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WATER AND SANITATION BASELINE SURVEY

NYANZA PROVINCE

A SUMMARY REPORT BASED ON THE DISTRICT WATER AND SANITATION SURVEY CONDUCTED BY THE
DISTRICT WATER AND SANITATION DEVELOPMENT COMMITTEES IN NYANZA PROVINCE

COORDINATED AND EDITED BY

PROGRAMME MONITORING AND EVALUATION UNIT OF THE RURAL DOMESTIC WATER SUPPLY AND SANITATION
PROGRAMME 1996



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PREFACE

The District Water and Sanitation Baseline Survey in Nyanza Province was commissioned by the District Water and Sanitation Development Committees (DWSDCs) in Nyanza Province. The DWSDC is a sub committee of both the District Development Committee (DDC) and the District Executive Committee (DEC). It is responsible for coordination and implementation of water and sanitation development programmes.

The Water and Sanitation survey conducted in Nyanza province from April to June 1996 marks the realization of an important milestone towards the improvement of data for planning of water and sanitation activities. The baseline survey itself was necessitated by the absence of reliable and up to date data at the district level with sufficient levels of disaggregation for focused planning of sector activities.

Within the framework of Kenya's District Focus For Rural Development Strategy (DFRDS), the DWSDC baseline survey was designed to make data on water and sanitation sector available to district level planners for the design of appropriate policies and strategies to meet the water and sanitation sector goals and objectives.

A Household based sample survey provided the most reliable method for generating data on water and sanitation indicators. A well structured and planned survey initially provides the best source of data on programme coverage and measuring differentials in various indicators. There was therefore no any other cost effective way of generating data except at household level, within the sub-location and with focused in depth interviews with key informants representing divergent socio-economic groups.

The baseline survey used both quantitative and qualitative methods of investigations. Of particular interest was the checklist comprising of unstructured questions for key informants which focused on the socio-cultural beliefs and practices that hinder or promote popular participation in water and sanitation provision.

The information made available in this report covers household and demographic characteristics, morbidity patterns, self help group activities, water and sanitation coverage, water collection, water storage and use at the household level, water point quality and reliability, toilet facilities coverage, maintenance and use, and socio-cultural beliefs and practices that relate to water and sanitation. Specific district reports are available for more detailed information at the district and divisional levels.

The water and sanitation baseline survey tools were developed jointly by the District Water and Sanitation Development Committees and the Programme Monitoring and Evaluation Unit, perfected and standardized by Coperts Consultancy Services. The methods used for report writing was participatory in the sense that the district teams participated in the actual drafting of the various chapters of the district reports.

The cost of the survey was met by the Rural Domestic Water Supply and Sanitation Programme's-Monitoring and Evaluation Unit and the Kisii Catholic Diocese's Rural Water Development Programme. The Programme Monitoring and Evaluation Unit also provided technical, logistical and coordination support to the exercise.



ACKNOWLEDGMENTS

The Provincial Water and Sanitation baseline survey report is a summary of various district reports produced by multi-sectoral teams. The process began in 1995 when the Nyamira district survey was completed as a pilot study. Based on the experience of Nyamira, the various District Water and Sanitation Development Committees assembled in Kisumu in February 1996 and agreed on the survey design, the implementation modalities and selected a team for coordination of field work.

Sincere thanks are extended to the following Organizations and individuals for the roles played in the survey.

Overall coordination Mr Alfred Okinda Ogwande (Consultant), Mr Alfred Okeyo Adongo and Mr Matheus Toot of BKH Engineering Consultants.

Data collection CBS enumerators, Supervisors and District Statistical Officers, the District Water Engineers, the District Development Officers; the District Public Health Officers and the District Programme Officers

Data entry, processing and analysis. Mr. Walter Okello, Margaret Nyamuok and Alfred Okinda Ogwande

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EXECUTIVE SUMMARY

Introduction:

Access to safe drinking water and a sanitary means of waste disposal are important determinants of good health and socio-economic development. In recognition of this fact, the Government of Kenya in the early 1980s set a goal of providing universal access to safe and potable water at a source less than one kilometer from home in water-rich areas and less than five kilometers away in water-deficient areas by the year 2000. Although this target may prove elusive to meet, the provision of safe drinking water remains a priority item in the Government's development agenda. The links between safe drinking water and adequate environmental sanitation can hardly be exaggerated. Many policy makers now recognize the correlation between the prevalence of certain diseases and poor environmental sanitation. Studies show that diarrhoea and other water-borne diseases are caused largely by inadequate sanitation.

It is in recognition of the importance of water and sanitation that the District Water and Sanitation Development Committees (DWSDCs) were created in all the districts of Nyanza Province to plan, coordinate, monitor and evaluate the sector activities. The DWSDC brings together government departments and non-governmental organizations who are involved in the water sector. The DWSDC is a technical sub-committee of both the District Development Committee (DDC) and the District Executive Committee (DEC), under the coordination of the District Water Engineer. The committee provides a forum for the participating partners to network, share experiences, review progress of implementation and share resources in the process of implementation.

As a planning and coordination committee, the DWSDC require strong databases on water and sanitation coverage, socio-economic factors influencing the provision of water, differential access to safe water by region, the condition of the existing facilities and the level of community involvement and participation in the provision of water and sanitation facilities. Making this data available facilitates focused planning of the sector activities and monitoring and evaluation of progress being made in the the achievement of sector objectives.

The District Water and Sanitation baseline survey in Nyanza Province was therefore an effort by the District Water and Sanitation Committees to fill essential data gaps by developing a viable database that can be used to assess the supply and demand for water and sanitation at the divisional and district levels and form a basis for resource allocation and targeted interventions. The ultimate objective of the baseline survey exercise was to allow for a participatory approach towards provision of water and sanitation activities. The involvement of beneficiary communities in identifying, implementing and managing development programmes which address their felt needs, is critical to the development and sustenance of such programmes. This is the essence of the District Focus for Rural Development Strategy.

The survey was based on the Central Bureau of Statistics National Sample Surveys and Evaluation Programme, Phase III (NASSEP III). The master sample frame is based on the population of enumeration areas in the district. Enumeration areas are themselves based on the latest population census, and are updated from time to time to take account of changes taking place in the population structure and distribution. The enumeration areas are further divided into clusters of between 100 and 200 households. They were selected on the basis of probability proportion to size, using population and number of households as measures of size.

Besides a household based questionnaire, the baseline study used a non-standardized check-list of questions which were administered through focus group discussions in locational barazas. The discussions focused on cultural beliefs and practices relevant to the water and sanitation sector. An



additional inventory questionnaire was used to collect information on existing facilities, their status, ownership and management

This Provincial report summarizes the information presented in various district reports. The districts covered in the survey include **Kuria, Suba, Homa Bay, Migori, Kisii, Siaya, Nyamira and Kisumu**

The Survey Results

Demographic Characteristics.

The population distribution reveals female dominance in all the districts except Nyamira. Siaya leads with female to male ratio of 54.45 while Nyamira has a 50.50 ratio. This pattern is similar to the national trend as depicted by the 1989 population census with a ratio of 52.48. Households are predominantly headed by males except for Siaya with 51.3 percent of households headed by women. Average household size varies from 4.2 in Siaya to 5.8 in Migori. About 60 percent of the population in all the districts are single. About one quarter of the population are monogamously married.

Education and Literacy

Kisii leads with a more literate population (68.7 percent) followed by Kisumu (65.5 percent) and Suba (64.1 percent). Kuria has the lowest percentage of literate population with only 49.8 percent of the population able to read and write. About half of the surveyed population in all the districts had attained primary education.

Household Income

The survey collected information on farm and wage incomes. Nyamira, Migori and Kisumu emerged with the highest annual incomes of Kshs 31,826, 24,294 and 20,759 respectively. Siaya emerged as the poorest district with an average annual income of Kshs 9,685. However, in all the districts, over three quarters of the population earned less than Kshs 2,000 per annum.

Health Status

Kuria district led with morbidity prevalence of 39 percent in the two weeks preceding the survey. Homa Bay, Suba and Siaya followed with 27 percent morbidity prevalence while Kisii had the lowest prevalence rates at 16 percent. Fever reported as malaria accounted for half of the reported sickness with vomiting and diarrhea accounting for 15 percent. In the event of sickness, about 90 percent of the population sought assistance from a health facility or purchased drugs. It is notable that 11 percent of the population in Migori did nothing about the sickness.

Housing

Status of housing in Nyanza Province is relatively poor. Over 80 percent of the houses have mud floors and walls. Kuria recorded almost all houses as having mud floors or walls. In a similar trend, the roof of the main houses are mainly grass thatched. Nyamira and Kisii led with iron roofed houses accounting for 60 and 41 percent of the houses respectively. Most of the houses are ventilated with at least one window. Siaya recorded the most poorly ventilated houses with 32 percent having no windows. In terms of the number of rooms in the main house, most had two rooms with Kisii leading in houses with over three rooms 76 percent. Kuria had the largest concentration of one roomed houses 29 percent.

Water and Sanitation



Access to safe drinking water and a sanitary means of waste disposal are important determinants of good health and socio-economic development. Data collected on sources indicate that on average over half of the households have access to water from unprotected sources during the wet and dry seasons in Nyanza, Migori and Suba lead with unsafe (unprotected) sources accounting for 90 percent of water consumed. Water is mainly fetched with the help of human porter in all the districts (over 90 percent). Distance to the water source varies between the wet and dry season. Distances and time taken to fetch the water are longer during the dry season than during the wet season. Kuria, Suba and Nyamira registered the largest percentages of persons collecting water from over 3 Kilometers in both seasons. Kisumu had the best supply in both seasons with over 97 percent having water within one kilometer. Kuria and Suba also lead in terms of longer hours taken to fetch water.

In most of the districts, water is stored in clay pots accounting for over 60 percent. However, Kuria and Kisumu registered higher concentration of plastic buckets accounting for 41 and 30 percent of storage facilities respectively. It is interesting to note that 61, 58 and 50 percent of the households in Siaya, Suba and Migori respectively did not treat the water in any way even though it was collected from unsafe sources. In terms of water point reliability protected sources were more reliable in the dry than in the wet season. Unprotected sources had the opposite picture.

Suba and Migori recorded the lowest presence of latrines or toilets with only 30 and 29 percent having such facilities respectively. Nyamira and Kisumu had the highest concentration of sanitary facilities with 98 and 93 percent of the households having the facilities respectively. Siaya, Kuria and Homa Bay led with dirty sanitary facilities. However, Suba and Kisumu had the smelliest facilities with the largest number having flies. Utilization of toilets is more in Siaya with 94 percent of the households having distinct tracks leading to the sanitary facilities.

The districts to watch or target are Suba, Siaya and Kuria.



CHAPTER 1: INTRODUCTION

1.1 The Water and Sanitation Baseline Survey

The Nyanza Province water and sanitation baseline survey was carried out in all the divisions of Kisumu, Siaya, Homa Bay, Suba, Kuria, Kisii and Nyamira districts. Rachuonyo district was carved out of Homa Bay after the survey had been completed. Data for Rachuonyo district is therefore included in Homa Bay.

The survey focused on the water and sanitation sector. The units of analysis included the household and demographic features of the communities, safe water supply accessibility and availability, water collection, use and storage, water quality and reliability, operation and maintenance, and community organization and participation, and village sanitation.

