care Financing Project implemented many community education programs in relation to the management and use of cost-sharing funds. A multitude of education programs for Community Health Workers, Community-Based Distributors of Contraceptives and Traditional Birth Attendants have been based in the project areas of the donors or missions sponsoring them. However, there is no central source of information on who has been trained, when the trainings occurred, the subject matter or course contents, nor on the numbers of trained community members who continue to work after the completion of training.

4.2 Training Institutions Visited in the JICA Study Area

There are four training institutions in the JICA Study Area. Bomet District has two mission schools. Kisii District has an MTC and an RHDC, and there is an RHDC in Gucha. An RHTC in Kisii District is the closest RHTC to the study area.

In training institutions visited (listed in the table below), the Principal Tutor or Nursing Officer in Charge was interviewed. The table shows the sector responsible for each of the training institutions. There are two private (mission) schools and one government MTC in the study area train only nurses, although Tenwek also trains community health workers. All three schools utilize MOH facilities for practical experience for their students.

Training Institutions, Sector and Programs in JICA Study Area

Name of Institution	Sector	Programs
MTC Kisii	GOK	Enrolled Community Health Nursing Certificate (2 ½ years)
Tenwek School of Nursing	Mission	Enrolled Community Health Nursing Certificate (2 ½ years); Community Health Workers
Kaplong School of Nursing	Mission	Kenya Registered Community Health Nursing Basic Diploma (3 ½ years)
Chulaimbo Rural Health Training Centre (RHTC) (just outside the study area in Kisumu District)	GOK	Community Health Experience for: KRCHNs from Kisumu MTC (4 - 6 weeks) Clinical Officers from Nairobi, Nakuru & Mombasa (6 - 8 weeks)
Nduru RHDC	GOK	Community Health Experience for ECHN from MTC Kisii (4 - 6 weeks)
Marani RHDC	GOK	Community Health Experience for ECHN from MTC Kisii (4 - 6 weeks)

Chulaimbo Rural Health Training Centre runs short courses for students for many institutions (MOH and other government and private) throughout the year, and numbers vary accordingly. Nduru RHDC and Marani RHDC are used by the MTC Kisii for Community Health Experience throughout the year and numbers also vary accordingly. Numbers of students at any one time are limited by the bed capacity of the facility (32 for Chulaimbo and 8 to 10 for Nduru and Marani RHDCs.)

The following table shows the training capacity of the nursing schools:

Training Capacity of Nursing Schools in JICA Study Area

Institution	Intakes/year	Students/Intake (average)	Total Student Population (ave.)	Ave. Annual Output
MTC Kisii	1	30	120	20
Kaplong School of Nursing	1	25	84	n/a
Tenwek School of Nursing	2[8]	n/a	21	n/a

Kaplong School of Nursing

Kaplong School of Nursing in Bomet District is run by the Catholic Diocese of Kericho. It offers a 3 ½ year Kenya Registered Community Health Nurse (KRCHN) Basic Diploma Course. The school has a total of four tutors of whom three are prepared in Education, as indicated in the following table. The support staff is shared by the school and the hospital.

Qualifications of Professional Teaching Staff at Kaplong School of Nursing

Basic Education e.g. KRN, ECHN	Post Basic Education	Department	Number of Years in Teaching
KRN/KRPN	KRPN/Clinical Institution (in U.K.)	Principal Tutor	3
KRN	KRM/KRCHN/DAN	Midwifery	1 ½
KRN	KRM/KRCHN/DAN	Community Health	3 months
KRN	none	General Nursing	4

[8]Tenwek School of Nursing has not taken any new students for 2½ years in preparation for initiating the KRCHN diploma course.

The teaching staff is small because of the institution's financial restrictions. Additional nurse tutors must be hired on a temporary basis (locums) to meet teaching needs of the KRCHN program.

Student Population
Students are recruited through nationwide advertisement and interview at the school. The fee for the 3 ½ year course is Kshs. 175,000 which includes all training, examination, full board on campus and some pocket money. The school has a total of 84 students with an intake of 25 students once every year. The school is currently only admitting female students because of accommodation limitations.

Curriculum
The school has a copy of a curriculum that is used by the teaching staff to prepare their teaching notes. It also has a Master Rotation Plan that is placed on the board in the Principal Tutor's office. Both the curriculum and the Master Rotation Plan have been approved by the Nursing Council of Kenya.

Physical Facilities
Classrooms: There are two classrooms with a seating capacity of 30 and 15 students respectively. The classrooms are well ventilated with good lighting.

Equipment & Teaching Aids: The school lacks both equipment and teaching aids. It has only a few old anatomical charts and skeletons.

Library: There is a spacious, well laid out library with a seating capacity of 20 at any one time. It is open daily from 8 AM to 10 PM including weekends. There is no librarian and the library is run by the students in conjunction with a member of staff from the Principal's office.

Student Accommodation: There are four dormitories which can accommodate up to 100 students. Students sleep in bunk beds and lack privacy.

Dining Area: There is a roomy dining hall with a seating capacity of 25. Kitchen facilities are clean and well ventilated.

Other Health Facilities: Other facilities used by the school include:
- Eldoret Hospital for Psychiatric experience
- Kisii Hospital for Family Planning experience
- Mbale Rural Health Training Centre for Community Health experience

Transport
The school has no vehicle and shares the hospital transport. This is sometimes inconvenient for the supervision of students.

Continuing Education

There is a joint school/hospital continuing education programme which is coordinated by a tutor from the school. The programme is conducted once every two or three months. There is a need to have more regular CE workshops to discuss the most pressing health problems in the catchment area and their intervention.

Constraints

- shortage of teaching staff
- shortage of teacher housing
- lack of teaching aids, equipment & transport
- lack of space for teaching practicals
- lack of privacy in the student dormitories

Kenya Medical Training Centre Kisii

Kisii Kenya Medical Training Centre is a government institution offering a 2 ½ year ECHN Certificate course. The school has a total of 10 tutors of whom 3 are prepared in Education with post basic courses in the Kenya Registered Public Health Nurse (KRPHN) course and the Diploma in Advance Nursing (DAN). The following table shows the qualifications of the teaching staff at KMTC Kisii.

Qualifications of Professional Teaching Staff at KMTC Kisii

Basic Education e.g.. KRN, ECHN	Post Basic Education	Department	Number of Years in Teaching
Principal Tutor KRN	KRM, KRPHN (DAN)	Community Health	6
Deputy Principal KRN	KRM, KRPHN	Community Health	14
KECHN	KEPI, FP	Community Health	15
KRN	KRM, EPI	Midwifery	11
KECHN	FP	Midwifery	12
KRN	KRM	Midwifery	3
KRN	KRPN	General Nursing	14
KRN	KEPI	General Nursing	4
KRN		General Nursing	16

Student Population

The school has a total of 120 students with one intake of 30 students a year.

Curriculum
The school uses the national Competency Based ECHN curriculum which is used by all ECHN training institutions in Kenya.

Physical Facilities
Classrooms: There is one classroom with a seating capacity of 20 students. The classroom is spacious, has good lighting, and is well ventilated.

Equipment & Teaching Aids: There is a good supply of equipment and teaching aids which are kept in a small practical room.

Library: The library is a very small room with no seating area; students must borrow the books and read them elsewhere. The supply of books is extensive although some are very old and outdated. Several medical journals are on display.

Student Accommodation: Student accommodation, teaching facilities and offices are housed within the same building. There is a total student housing capacity of 96. Students are well accommodated in single rooms.

Dining Area: The dining area has a seating capacity of 30 but there is a lack of chairs so students borrow chairs from their classrooms at meal times.

Other Health Facilities
Other facilities used by the school include:

- Marani & Nduru Rural Health Demonstration Units for Community Health experience.

Transport
The school has two vehicles, one is an old Land Rover and the other a minibus with a seating capacity of 22.

Continuing Education
There is one session of continuing education every month. Workshop and seminar reports are produced and distributed to members of the teaching staff. There is a need to set up a more reliable continuing education program for tutors and preceptors who take care of students in the RHDCs and RHTCs.

Constraints

- library is too small to accommodate the number of books, there is no seating area for students nor for teaching staff;
- lack of office space;
- lack of classrooms, lecture halls and demonstration rooms;
- lack of demonstration equipment, e.g. models;
- shortage of trained lecturers;
- lack of accommodation for all students, some share due to unavailability of rooms.

Tenwek School of Nursing

Tenwek School of Nursing in Bomet District is operated by the African Gospel Church/World Gospel Mission. Until recently it offered the 2½ year Enrolled Community Health Nurse Certificate course. Tenwek has not taken any new students for the past 1½ years in preparation for the change over in curriculum to the 3½ year KRCHN course. The school has a total of 5 tutors of whom 4 are prepared in Education with B.Sc.N. degrees. One is currently enrolled in a M.Sc. in Nursing graduate course. The following table shows the qualifications of the teaching staff at Tenwek.