Besides collecting field data directly from the household heads, using quantitative questionnaire, the survey also used qualitative methods of investigation to solicit for information concerning people's attitudes and behavior towards water and sanitation provision, operation and maintenance. Such information provide the districts with vital data for designing community animation strategies.

The ultimate objective is to involve the beneficiary communities in identifying, implementing and managing development programmes which address their felt needs. The attainment of this objective requires that Government officers at the district, divisional and locational levels clearly understand and appreciate the development problems of the various communities in the districts. Water and sanitation is a priority need in any community but given the limited funds available for its development, prioritization of communities in terms of need is quite critical to the sector.

1.1.1 Statement of objectives

Since the beginning of the 1980's, the Government of Kenya has shown a greater commitment to decentralized planning and implementation of development programmes. This was articulated within the framework of the District Focus for Rural Development Strategy. This strategy has, however, been affected by lack of district, divisional and community based data for effective planning and programming.

The **first objective** of the water and sanitation baseline survey is, therefore, to provide a viable database that can be used to assess the supply and demand for water and sanitation facilities at the divisional level, hence forming a basis for resource allocation. Inevitably, it should lead to better understanding of the distribution of water and sanitation facilities and empower the DWSDC's with information that is required for participatory planning of water and sanitation activities.

The **second objective** is to provide information required for identification of target communities, which should benefit from improved water and sanitation facilities.

Thirdly the survey seeks to provide insight on what is happening to existing water sources and facilities in terms of operation and maintenance.

The **fourth objective** is to examine socio-cultural practices that promote and or hinder active community participation in water and sanitation provision.



The baseline data should lead to increased efficiency in the planning, implementation and management of water and sanitation sector activities. If repeated in subsequent years, it will take on a monitoring role by measuring changes occurring in socio-economic development and health status of the communities which have benefited from improved water and sanitation facilities.

1.1.2 The Survey Instruments and Sampling Procedure.

The survey has been based on the Central Bureau of Statistics' National Sample Surveys and Evaluation Programme, Phase III (NASSEP III). The district reports provide a detailed explanation of the programme and its utilization.

Five questionnaires have been used for collecting data. Questionnaires 1 (Household Characteristics), 2 (Housing, Water and Sanitation) and 3 (Household income) were standard quantitative questionnaires administered by the Central Bureau of Statistics enumerators at household level. Questionnaire 4 was an inventory of water resources at sub-locational level and was administered by the assistant chiefs in collaboration with village elders. Questionnaire 5 was qualitative in nature and meant to solicit people's opinions, attitudes and behavior on various aspects of culture that relate to water and sanitation. It was administered to key informants by district survey coordinators at the locational level.

For the quantitative survey, a sufficiently large sample was drawn to cover all the various socio-economic groups in each district. Thus, a 20% sample of listed households was drawn, covering all the rural clusters in the districts surveyed. The list frames used were for NASSEP III (1990-1995). Selection of households was based on systematic random sampling, which was recommended due to the pattern of listing.

For Qualitative Survey, a few locations from each of the Divisions were randomly selected. The Questionnaire was administered through focused group discussions at the Locations. This method was deemed necessary because it was found to be cost effective, not time consuming and the cultural beliefs and practices at the locational level were thought to be relatively homogeneous. In areas where cultural heterogeneity was expected, this was taken care of by isolating such communities and interviewing them separately.

The Inventory Questionnaire for developed water facilities was administered in all sub-locations of the Districts using the Assistant Chiefs.



1.1.3 Coverage and Response Rates

Table 1.1 shows the sampled households against actual coverage and the response rates in all the districts covered

Table 1.1 Distribution of sampled households and response rates

Kuria	4	140	138	99.0
Suba	6	160	156	98.0
Homa Bay	29	580	488	84.0
Migori	14	441	382	87.0
Kisumu	36	720	719	99.9
Siaya	36	720	719	99.9
Kisii	36	720	06	98.0
Nyamira	724	554	501	90.0
Total	185	4035	3809	94.4

1.1.4 Baseline Survey Administration

For the household Survey, 77 CBS regular enumerators and 18 field supervisors were trained for one day on how to complete questionnaires and each enumerator was assigned a number of clusters to cover for a period of 10 days. The number of enumerators and supervisors varied from district to district.

The Qualitative Survey had 39 Supervisors/Research Assistants drawn from various DWSDC Member Agencies and trained for one day on the questionnaire. The 39 were dispatched with some grouped into teams of two persons and each team covered a number of Locations.

In each district, the field work exercise was coordinated by a Research Officer, who was the District Statistical Officer. Administrative arrangements were facilitated by the District Water and Sanitation Development Committee working group Chairman and the District Development Officers.



Data from the Field Enumerator was received by the Supervisors and checked/scrutinized and forwarded to the District Statistical Officers. Editing clerks checked every questionnaire to ensure that the entries were made as required before they were finally dispatched to PMEU - Kisumu for further processing.

1.1.5 Concepts and Definitions

1.1.5.1 Household

In this survey, the household has been used as the basic unit of inquiry and of analysis of household-based data. A household is defined as a person or a group of persons usually (but not always) bound together by ties of kinship, sharing common source of food, living within the same compound (not necessarily fenced) or house, and answerable to the same head.

1.1.5.2 Head of Household

The head of the household was defined as the key decision-maker whose authority is acknowledged by other members. Identification of who was considered by other household members to be the head of the household was of analytical importance because the economic status of the household head is one of the factors that has been used in this report to classify the households into various socio-economic groups.

1.1.5.3 Household Characteristics

Standard demographic questions were asked on names of regular household members, their ages, sex, marital status, economic status, and relationship to the head of the household. In addition, questions were asked on the highest level of education attained by each member, literacy, morbidity trends, and membership of community development groups.

1.1.5.4 Household Income

While income is a key measure of household well-being its measurement poses a number of conceptual and practical problems. An attempt has, however, been made to capture household income accruing from two main sources, agriculture and wage(or salary) from employment.

1.1.5.5 Housing, Water and Sanitation

The quality of housing and access to basic amenities are important determinants of household welfare. Questions were therefore asked to generate information that has been used to assess adequacy of housing and sanitation behavior, water accessibility, water collection and use, water reliability, water quality and operation and maintenance.



1 1 5 6 Operation and Maintenance

Community participation in operation and maintenance is important for long term sustainability of water sources. The existence of Management Committees and the availability Bank Account are indicators community participation

1 1 5 7 Water Reliability

Water is life and therefore needed all the times for different uses. Reliability of a water source is therefore defined by the availability of water in that source all the times and most of the time when the households need it

1 1 5 8 Access to Toilet Facilities

Access to toilet facilities is defined by the availability of a form of facility at the homestead or within easy reach of a household that is used for the disposal of excreta. Respondents were asked to indicate the type of toilet available for their use and the materials used to construct them

1 1 5 9 Toilet Facilities Maintenance and Use

The availability of a toilet facility in a homestead is not enough to determine use. Use of a toilet facility may be hampered by lack of maintenance leading to offensive smell, presence of flies and careless disposal of excreta on the floor. Toilet facilities were therefore physically checked to determine their maintenance status in addition to checking for the presence of a distinct track leading to the facility

1 1 5 10 Social Cultural Beliefs and Practices

Socio-cultural beliefs and practices comprise norms and taboos that regulate behavior and attitude towards provision and use of water and sanitation facilities. These norms and taboos may have both positive and negative implications on water and sanitation. Questions were therefore asked to establish the impact this has on water usage, water sources, water collection, use and ownership of latrines, water storage and provision

1.2 The District Water and Sanitation Development Committees

The District Water and Sanitation Development Committees (DWSDC) are technical arms of the District Development Committees (DDC) and the District Executive Committees (DEC). They were formed through the initiative of the Ministry of Land Reclamation, Regional and Water Development and a number of donors and NGOs participating in the water and sanitation sector

In order to ensure effective and coordinated implementation of Water and Sanitation Programmes undertaken by various agencies in Nyanza Province, it was felt necessary to have a technical committee at the district level to oversee and coordinate water and sanitation activities in the Province

The DWSDCs were established in June 1992 in all the districts except Suba where it was established in June 1996. Their main function was to advise the DDC and DEC on appropriate policy directions in



water and sanitation sector within the district. The committees are composed of government departments and non-governmental organizations involved in the implementation of water and sanitation activities in each district. The committees provide a forum for all the actors in water and sanitation sector through which to network and address issues of common interest. The functions of the committee include CO-ordination, policy generation, planning and monitoring and evaluation.

To perform the above functions effectively the DWSDC requires basic planning up to date data on: the current water and sanitation needs and demand desegregated by administrative units, the existing water and sanitation potentials per administrative Unit and the social-cultural beliefs and practices of the community as appertains to water and sanitation sector development and use by gender and various age-groups.

Most of the data required by the DWSDC is not available. There is therefore a general lack of accurate, up to date data that can be used for focused planning and to form the basis for monitoring and evaluation. It is against this background that the present district water and sanitation baseline survey was commissioned in all the districts in Nyanza Province with a view to generating the necessary data at the district and divisional levels.



CHAPTER 2: DEMOGRAPHIC PROFILE AND HOUSEHOLD CHARACTERISTICS

2.0 Introduction

The results of the 1989 population census records the population of Kisumu as 664,086 Siaya (639,439), Kisii (747,042), Migori (378,459), Homa Bay (468,943), Suba (115,896), Kuria (103,285) and Nyamira (471,461). The intercensal growth rate was 3.0% for Kisumu, Siaya (3.1%), Kisii (2.72%), Migori (3.0%), Homa Bay (3.0%), Suba (3.0%), Kuria (3.0%), and Nyamira (2.72%) with an average of 2.92% for Nyanza province.

2.1 Demographic Profile

The detailed findings of the survey are analyzed and discussed in various district reports. The chapters below present a summary of the findings by district.

2.1.1 Household Size

According to the survey results, the average household size in Nyanza Province ranges between 4.2 persons in Siaya to 5.8 persons in Migori district. A large percentage of households have more than six persons.

Table 2.1 Percentage Distribution Of Household Sizes by District

District	Members						Mean
	1	2	3	4	5	6+	
Kuria	4.3	4.3	17.1	14.3	11.4	48.6	5.0
Suba	19.4	9.4	11.1	22.2	11.7	26.1	4.5
Homa Bay	13.2	10.8	15.0	15.6	14.0	31.5	4.6
Migori	7.4	5.8	7.6	8.7	15.3	55.3	5.8
Kisumu	11.9	11.8	13.9	15.1	13.4	33.9	4.6
Siaya	18.4	14.8	12.7	14.9	12.0	27.1	4.2
Kisii	3.6	9.5	10.5	12.9	12.4	51.0	5.5
Nyamira	21.4			42.8		35.8	

2.1.2 Sex Distribution

The distribution of respondents by sex is shown in the figure below. As shown, women form a larger percentage of the population in all the districts except for Nyamira district where the proportions are almost equal.



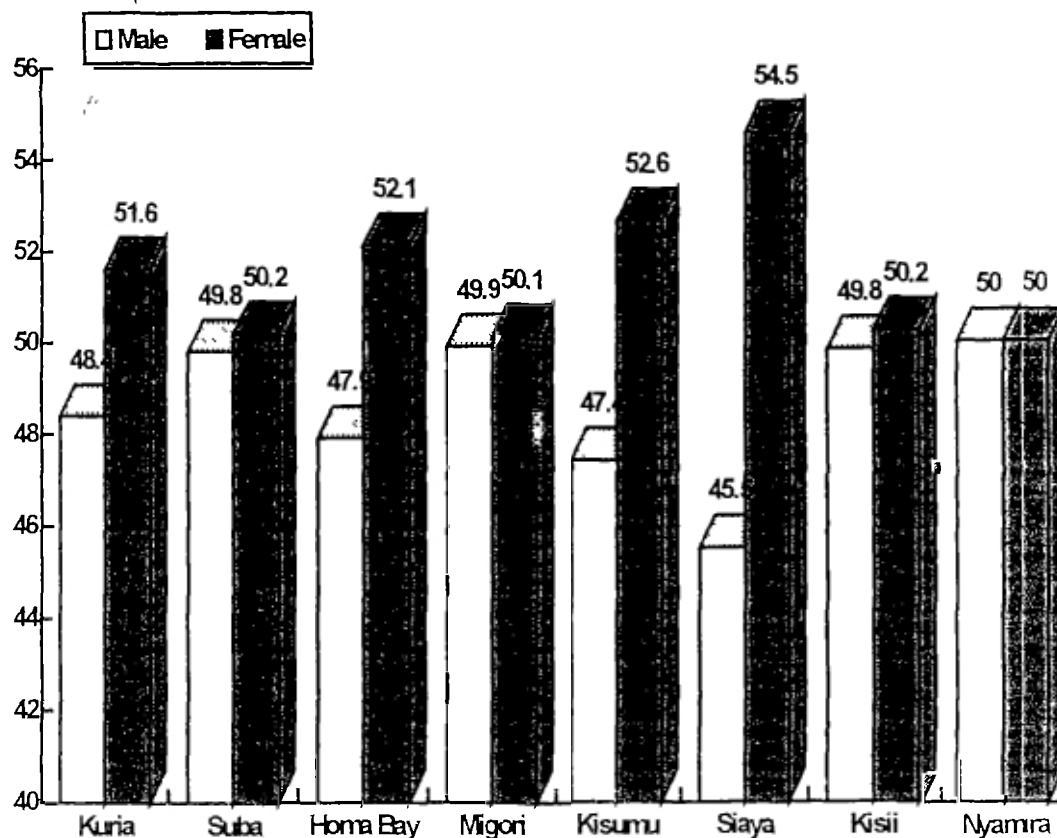
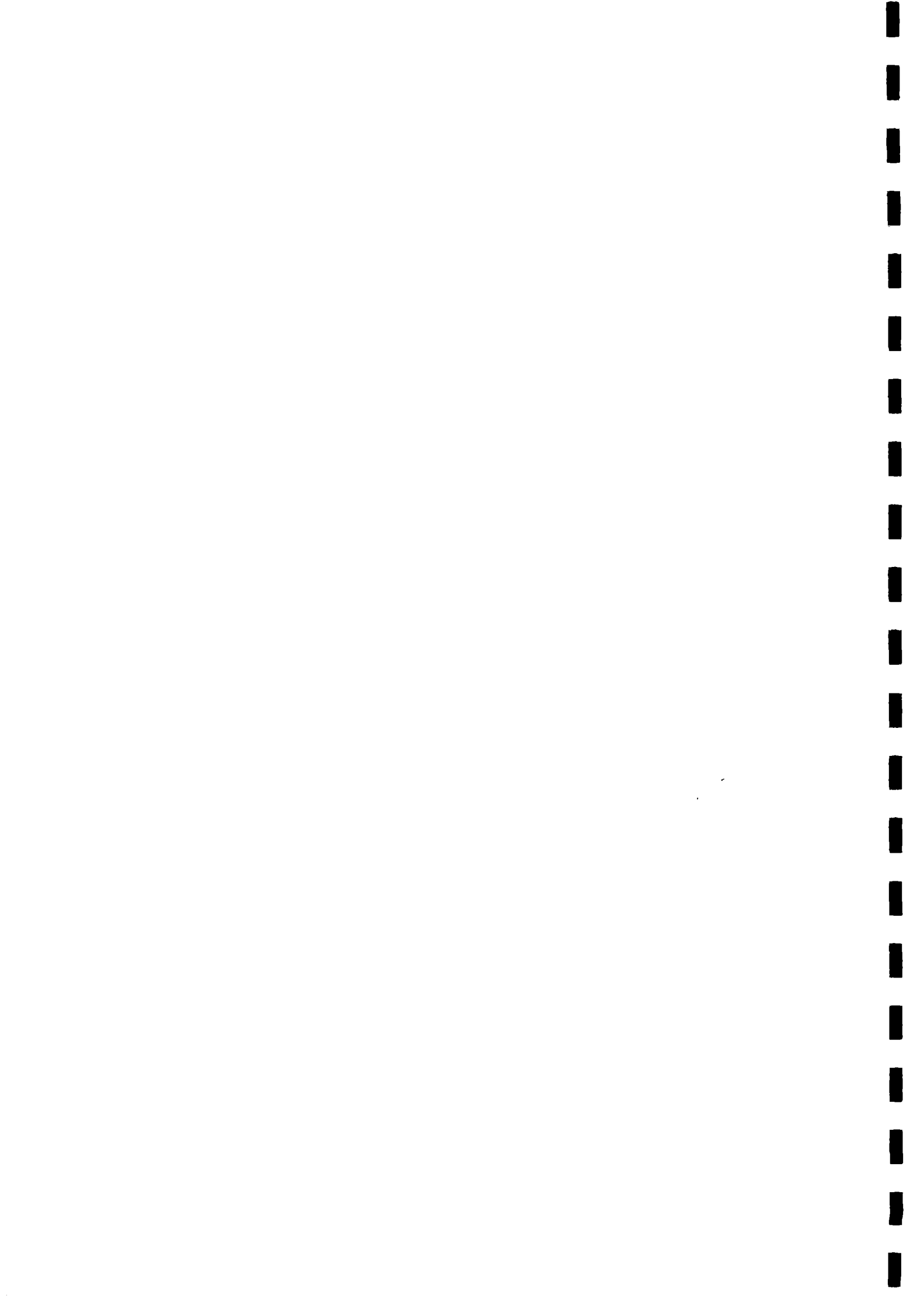


Figure 2.1: Percentage Distribution of Population by Gender

2.1.3 Household Heads

The headship of a household is considered an important demographic variable. The sex of the head, her/his educational level, his/her occupation and industry have economic and social implications for the household. It is observed that in rural areas where opportunities are scarce and, given that most females have few or no skills for high paying occupations, dependents of these female household heads are more likely to be relatively more deprived of essential necessities of life. Figure 2.2 shows the distribution of household heads by gender.



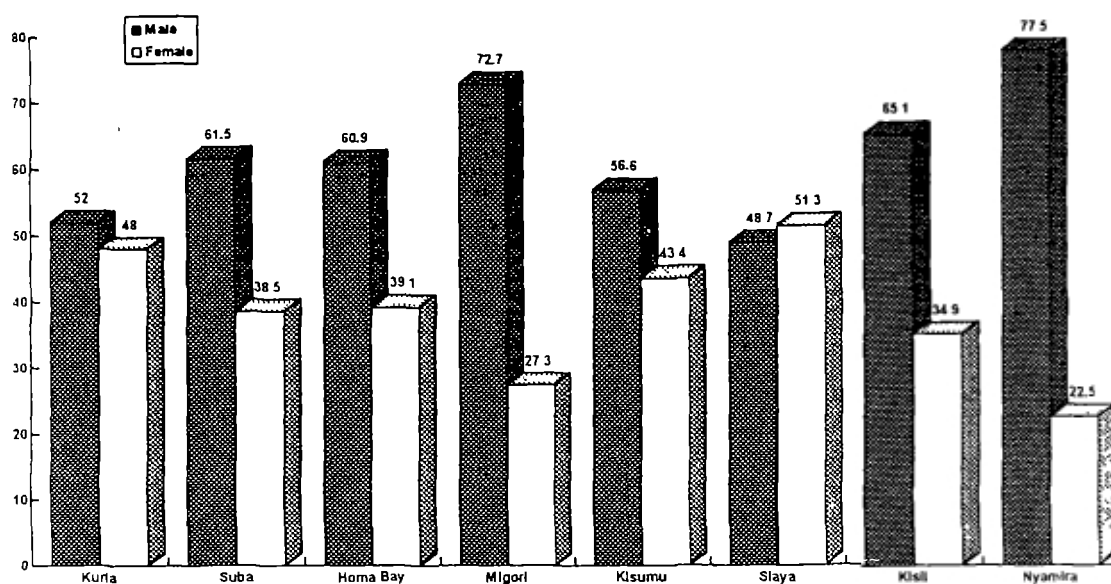


Figure 2.2: Percentage Distribution of Household Head By Sex

2.1.4 Marital Status

The marital status of a population has demographic implications on its fertility rate. Table 2.2 shows that approximately 60% of the population in Nyanza Province are single. There is a small percentage of widowed persons (about 5.7% in Kisumu). Divorce and separation rates are low in all the districts.

Table 2.2: Percentage Distribution of Household Members Marital Status By District.

Kuria	61.9	24.2	11.6	0.3	2.0
Suba	60.4	27.3	7.3	0.6	4.4
Homa Bay	57.7	24.2	11.1	0.6	6.4
Migori	58.1	24.7	13.0	0.3	7.5
Kisumu	61.7	24.1	7.8	0.7	5.7
Siaya	59.8	23.6	6.4	0.9	9.3
Kisii	68.2	23.2	3.8	0.7	4.1
Nyamira	..	..	..	..	..



2.1.5 Level of Education and Literacy

The survey was interested in both the literacy levels of the household members and the educational attainment of the head of the household. This was important because the literacy level of a population gives a good indication that populations potential for participation in socio-economic development. Literacy empowers those who possess it to receive a wide body of ideas and often to act positively towards the fulfillment of those ideas. The rate of acceptance and adoption programmes aimed at improvement of health and sanitation status of the people will largely depend on their education status.

The survey results shown in figure 2.3 below reveal that about 60% of the respondents in all the districts were able to read and write while about 30% were not.

A related area of interest was to find out the education attainment of the household members. Table 2.3 reveal that about a quarter of the household members have gone to school up to the Primary level while a similar proportion have no education at all in all the districts.