Qualifications of Professional Teaching Staff at Tenwek School of Nursing

Basic Education	Post Basic Education	Department
KEN	KEM, B.Sc.N, M.Sc.N. Adult education courses	Community Health
KRN	KRM, B.Sc.N.	Midwifery
KRN	KRM	Midwifery
B.Sc.N	M.Sc.N. (in process)	General Nursing
KRN	B.Sc.N.	General Nursing

Student Population
At the time of the field study, there were 21 students who were completing their ECHN course. Students must be Christian and have a C- average for entrance. Students pay Ksh 17,000 every six months for tuition.

Curriculum
The school uses the national Competency Based ECHN curriculum which is used by all ECHN training institutions in Kenya.

Physical Facilities
Classrooms: There are two classrooms, each with a with a seating capacity of 16 students. The classroom has good lighting and is well ventilated. In addition, there are two demonstrations rooms with hospital beds, trolleys, etc.

Equipment & Teaching Aids: There is an excellent supply of equipment and teaching aids, including: Overhead projector, slide projector and screen, TV and VCR; many teaching charts; teaching models of eye/ear/skeleton, heart, kidney, pelvis; resusiAnnie, heart/lung model; manikins for practice in giving injections, starting i.v.s, inserting catheters.

Library: The library is a multi-purpose room which is used for tutors meetings and office space. It is only open 3 hours a day for checking out books. However it is well stocked with over 2,000 books and well displayed journals which include Child Health Dialogue, AFYA Medicus, and AIDS Action,

Student Accommodation: Students are accommodated in two hostels, one for 40 men and another for 36 women. They are well maintained, have adequate water and are only a short distance from the classrooms.

Dining Area: The dining area has a seating capacity of 70..

Other Health Facilities: The schools uses Kapkoros Health Center for the students' Community Health experience.

Transport
The school uses the hospital's vehicles.

Continuing Education
Medical Continuing Education is provided weekly for approximately one hour. Nursing Continuing Education is provided monthly, again for approximately one hour. Continuing education is also provided for other cadres less often, about once a year. There is no set program, and topics are selected and presented as the need arises.

Constraints
- most tutors are expatriate, and the school wants more Kenyan tutors;
- student fees do not cover costs of training;
- classrooms, which are in the hospital, are sometimes disturbed by hospital noise; additional office, library and classroom space, separate from hospital is needed.

Chulaimbo Rural Health Training Center

Chulaimbo RHTC is one of six government rural health training centers which were established to train health center teams in management. The center serves Nyanza Province and is used to run training programmes for institutions nationwide. MTC students are placed at the center for clinical experience.

Physical Facilities
Classrooms: There is one classroom with a seating capacity of 40 students. The classroom is pleasant with good lighting.

Equipment & Teaching Aids: The center is well-equipped to cater for visiting groups.

Library: There is no library. A few books and outdated journals are kept in two cupboards in the office of the Nursing Officer in Charge.

Students/Workshop Participants Accommodation: Students and workshop participants are accommodated in 36 single rooms.

Dining Area: The dining area is very spacious and can seat up to 40 students/workshop participants comfortably.

Transport
The center has two old Land Rovers, but one was involved in an accident and needs repair.

Nduru Rural Health Demonstration Center

Nduru RHDC in Gucha District is used by MTC Kisii for student Community Health Experience. The students attend for between 4 to 6 weeks.

Physical Facilities
Classroom: There is one small classroom with a seating capacity of 12 students. The classroom is pleasant with good lighting.

Equipment & Teaching Aids: Except for a chalk board, all equipment is kept in the clinical area. This includes a KEPI Fridge (RCW 42 EG), vaccine carrier, prestige sterilizer, Family Planning instruments, etc.

Library: There is no library. A few books and outdated journals are kept in a cupboard in the classroom.

Accommodation: Students are accommodated in a three roomed house which has a kitchen, a toilet, a shower and a dining area. There is housing for eight or nine students at a time.

Transport
The center has an old Land Rover that is broken down.

Marani Rural Health Demonstration Center

Marani RHDC is in Kisii District. It is used by MTC Kisii for Community Health Experience. Students attend for between 4 to 6 weeks according to the Master Rotation Plan.

Physical Facilities
Classroom: There is a small classroom with a seating capacity of 12 students. The classroom is well lit and pleasant.

Equipment and Teaching Aids: Equipment and teaching aids are situated in clinical settings. They include a KEPI Fridge (RCW 42E), vaccine carrier, prestige sterilizer and others.

Library: No library. A few books and magazines are kept in a cupboard in the classroom.

Accommodation: Students are accommodated in a three bedroomed house which has a kitchen, shower, toilet and a dining area. Eight or nine students can be housed at a time.

Transport
The center has no transport.