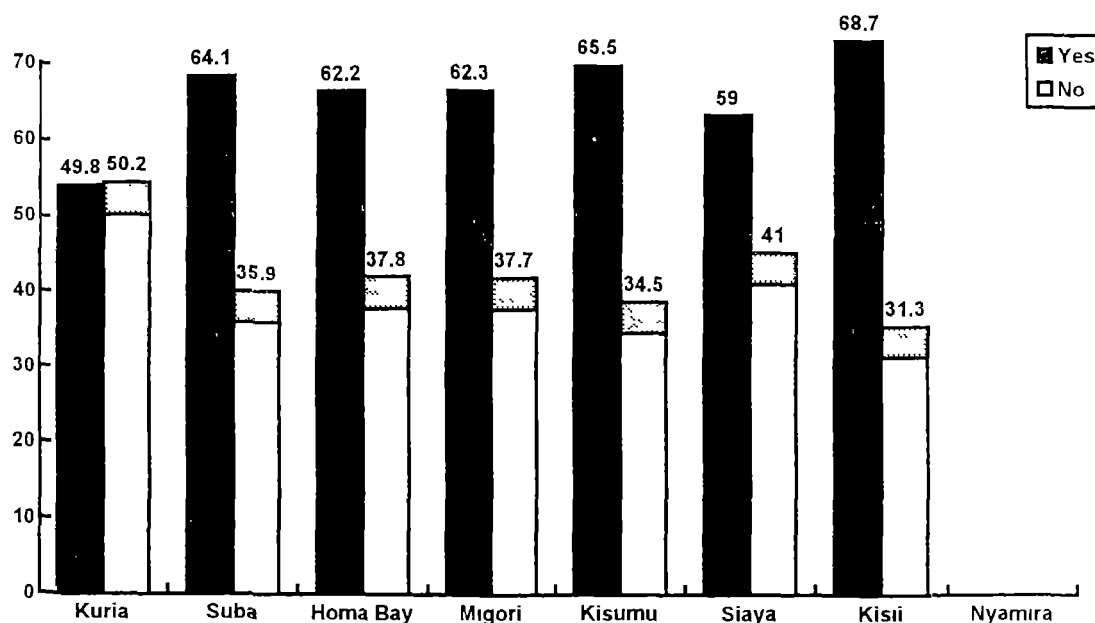


Figure 2.3: Percentage Distribution of Household Literacy by district



Table 2.3 Percentage Distribution of Household Members by Education and District

District	None	Level of Education					
		Std 1-4	Std 5-8	Form 1-2	Form 3-4	Form 5-6	University
Kuria	21.7	29.4	30.2	2.8	0.5	1.8	0.7
Suba	12.5	26.4	30.0	24.0	4.5	2.6	0.0
Homa Bay	22.6	32.8	36.2	3.7	4.5	0.2	0.0
Migori	32.1	24.5	30.5	5.1	4.3	2.4	0.0
Kisumu	30.3	25.8	31.7	2.2	9.3	0.8	0.7
Siaya	34.7	25.2	33.4	2.5	4.0	0.2	0.1
Kisii	27.1	16.8	34.4	7.5	13.3	1.0	0.0
Nyamira	17.1	24.0	33.6	20.0			5.3

2.1.5 Economic Status

Table 2.4 shows household members occupational status. Most of the household members are engaged in farming activities, with most of the districts recording over 30% of this occupation. Nyamira district has the lowest proportion of household members about 38% in this category. However the youthful population implies that quite a sizable percentage of the household members are students.

Table 2.4: Percentage Distribution of Economic Activity

District	Economic Activity						
	None	Student	Farmer	Reg. Wage Earner	Casual Employee	Business/Trade	Domestic Work
Kuria	0.7	0.0	96.5	2.1	0.7	0.0	0.0
Suba	5.4	0.6	66.0	19.2	2.6	3.2	3.2
Homa Bay	4.4	44.0	43.0	3.6	1.0	3.1	0.9
Migori	3.2	0.0	81.1	5.1	2.2	7.5	0.8
Kisumu	3.7	0.5	59.0	15.9	6.3	14.3	0.3
Siaya	4.7	42.8	42.7	1.8	1.8	4.6	1.6
Kisii	0.8	0.0	78.9	11.0	3.0	4.8	0.0
Nyamira	2.0	49.0	38.3	7.9	3.4	0.0	0.0

2.2 Self-Help Activities

2.2.1 Introduction

The major aim of self-help groups is to tap the people's capacity to help themselves by undertaking programmes that have a direct impact on their welfare. These in turn improve the quality of their lives, their capacity to organize themselves for the common good and their ability to use locally available resources. The participation of people in self help activities is of critical importance to water and sanitation sector because the self help groups can form the entry point for encouraging community participation in the provision and maintenance of water and sanitation facilities.



The survey results shown in figure 2.4 indicate that over 75% of the respondents in all the districts were not members of any self help group, and only about 25% were members. Kisii district had about 19% of the respondents as members of self help groups while Kuria district had only about 6.5%.

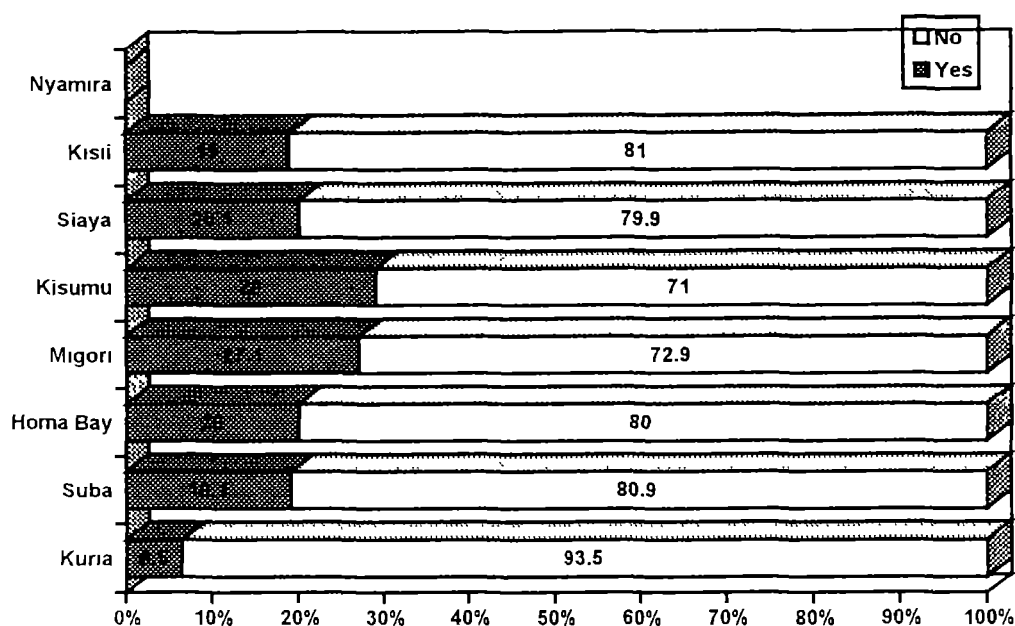


Figure 2.4: Percentage of Households by Self-help Group Membership

Table 2.5 and 2.6, respectively, give the distribution of self help group types and the predominant activities the groups undertake on a regular basis. It is quite evident that most people who join groups, do so for the purpose of generating income. The most predominant activity as shown in table 2.6 is savings and credit followed by farming. Apparently there are very few household involved in water projects as the main activity.

Table 2.5: Percentage Distribution of types of Self-Help Groups by District

District	Group Types				
	Number	Income Generation	Socio-Cultural	Health	Others
Kuria	546	37.8	29.7	29.7	3.0
Suba	560	23.0	71.1	0.0	5.9
Homa Bay	200	49.4	38.3	0.0	12.2
Migori	194	29.6	57.4	6.6	6.4
Kisumu	601	70.2	21.0	2.8	6.0
Siaya	229	58.4	40.0	0.0	1.6
Kisii	348	79.5	14.0	0.0	6.5
Nyamira	384	98.0	0.0	0.0	0.4



Table 2 6 Percentage Distribution of Self-help group Activities by District

District	Activities				
	Farming	Trading/ H.Craft	Livestock	Savings & Credit	Other
Kuria	25 0	55 6	0 0	0 0	19 1
Suba	58 5	1 8	0 0	46 5	13 2
Homa Bay	58 0	9 2	0 0	25 1	7 7
Migori	58 8	5 4	3 1	19 3	13 6
Kisumu	21 5	16 9	1 0	43 2	15 1
Siaya	39 3	5 8	1 6	50 9	2 4
Kisu	13 2	20 4	4 0	57 7	4 7
Nyamira	7 0	7 4	0 0	82 6	3 0

2.3 Household Income

This study was primarily a baseline study of the water and sanitation sector. While income data is important to the water and sanitation sector, particularly with respect to community financing of water and sanitation facilities, it was not technically feasible to collect detailed income and expenditure data. The survey therefore mainly collected data on the income of the household members based on farm, business and wage/salary. Thus the total income of the household as per this study is derived from the sum of:-

1. Farm/Business income last month and last year
2. Wage/Salary income last month and last year

Table 2 7 presents this information. Kisumu district has an average monthly and annual household income of Kshs 3,155 30 and 20,759 15 respectively. Data on income was not collected in Kuria district. Nyamira and Kisu recorded the highest incomes while Siaya had the lowest.

Table 2 8 shows the percentage distribution of monthly household income by income grouping. It is quite clear that three quarters of the households in Nyanza Province earn monthly income of less than Kshs 2,000 while the rest of the households earn a monthly income of between Kshs 2,000 to 7,999. Less than 2% of the household earn over Kshs 8,000 in all the districts except Migori with 5.5%.



Table 2.7: Distribution of Monthly and Annual Average Household Income By District.

District	Mean	Income by Source		
		Farm/Business	Wage	Total
Kuria	Monthly	..	..	2348.4
	Annual	..	..	11797.4
Suba	Monthly	423.0	702.0	1125.7
	Annual	4610.4	8548.1	13158.5
Homa Bay	Monthly	783.1	551.0	1334.1
	Annual	5781.2	3477.8	9259.0
Migori	Monthly	1397.1	569.3	1966.4
	Annual	18873.3	5420.7	24294.0
Kisumu	Monthly	1037.3	2118.0	3155.3
	Annual	8295.7	12463.45	20759.2
Siaya	Monthly	572.9	402.5	975.4
	Annual	6196.3	3490.3	9685.6
Kisii	Monthly	702.9	570.7	1273.6
	Annual	7752.3	5660.5	13412.8
Nyamira	Monthly	641.0	2000.0	2641.0
	Annual	10816.0	21000.0	31816.0

Table 2.8: Percentage Distribution of Household Income by Income Cohort by District

District	Kshs. 0-1999	Kshs. 2000-7999	Kshs 8,000+	Total
Kuria	..	..	..	..
Suba	..	..	..	..
Homa Bay	89.5	8.9	1.6	100
Migori	83.7	14.6	1.7	100
Kisumu	73.3	21.2	5.5	100
Siaya	70.4	26.2	3.4	100
Kisii	85.7	12.8	1.4	100
Nyamira	90.2	8.4	1.4	100



2.4 Health Status

2.4.1 Introduction

This section examines the general health trend as part of household characteristics in terms of morbidity, the disease pattern and the kind of coping mechanisms at the household level for members who are sick. The information presented in this section include morbidity pattern (this is provided by two weeks morbidity prevalence rates), type of sickness, options at household level for coping with morbidity- this is provided by the type of treatment sought in the event of illness or for prevention of disease

2.4.2 General Morbidity

A two week morbidity prevalence was determined in each district for all the members of the household. The figure below presents a two week morbidity of Nyanza Province in March 1996

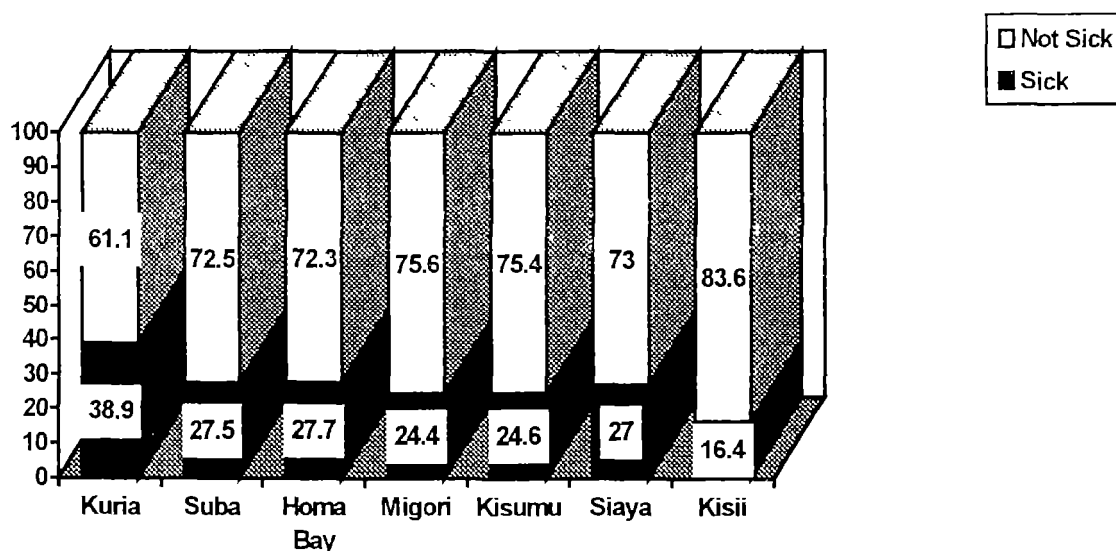


Figure 2.5: Distribution of Two Week Morbidity Prevalence by District

2.4.3 Specific Morbidity

Morbidity rates for the commonest causes of illness among all the age groups is presented in the table 2.9 below. Unexplained fever or illness identified as malaria, is the leading cause of morbidity followed by respiratory infections and vomiting and diarrhea related illnesses. These figures should be interpreted with the understanding that they have not been adjusted for seasonality.

These figures conform to national situation and particularly to the 1990 District Household Welfare Monitoring and Evaluation Survey. In that study, Malaria accounted for most of morbidity followed by respiratory infections. It points to the fact that since 1990, there have been no gains recorded in terms of reduction of malaria and respiratory diseases.





Table 2.9: A two Week Percentage Distribution of Causes of Morbidity by District

District	Vomiting/ Diarr	Fever/ Malaria	Cough / Cold	Wound/ Injury	Skin Rush	Eye Infections	Other
Kuna	15.0	55.1	19.5	3.5	3.8	1.4	7.0
Suba	14.4	67.7	8.9	0.0	0.0	3.5	3.5
Homa Bay	12.1	46.7	10.6	6.7	4.4	2.5	16.2
Migori	15.1	50.2	15.2	2.1	5.5	2.0	19.9
Kisumu	12.4	44.4	17.4	1.9	3.0	3.0	17.9
Siaya	8.7	48.4	19.9	4.5	1.6	2.7	14.2
Kisii	11.7	45.4	30.0	3.3	0.4	1.2	4.8
Nyamira	9.3	47.7	29.0	0.0	0.0	0.0	14.4

2.4.4 Options for Treatment

The factors which determine choice of treatment include awareness of the existence of such treatment, attitudes governing causes of the illness, appropriateness of treatment for the illness, psycho-social influence such as opinion of people in the community, educational status, religion and traditional beliefs and practices and the perceived severity of the illness. Options for treatment among those who were sick during the study period are presented in table 2.10.

The main coping mechanisms recorded were decision to take the sick to a health facility, purchase and use of drugs and consultation with a traditional medicine man/woman. It is quite noticeable that majority of those who fell ill either went to hospital or purchased drugs, a good indication that the health messages spread by Community Health Workers have made an impact to the communities.

Table 2.10: Percentage Distribution of Action Taken by the household as a result of illness by District

District	Took to Health Facility	Purchased Drugs	Used Tradition al Medicine	Consulted Traditional Medicine Man	Consul ted Fath Healer	Nothing
Kuna	41.9	48.6	1.7	0.7	0.3	4.8
Suba	50.9	41.0	0.0	0.0	0.0	4.1
Homa Bay	40.8	48.3	3.2	2.6	1.4	3.6
Migori	45.2	38.0	5.9	0.0	0.0	10.4
Kisumu	45.0	42.2	4.9	0.9	0.5	6.6
Siaya	34.4	51.3	4.5	1.5	0.0	2.3
Kisii	44.6	42.6	3.7	2.8	0.3	2.0
Nyamira	49.2	40.5	2.8	0.0	0.0	2.5



CHAPTER 3: HOUSING, WATER AND SANITATION

3.0 Introduction

This chapter is based on information on housing status, water availability, accessibility and quality, operation and maintenance status, and reliability. On sanitation, respondents gave information on type of toilet facilities, their maintenance status and interviewers verified the information by physically checking on the facility status.

3.1 Housing

Housing is a basic need. It does not only provide shelter, but also social security. A good house is measured not just by the quality of the materials used in its construction. Other important conditions for a good house include sanitation of the environment and availability of amenities like water, lighting, and security.

For the purposes of this survey, the following information was sought from the housing conditions: materials used in constructing the house, number of rooms in main house, number of windows and number of people sleeping in main house.

3.1.1 Type of Main House

Table 3.1 shows details of the type of main house by district. In general, most of the houses in the province are constructed of mud walls, mud floors and grass thatched roofs. A number have corrugated iron sheet roofs. This indicates low quality housing in terms of materials used for construction.

Table 3.2 below indicates that in Nyanza, majority of main houses have 2 or 3+ windows. The table further reveals that about half of the households have 2 rooms in the main house.



Table 3.1 Percentage Distribution of type of Main House by District

District	Type of Wall			Type of Floor			Type of Roof		
	Mud	Wood	Cement	Mud	Cement	Others	Iron Sheet	Grass/Mahatiri	Other
Kuria	100	0.0	0.0	97.9	0.7	1.4	26.8	70.4	2.1
Suba	86.5	7.7	10.1	90.1	9.9	0.0	29.9	69.6	0.5
Homa Bay	92.5	0.0	7.4	87.7	12.2	0.0	39.3	60.3	0.4
Migori	92.2	0.0	7.8	88.9	10.9	0.0	36.3	60.2	2.0
Kisumu	81.3	0.0	18.7	73.3	21.7	0.0	52.3	47.0	0.7
Siaya	87.1	0.0	12.9	84.9	5.1	0.0	41.0	59.0	0.0
Kisii	82.7	4.2	13.3	89.9	7.9	2.2	60.0	39.7	0.3
Nyamira	..	..	..	..	..	..	..	..	..

3.1.2 House Carrying Capacity

One way of looking at the quality of housing is to examine the extent of crowding and the ventilation situation. In this study crowding was measured by determining the number of rooms in each house and the number of people who sleep in them. Ventilation was measured by the number of windows in each room or in the house.

Table 3.2 presents data on the distribution of rooms and windows in the main house by district.

Table 3.2: Percentage Distribution of Windows and Rooms in Main House by District

District	Number of Windows				Number of Rooms		
	0	1	2	3+	1	2	3+
Kuria	0.0	20.5	34.8	24.7	29.3	39.1	11.6
Suba	16.8	32.7	27.5	23.0	17.8	55.8	26.4
Homa Bay	16.9	14.5	30.5	38.1	16.9	46.1	37.0
Migori	18.8	22.7	29.7	28.8	16.5	50.1	31.6
Kisumu	16.7	18.6	30.7	33.9	17.5	52.0	30.5
Siaya	32.0	18.4	22.0	27.8	35.7	43.0	19.8
Kisii	1.8	12.3	32.2	59.0	3.7	20.6	76.0
Nyamira	..	..	..	..	..	..	..



3.2 Water Supply

3.2.0 Introduction

Water is essential to life and health. It is required in considerable quantities for drinking, washing, cooking and personal hygiene. Despite its importance, water is not always available in quantities and qualities required yet the need for it is such that people tend to use any water that is readily available to them, whether it is polluted or not. Access to water is an important determinant of health. Polluted waters when used for drinking and bathing and cleaning, constitute one of the principal modes for infection by diseases. For any meaningful gains to be realized in improvement of health status of the people at household level and thus enhance the general productivity of the population, measures must be taken to ensure that people have access to safe water. The source of water should as much as possible supply a quantity of safe water that is adequate for the needs of the community.

In this study safe water is defined as water that is not harmful to the user. The results of the water supply situation are presented according to five different levels of supply conditions.

Section 3.2.1 analyses the water supply situation in Nyanza Province taking into account all water sources used during wet and dry seasons. The discussion distinguishes between protected and unprotected sources of water.

In section 3.2.2, the various modes used for water collection are described, including the distance to water sources from the household and the time taken to and from the water source.

Section 3.2.3 describes the methods used to store water at the household level and the major uses of water.

Section 3.2.4 looks at the quality of drinking water at the household and the various treatment options used by the households to improve on water quality before use.

In Section 3.2.5, Water point reliability is discussed in terms of availability of water at all times or otherwise.

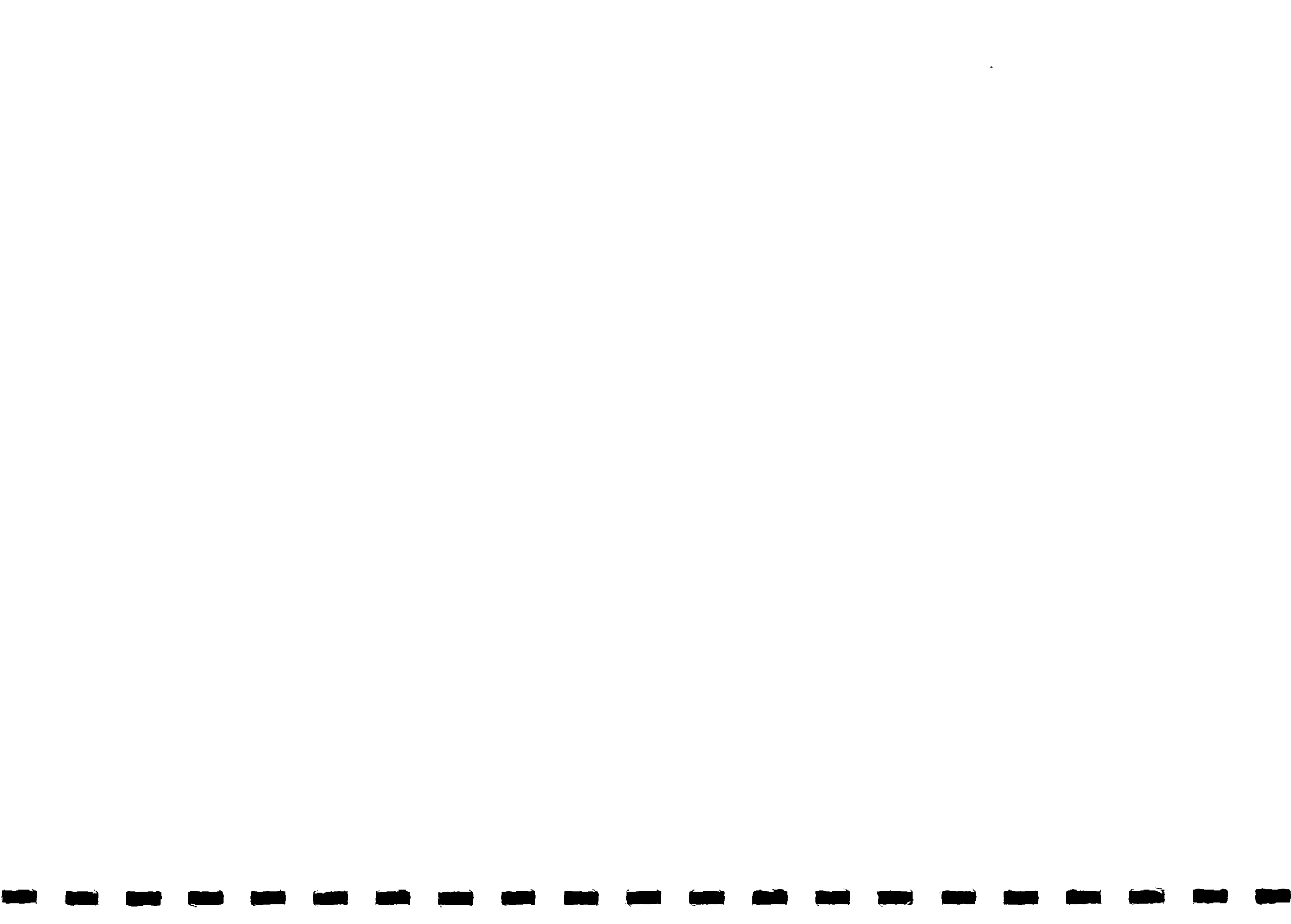
3.2.1 Access to Water

Access to safe drinking water depends partly on the availability and partly on the distribution of the water resources. In Nyanza province, the water table is generally quite high in most of the areas, making it relatively easier for ground water exploitation. This survey investigated the water sources used by people both during wet and dry seasons. Table 3.3 shows access to safe water during the wet season.

Nyanza Province lies along the Lake Victoria and surrounds the Kavirondo gulf. The main sources of water in the province are Lake Victoria, Rivers Nyando, Miriu, Awach, Kuja and other numerous streams. Despite the presence of these rivers in the province, water still remains a much sought after commodity. The causes of water problems in Nyanza include:

- i) Long dry spells between the long and short rains during which seasonal rivers dry up.
- ii) Lack of funds to develop water points in areas where these are most needed.

The above named rivers serve a sizable population in the province. However it has been established that the culture of the communities in the province, particularly the Luos, their beliefs and practices have



adversely affected the equitable provision of water in the province. These beliefs are mainly related to water use and water collection.

Rivers, lakes, unprotected springs and wells, dams and ponds are normally considered as the source of unsafe water. As can be seen in the table below, most of the households derive their water from unsafe sources.

On average, the rivers, wells and springs are the most prevalent source of water catering for supplies in most of the districts.

Table 3.3: Percentage Distribution of Main Water Source By Season and District Last Year (1995)

District	Season	Protected Sources					Total	Unprotected Sources				Total
		Spring	Wells	Bore Hole	Piped Water	Roof Catchment		River	Lake/Pond/Dam	W.B.	Spring	
Kuria	Wet	4.9	3.5	7.9	0.0	2.8	19.2	4.6	1.4	45.6	24.4	47.5
	Dry	4.9	3.5	7.9	0.0	0.0	13.4	4.9	1.4	52.8	25.4	47.5
Suba	Wet	0.0	0.0	12.7	0.0	15.1	27.8	29.2	36.0	0.0	3.6	72.6
	Dry	0.0	0.0	9.6	0.0	2.6	12.2	1.3	49.9	34.8	5.1	71.4
Homa Bay	Wet	0.5	2.1	6.3	1.6	20.3	31.2	15.0	16.4	3.5	30.8	77.0
	Dry	3.1	0.0	8.1	1.5	1.9	13.6	14.4	15.2	1.2	43.2	77.0
Migori	Wet	0.0	3.5	3.2	0.0	10.8	17.5	23.0	13.4	18.5	27.8	52.0
	Dry	0.4	4.4	3.5	0.0	0.4	8.7	48.3	7.8	7.1	29.1	71.4
Kiambu	Wet	0.9	4.2	7.3	10.4	22.4	45.2	34.2	7.6	4.1	3.3	84.7
	Dry	1.0	11.7	9.1	13.5	0.6	35.9	45.8	5.6	5.7	6.9	74.0
Narok	Wet	8.4	22.5	0.9	3.1	6.2	51.2	7.5	23.1	23.6	0.6	72.0
	Dry	8.6	23.5	0.7	3.1	0.7	36.6	14.8	31.7	17.7	0.7	67.9
Kajiado	Wet	38.0	0.9	0.0	3.5	5.3	57.7	6.3	0.0	2.9	41.5	87.0
	Dry	35.6	0.9	0.0	3.5	2.1	42.1	10.4	0.0	0.7	45.9	77.0
Nandi	Wet	27.4	0.7	1.6	3.5	4.5	38.2	0.0	0.0	3.1	53.0	67.0
	Dry	29.8	0.7	1.6	3.5	1.1	37.7	8.0	0.2	0.7	53.9	62.0

3.2.2 Water Collection and Distance to Water Source

Water collection has customarily been the domain of women. In the division of labour, men did not associate themselves with this daily routine task. The survey sought to find out the mode of transportation from the source to the household, the distances involved in fetching water from the main source to the household, and time taken to fetch water.

Table 3.4 gives the distribution of different methods used to fetch water by district. The overall situation indicates that most of the respondents use human porters as their dominant mode of transporting water from the source to the household. Bicycles, vehicles and domestic animals are not commonly used.



Table 3.4 Percentage Distribution of Methods used to Fetch Water by District

District	Method Used To Fetch Water				
	Human Porter	Hand Cart/W. Barrow	Bicycle	Vehicle	Domestic Animal
Kuria	95.0	2.1	2.9	0.0	0.0
Suba	95.7	0.0	0.0	0.0	3.6
Homa Bay	93.0	1.1	1.4	0.4	4.1
Migori	97.1	1.0	0.5	0.5	0.0
Kisumu	95.4	2.6	0.8	0.6	0.6
Siaya	91.7	1.1	1.7	0.1	5.3
Kisii	96.1	0.6	0.1	0.0	1.8
Nyamira					

One of the main interests of the study was to know the distances households travel to fetch water both during the rainy and dry seasons. Table 3.5 reveals that distances traveled increased during the dry season.

Table 3.6 gives the distribution of time taken to fetch water from the main water source to the household by district.

Table 3.5: Percentage Distribution of Distance to main water Source from the Household During Wet and Dry by District

District	Distance in Kilometres							
	<1		1 - 2		3 - 4		5+	
	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
Kuria	64.1	31.0	35.2	41.5	0.7	24.6	0.0	2.8
Suba	47.6	34.9	36.1	36.6	16.3	26.6	0.0	1.9
Homa Bay	80.8	47.5	17.8	35.5	1.4	12.3	..	4.7
Migori	80.7	51.8	17.8	32.4	1.3	11.0	0.3	4.8
Kisumu	93.6	73.6	6.3	21.6	0.1	4.9	0.0	0.1
Siaya	87.6	65.7	12.0	25.7	0.4	8.5	..	0.1
Kisii	98.8	97.4	1.0	2.4	0.2	0.2	0.0	0.0
Nyamira	43.5	42.8	..	..	27.8	27.9	28.7	29.3



Table 3.6: Percentage Distribution of Time Taken to Fetch Water in hours by District

District	Time taken to fetch							
	<1hr		1 - 2 hrs		3 - 4 hrs		5+ hrs	
	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
Kuria	35.9	23.2	49.3	32.4	14.8	43.0	0.0	0.0
Suba	58.1	20.3	26.9	56.4	16.1	15.2	0.0	8.1
Homa Bay	83.0	46.0	15.9	34.8	1.1	16.3	0.0	2.7
Migori	80.0	61.1	17.0	20.6	2.4	14.7	0.6	3.6
Kisumu	85.1	62.0	14.3	33.0	0.4	5.0	0.2	0.3
Siaya	88.3	64.2	10.0	25.0	1.6	9.6	0.1	2.4
Kisii	94.6	90.5	5.1	9.2	0.2	0.2	0.0	0.0
Nyamira	70.9	61.1	29.1	38.9	..	..	..	0.0

3.2.3 Water Storage and Use

Water storage in the household is quite important aspect of water quality. Water can be safe and clean from the source but if it is not properly and hygienically stored it loses its safety. The type of container used for storage is therefore important for maintaining quality of water provided the container is also kept clean. Plastic Buckets and Clay Pots are relatively safer than other containers like metal Drums for storage of water because they are rust free.

As shown in table 3.7, the container that is most commonly used for storing water in the house is the clay pot.

Table 3.7: Percentage Distribution of Methods used to Store water at Household level by District

Kuria	41.5	42.3	2.8	1.4	12.0	0.0
Suba	9.2	88.3	1.0	0.0	0.0	1.5
Homa Bay	7.3	85.2	1.7	0.0	2.1	3.8
Migori	7.0	90.2	0.8	0.8	0.6	0.2
Kisumu	.	.	.	..	.	.
Siaya	12.7	69.0	0.0	0.0	10.3	0.0
Kisii	30.8	66.0	8.0	0.0	0.0	0.0
Nyamira	.	.	.	.	.	.

The survey further attempted to establish the various ways water is used once it reaches the house. It was established that almost all the water is used for washing, cooking and drinking. Bathing, livestock watering and other uses accounted for less than 2% of the uses in all the districts.

3.2.4 Quality of Drinking Water and Water Treatment Methods



Earlier it had been mentioned that water is essential to good health and therefore life. The quality of water accessible to most households are from unprotected sources which are polluted. Any form of treatment for water that improves quality before use is of vital importance for maintenance of good health.

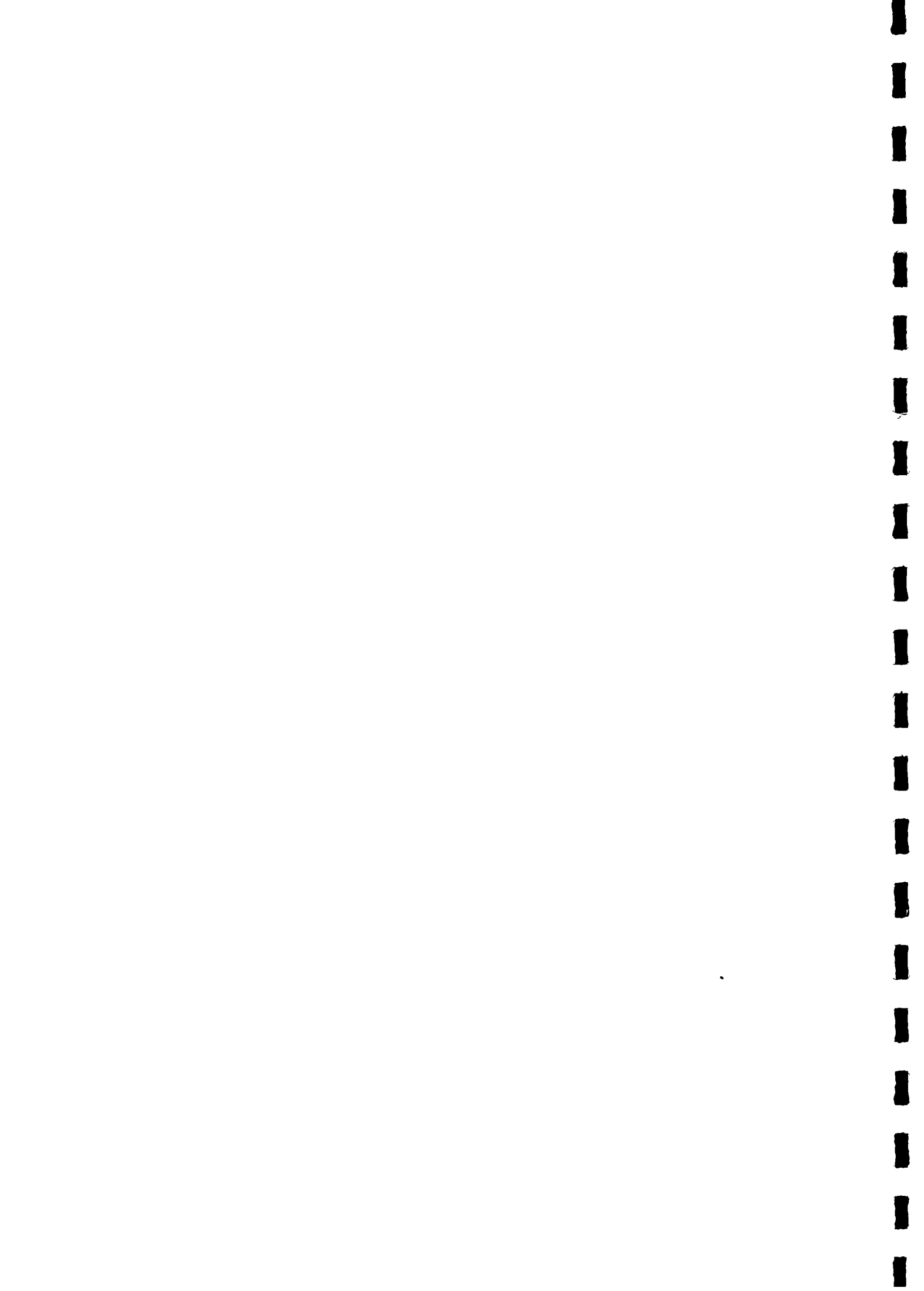


Table 3.5 summarizes the various methods of water treatment in the household

Table 3.5: Percentage Distribution of Methods Used to Treat Water at the Household

Kuria	83.8	9.2	0.7	0.7		5.6
Suba	36.3	3.6	0.5	1.0		58.7
Homa Bay	50.0	9.9	0.9	0.6		38.8
Migori	39.6	8.3	0.0	3.1		50.0
Kisumu	45.6	7.5	0.9	0.8		47.1
Siaya	26.1	8.7	3.6	0.3		61.5
Kisii	48.8	1.8	0.0	0.5		48.9
Nyanira	65.2	4.4	1.7	0.0		28.8

Even though most of the water came from unprotected sources, majority of households in Siaya and Suba chose not to offer any curing. It is surprising to observe that water borne diseases were not widely reported in the two districts.

3.2.5 Water Point Reliability

The survey asked the respondents to indicate the reliability of the various sources of water they have access to in terms of whether water is available all the times, most of the time or not reliable, meaning the water source dries up or the water is not adequate for all the consumers. Table 3.6a and 3.6b show the survey results.

Table 3.6a: Percentage Distribution of Water Reliability by Source During Dry Season

Reliability	Protected Sources					Unprotected Sources					
	Spring	Wells	Bore Hole	Piped Water	Roof Water	Lake Pond	Spring	Wells	Rivers	Province	Province
All the time	88.9	63.0	46.8	27.8	60.0	57.3	17.9	48.8	74.4	60.0	50.3
Most times	11.1	12.0	29.0	49.5	0.0	20.3	75.0	46.5	14.0	24.6	40.0
Note Reliable	0.0	25.0	24.2	22.7	40.0	22.4	7.1	4.7	11.6	15.2	9.7

Table 3.6b shows water point reliability by source during wet season



Table 3.6b: Percentage Distribution Water Reliability by Source During Wet Season

Reliability	Protected Sources					Unprotected Sources					
	Spring	Wells	Bore Hole	Piped Water	Roof Water	Province	Lake Pond	Spring	Wells	Rivers	Province
All the time	87.5	43.6	56.8	33.3	8.7	46.0	19.5	63.0	43.6	43.6	54.0
Most times	0.0	33.3	36.4	47.4	48.3	33.1	61.0	33.3	33.3	33.3	33.4
Not Reliable	12.5	23.1	6.8	19.2	43.0	21.0	19.5	3.7	23.1	23.1	12.8

As can be seen from the two table, protected sources are more reliable during the dry season than during the wet season. The picture for the unprotected sources is the opposite.

3.3 Sanitation

In Kenya, the most widespread form of water contamination results from disease-bearing human waste. This waste pose great health risks for people who are compelled to drink and wash in untreated water. In Nyanza Province, the major difficulty in providing adequate sanitation is in flood-prone areas. High water levels makes it expensive for household to construct pits and prevent pit latrines from providing a solution: pit latrines are in fact health hazards in flooded areas since their contents soon mix up with water used for drinking and for other household purposes. In some cases, communities have constructed pit latrines, not for convenience and use, but to satisfy the local administrative authorities. Consequently, many latrines frequently fall into disuse.

3.3.1 Access to Toilet Facilities

In order to find out the proportion of the households with access to sanitary facilities, the survey sought to know the types of toilets owned by household by district (figure 3.2). The majority of the households in Nyanza use latrines and toilets except for Suba, Homa Bay and Migori.



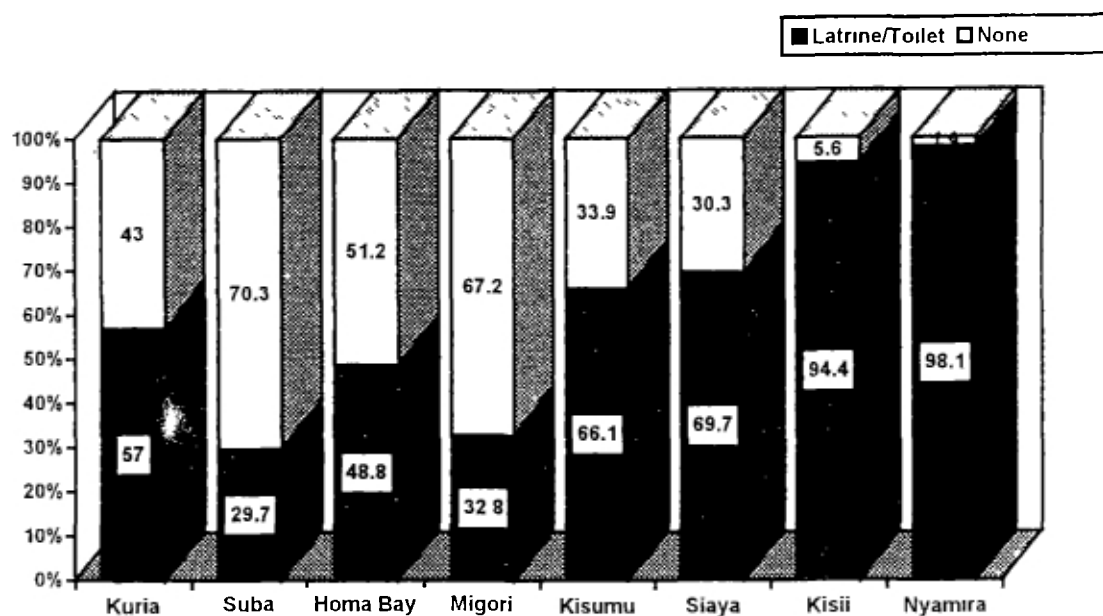


Figure 3.1: Percentage Distribution of Toilet Facilities By Type and District

3.3.2 Toilet Facilities Maintenance

The survey sought to establish the level of maintenance of the toilet facilities. Interviewers physically checked the exact maintenance status of the facility in terms of condition of the wall, floor and roof and also checking for the presence or absence of flies, irritating smell and disposal of human waste on the floor. The maintenance status of the latrines was important for this survey because it is a measure of the level of households sanitation awareness as well the value attached the latrine. Tables 3.7 and 3.8 show the maintenance status of the latrines.

Smell and flies in a latrine is an important measure of the level of utilization and maintenance.

Table 3.7: Percentage Distribution of Toilet Facilities Maintenance Status by District

District	Good (%)	Fair (%)	Poor (%)	Very Poor (%)	Not Maintained (%)
Kuria	63.8	13.8	3.4	17.2	1.7
Suba	38.6	45.4	0.0	16.0	0.0
Homa Bay	63.3	23.2	4.9	7.5	1.1
Migori	52.0	22.6	3.8	21.7	0.0
Kisumu	46.8	10.5	1.8	10.0	30.6
Siaya	64.6	23.8	0.0	11.6	0.0
Kisii	46.8	27.6	7.6	16.6	1.3
Nyamira	-	-	-	-	-



Table 3.8: Proportion of Households With Flies and Smell in their Toilets by District

	Yes	No	Yes	No
Kuria	23.3	88.7	22.0	78.0
Suba	74.5	25.5	70.6	29.4
Homa Bay	47.6	52.4	49.0	50.2
Migori	33.1	66.9	33.8	66.2
Kisumu	46.6	53.4	52.4	47.6
Siaya	47.0	53.0	47.5	52.5
Kisii	64.1	35.9	56.8	43.2
Nyamira	..	..	..	..

3.3.3 Toilet Facilities Utilization

The survey sought to determine the proportion of households with access to toilets as well as the level at which such facilities are being utilized. For the purposes of this survey, the level of facility utilization was determined by the existence of a distinct track leading to the latrine. Facilities which had no distinct tracks leading to them were considered as not being used or under utilized meaning that some members of the household may be using other unknown methods for human waste disposal.

Table 3.9: Percentage Distribution of Households with Distinct track leading to a toilet facility

Kuria	59.0	41.0
Suba	73.7	26.3
Homa Bay	87.0	13.0
Migori	83.3	16.7
Kisumu	90.1	9.9
Siaya	93.8	6.2
Kisii	89.3	10.7
Nyamira	..	..

Majority of the households had distinct track leading to the sanitary facilities except for Kuria



CHAPTER 4: SOCIO-CULTURAL BELIEFS AND PRACTICES

4.1 Introduction

This chapter is based on information analyzed from the focus group discussions. The focus group members included leaders of women groups, teachers, retired civil servants, village elders, chiefs and their assistants, councillors and political party leaders. The issues discussed can broadly be categorized as follows: traditional beliefs and practices relating to water and sanitation, beliefs and practices that hinder/promote provision of water and sanitation, gender roles in provision, collection and use of water and environmental factors affecting water resources.

Traditional beliefs and practices constitute some of the broad basic factors that have a bearing on health status of a community. Often these factors lag behind changes in the economic structure of a society and affect the delivery of services. Because of the fact that some of these beliefs are deeply rooted, most of the cultures are in transition and this explains why "modern" and "traditional" ways of living often coexist.

Water has invariably been referred to as a source of life in many communities all over the world. It is indeed a commodity without which virtually no life can be sustained. Most of the diseases which affect people in Tropical Africa are water related. Deteriorating health standards are mainly attributed to lack of safe drinking water in most of the affected areas.

Among the Luo community for example, water is used for cleansing for instance when a new baby was born, the first bath was considered to be an act of cleansing. Water was considered blessed or sanctified and so it was the one commodity which did not need purification.

It was seen as a sign of life. While in transit from the river water could never be given to somebody to drink before it reached its destination. Mothers were not allowed to bathe with water from the son's house. It was also taboo to use drinking water for bathing - water was stored in different pots for cooking and drinking.

4.2 Customary Beliefs and practices relating to Water Collection

Water collection was predominantly done by women and young girls. Men were not allowed to carry water but in extreme cases where this had to happen, they would carry it on the shoulder or with both hands but never on the head. One was not allowed to sing while carrying water or to pass through somebody's homestead on the way from the river. This was because, it was feared that one could trip and fall thus breaking the water pot which was a sign of bad omen. There was restriction in water collection in that widows who had not undergone all the rites were not allowed to collect water from the river.

With regard to construction of water facilities, a son was not allowed to construct a well in his father's homestead. Women were not allowed to own or construct water facilities. It was believed that this work was a communal effort and everyone was expected to participate. Anyone who refused to participate in the construction was not allowed to use that water facility.



4.3 Sanitation

Sanitation as covered in this survey included the following latrine and toilet facilities, bathroom, cattle sheds, utensil racks, clearing of bushes and overgrown grass in and around the homestead and general cleanliness of the home

With regard to toilets, there was mainly a restriction relating to sharing of the facility. It was not allowed for a father to share a toilet with his daughters, sons, and daughters-in-law. A son-in-law on a visit to his wife's home was not allowed to use a latrine within the homestead as it was taboo for a son-in-law to be naked in his father-in-law's home.

Children's use of latrines was not restricted, depending on their ages. They could use any latrine at their convenience but they were mostly assisted or used bushes to relieve themselves. This was however merely a precaution to guard against the possibility of them falling into the latrine pits.

As concerns the disposal of children's waste, the Luos believed that children were a blessing and consequently, the physical presence of their waste in the homestead was a sign of abundant blessing. In the very old days, a Luo man's wealth was measured by the number of cattle, wives and children. Children's waste was therefore left deliberately scattered within the homestead as it was believed that only a well-fed child could produce waste matter. This practice was however superseded by another belief that one could use a child's waste to bewitch the child. The waste was therefore carefully disposed of to avoid this. Children's waste was to be disposed of either in the latrine or by burying it under the soil. It was never thrown in the composite pit for fear that it could be burnt along with the rest of the rubbish - this burning was believed to cause stomach ache.

There were also some beliefs and practices among the Luos in regard to the location of latrines. It was a belief that answering the call of nature was something requiring privacy and so latrines were constructed in hidden places. Most people interviewed believed that the best location for a latrine was just outside the gate. This was to solve the issue of visiting in-laws. The wind direction was also to be considered to prevent the foul smell occasionally emitted from latrines from spreading to the houses.

4.4 Outdated Beliefs and Practices

The above cases prove to us that the Luo community in particular, in their day-to-day life is a community governed by their cultural beliefs. Some of these beliefs have proved very useful to the community, especially in the division of labour which is a very important factor in enhancing community participation. Some of them are however outdated and could be done away with.

Chief among the beliefs and practices considered outdated by the Luo Community is the restriction of water collection to women. This was strongly objected to by the women who felt that they were overworked whereas men have been turned into passive bystanders. Most of the household chores undertaken by women are water-related. This means that above everything else the woman has to ensure an adequate supply of water in the house before any work can begin.

The barring of widows who have not undergone all the rites of mourning from collecting water is yet another unrealistic belief which is both baseless and unrealistic.

The belief that children's waste could only be disposed of in the morning implies that children's waste generated at night was to be kept overnight. This practice is highly unhygienic and



can very easily cause diseases. The careless leaving of children's waste in the compound as a sign of wealth is a major health hazard.

The idea that water is blessed and sanctified has misled many communities in this area to disregard safety measures regarding water e.g. boiling. This is because they believe that what is sanctified cannot cause death or disease.

Some people within the community felt very strongly about these outdated beliefs and went further to give recommendations on how these practices can be eliminated.

It is also important to note that the revision of gender roles cannot be achieved overnight. It is a long process that can only be achieved over time with patience. It was therefore suggested that the government should double its efforts to ensure "adequate water supply for all by the year 2000".

On the other hand, people should be sensitized on the importance of gender roles equality.

4.5 Division of Labour

As in all other spheres of work in the community there was division of labour along gender lines in regard to the provision and management of water facilities even though these were at times disregarded they were clearly outlined.

Among the Luo community, men played a very important role in provision of water facilities. They make decision on where various water points were to be constructed. They also do the actual construction of these water points these included constructing wells both protected and unprotected. Given that in most of these communities men are the sole bread winner, they also financed water projects by assisting in the purchase of pipes and other materials needed.

Even though most men have built houses using iron sheets for roofing as a water provision measure, this has not been achieved. This is mainly because of the unreliability of rain in Nyanza. This means that roof catchment as a water source is still very unreliable and therefore largely insignificant.

Women have not been left behind either. They assist in some light duties during the construction of these water points. The most significant contribution made by women in the provision of water facilities has however been through women groups. Many women groups have through various Non-governmental Organizations dealing with water been able to construct protected wells. A good example is Kit Mikayi Women group in Seme East location who have constructed a protected borehole with the help of Kenya Water and Health Organization (KWAHO).

Provision and management of sanitation facilities is yet another area that has not escaped the division of gender roles. This is another area in which men did much more than women. Most of the sanitation facilities were constructed by men. Generally, men constructed latrines, cattle bomas, bathrooms, dish racks and even drainage around the home. They ensured that bushes around the home were cleared, dug compost pits for dumping rubbish and dug up the soil for smearing the latrines.

Women mostly did the finishing work e.g. smearing toilets and others. They also maintained these facilities by ensuring they were well cleaned.

In comparison to water the sanitation sector is the one in which men participated fully. There are only a few cultural beliefs that have hindered the attainment of perfect sanitation standards. An example is the belief that women should not construct a cattle boma or fence the home or even finance/supervise the two. In the current situations where rural - urban migration seems to dominate, women have virtually become the household heads - at least for a good part of the year. This means that if these facilities are lacking in the home the woman's hands are tied. Among the respondents interviewed,



women particularly felt that some of these roles should be reviewed with particular emphasis on decision making

The issue of provision of water does not end with the construction of the facility. Most water points are located far from the homesteads. This means that before the water can be used within the household it had to be collected and stored while awaiting its use. It is therefore vitally important to examine the various modes of water collection and storage as well as the various safety measures taken to ensure that the water which is used at the household level is safe

4.6 Gender Roles in Water Collection

The survey established that the major modes of water collection are human porter - mostly women, bicycles, hand carts, wheel barrows and donkeys

In most of the places women still formed 80% of the human porter mentioned above. In some places it was however established that water collection has been commercialized and to some extent men are now involved. Note however that the men involved do it purely as a commercial activity and in most cases this water is sold to those staying in the local trading centers

This points to only one direction: the women's workload is still the same if not greater. This is because the distances to the water points are great and the time taken also corresponds to the distance covered. In some cases, women have to carry the family washing of clothes and utensils to the river to wash. In extreme cases she even had to drive the animals along the river to enable her save all the water that she finally brings back to be used strictly for cooking and drinking. In most cases this is a near impossible task particularly in the weeding, harvesting and planting season when she starts her day by going to the shamba

Lack of co-operation from the men even where an alternative method is available is a factor that seriously worsens the situation for the already overworked woman. This is mainly an attitude problem and one which definitely needs to be addressed. It is time men stopped waiting for the finished product and participated in the process of providing food for the family for indeed there is no food without water

It is worth noting that there were many complaints about these storage facilities particularly from the women they said that some of these containers were no longer as durable as they used to be in the olden days. The sizes are small and should be enlarged to hold more water. There were also complaints about the prices for example that one jerrycan costs roughly 100 00

There have been concrete efforts to improve the quality of water with a view to making it safer. To this end, the communities recommended the following measures to be taken in the collection and storage of water

While fetching water especially from the lake or rivers, one should move as far off as possible from the lake shore or river bank to ensure that the filthy water from the shallow edges is not fetched. Ensure that the container used for fetching water is clean

Boiled water should be filtered using a clean white cotton cloth which should be used strictly for this purpose only

The enumerated precautions are however not being observed or practiced at household levels because of various factors. In some cases, it is sheer laziness that prevents women from boiling drinking water or adhering to the other safety measures mentioned. Some women are however genuinely overworked



and therefore do not have time to carry out those finer details. There is lack of fuel for boiling water. Some people were also found to lack awareness on the importance of such practices.

In their discussions the people expressed their concern in convincing people to improve water quality. The suggested awareness campaigns to educate people on the importance of safe water and the high risks of using unsafe water.

They suggested the use of community based workers (Nyamrerwa) as possible means of implementing the above. They continue to plead with the government to avail safe water to major points to the community.

Farming is one of the main activities that affect water resources in this area.

A prominent need in this area. These chemicals pose a great danger especially during the long rains when the floods wash the same into the rivers.

The three sugar cane factories in Kisumu district, Miwani, Muhoroni and Chemelil and the Agro chemical and food company industry in Muhoroni, are major causes of concern where pollution in the district is concerned. These companies do not have waste treatment works. They therefore emit effluent into the three rivers thus making the water impossible to use especially at certain times of the year.

Indeed the residents say there are some seasons when the water from Nyando and Oruba rivers turn so black that aquatic life in the river dies and even the vegetation around the river dries up.

The perennial flooding of river Nyando has also brought its share of environmental woes to the water resources. This river floods mostly around the months of March and April and when it does burst its banks, the flood spreads as far as 10 kilometers along the banks especially in flat areas. The water bed in some parts of Nyando and Miwani are so close and as such they are usually able to sink several boreholes during dry spells. The only problem comes during the flood when all these unprotected wells cave in while the protected one accumulate so much silt that some have to be abandoned for some time.

Human activity in the form of charcoal burning and others related to cutting down of trees has also affected water resources. There are some indigenous trees such as "Ng'oro" and "Ogongo chuma" which attract water but unfortunately also make very good high quality charcoal. These trees have been cut down thus causing very many water reserves to dry up.

The planting of exotic trees such as Eucalyptus, which are renowned for drying up water has also caused some springs to dry up. Most residents attributed this factor to lack of proper information about the disadvantages of the said trees.

The above problems are indeed serious and need very urgent solutions if the people of Kisumu district are to have any hopes of having their water resources restored and conserved - these are issues they have indeed discussed in some of their Barazas and other leaders meetings. They had the following recommendations:

The government through the local administration should ban charcoal burning as an economic activity. This will reduce the felling of trees. More indigenous trees should be planted around water sources whereas exotic trees should be planted very far from water sources.

The issue of the industries polluting the rivers should be looked into. The chiefs in the areas concerned said they had discussed this issue at the Locational Sub-District Development Committee and had forwarded this to the DDC but had been snubbed - Residents of North East Kano who were the worst affected said they were in a dilemma of this as the same factories sustained them financially given that most of them are sugar cane farmers. They however feel a solution of some sort should be found before an epidemic broke out.



