

Exploring Kenya's Inequality

Pulling Apart or Pooling Together?

Tana River County



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Kenya National Bureau of Statistics
P.O. Box 30266-00100 Nairobi, Kenya
Email: info@knbs.or.ke Website: www.knbs.or.ke



Society for International Development – East Africa
P.O. Box 2404-00100 Nairobi, Kenya
Email: sidea@sidint.org | Website: www.sidint.net

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Written by:

Eston Ngugi

Data and tables generation:

Samuel Kipruto

Paul Samoei

Maps generation:

George Matheka Kamula

Technical Input and Editing:

Katindi Sivi-Njonjo

Jason Lakin

Copy Editing:

Ali Nadim Zaidi

Leonard Wanyama

Design, Print and Publishing:

Ascent Limited

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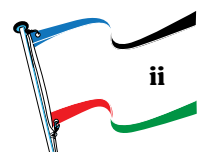


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Foreword

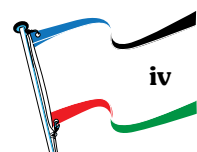
Kenya, like all African countries, focused on poverty alleviation at independence, perhaps due to the level of vulnerability of its populations but also as a result of the 'trickle down' economic discourses of the time, which assumed that poverty rather than distribution mattered – in other words, that it was only necessary to concentrate on economic growth because, as the country grew richer, this wealth would trickle down to benefit the poorest sections of society. Inequality therefore had a very low profile in political, policy and scholarly discourses. In recent years though, social dimensions such as levels of access to education, clean water and sanitation are important in assessing people's quality of life. Being deprived of these essential services deepens poverty and reduces people's well-being. Stark differences in accessing these essential services among different groups make it difficult to reduce poverty even when economies are growing. According to the *Economist* (June 1, 2013), a 1% increase in incomes in the most unequal countries produces a mere 0.6 percent reduction in poverty. In the most equal countries, the same 1% growth yields a 4.3% reduction in poverty. Poverty and inequality are thus part of the same problem, and there is a strong case to be made for both economic growth and redistributive policies. From this perspective, Kenya's quest in vision 2030 to grow by 10% per annum must also ensure that inequality is reduced along the way and all people benefit equitably from development initiatives and resources allocated.

Since 2004, the Society for International Development (SID) and Kenya National Bureau of Statistics (KNBS) have collaborated to spearhead inequality research in Kenya. Through their initial publications such as *'Pulling Apart: Facts and Figures on Inequality in Kenya'*, which sought to present simple facts about various manifestations of inequality in Kenya, the understanding of Kenyans of the subject was deepened and a national debate on the dynamics, causes and possible responses started. The report *'Geographic Dimensions of Well-Being in Kenya: Who and Where are the Poor?'* elevated the poverty and inequality discourse further while the publication *'Readings on Inequality in Kenya: Sectoral Dynamics and Perspectives'* presented the causality, dynamics and other technical aspects of inequality.

KNBS and SID in this publication go further to present monetary measures of inequality such as expenditure patterns of groups and non-money metric measures of inequality in important livelihood parameters like employment, education, energy, housing, water and sanitation to show the levels of vulnerability and patterns of unequal access to essential social services at the national, county, constituency and ward levels.

We envisage that this work will be particularly helpful to county leaders who are tasked with the responsibility of ensuring equitable social and economic development while addressing the needs of marginalized groups and regions. We also hope that it will help in informing public engagement with the devolution process and be instrumental in formulating strategies and actions to overcome exclusion of groups or individuals from the benefits of growth and development in Kenya.

It is therefore our great pleasure to present 'Exploring Kenya's inequality: Pulling apart or pooling together?'

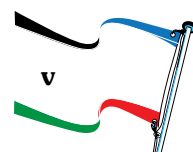


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Stefano Prato
Managing Director,
SID



Striking Features on Intra-County Inequality in Kenya

Inequalities within counties in all the variables are extreme. In many cases, Kenyans living within a single county have completely different lifestyles and access to services.

Income/expenditure inequalities

1. The five counties with the worst income inequality (measured as a ratio of the top to the bottom decile) are in Coast. The ratio of expenditure by the wealthiest to the poorest is 20 to one and above in Lamu, Tana River, Kwale, and Kilifi. This means that those in the top decile have 20 times as much expenditure as those in the bottom decile. This is compared to an average for the whole country of nine to one.
2. Another way to look at income inequality is to compare the mean expenditure per adult across wards within a county. In 44 of the 47 counties, the mean expenditure in the poorest wards is less than 40 percent the mean expenditure in the wealthiest wards within the county. In both Kilifi and Kwale, the mean expenditure in the poorest wards (Garashi and Ndavaya, respectively) is less than 13 percent of expenditure in the wealthiest ward in the county.
3. Of the five poorest counties in terms of mean expenditure, four are in the North (Mandera, Wajir, Turkana and Marsabit) and the last is in Coast (Tana River). However, of the five most unequal counties, only one (Marsabit County) is in the North (looking at ratio of mean expenditure in richest to poorest ward). The other four most unequal counties by this measure are: Kilifi, Kwale, Kajiado and Kitui.
4. If we look at Gini coefficients for the whole county, the most unequal counties are also in Coast: Tana River (.631), Kwale (.604), and Kilifi (.570).
5. The most equal counties by income measure (ratio of top decile to bottom) are: Narok, West Pokot, Bomet, Nandi and Nairobi. Using the ratio of average income in top to bottom ward, the five most equal counties are: Kirinyaga, Samburu, Siaya, Nyandarua, Narok.

Access to Education

6. Major urban areas in Kenya have high education levels but very large disparities. Mombasa, Nairobi and Kisumu all have gaps between highest and lowest wards of nearly 50 percentage points in share of residents with secondary school education or higher levels.
7. In the 5 most rural counties (Baringo, Siaya, Pokot, Narok and Tharaka Nithi), education levels are lower but the gap, while still large, is somewhat lower than that espoused in urban areas. On average, the gap in these 5 counties between wards with highest share of residents with secondary school or higher and those with the lowest share is about 26 percentage points.
8. The most extreme difference in secondary school education and above is in Kajiado County where the top ward (Ongata Rongai) has nearly 59 percent of the population with secondary education plus, while the bottom ward (Mosiro) has only 2 percent.
9. One way to think about inequality in education is to compare the number of people with no education



to those with some education. A more unequal county is one that has large numbers of both. Isiolo is the most unequal county in Kenya by this measure, with 51 percent of the population having no education, and 49 percent with some. This is followed by West Pokot at 55 percent with no education and 45 percent with some, and Tana River at 56 percent with no education and 44 with some.

Access to Improved Sanitation

10. Kajiado County has the highest gap between wards with access to improved sanitation. The best performing ward (Ongata Rongai) has 89 percent of residents with access to improved sanitation while the worst performing ward (Mosiro) has 2 percent of residents with access to improved sanitation, a gap of nearly 87 percentage points.
11. There are 9 counties where the gap in access to improved sanitation between the best and worst performing wards is over 80 percentage points. These are Baringo, Garissa, Kajiado, Kericho, Kilifi, Machakos, Marsabit, Nyandarua and West Pokot.

Access to Improved Sources of Water

12. In all of the 47 counties, the highest gap in access to improved water sources between the county with the best access to improved water sources and the least is over 45 percentage points. The most severe gaps are in Mandera, Garissa, Marsabit, (over 99 percentage points), Kilifi (over 98 percentage points) and Wajir (over 97 percentage points).

Access to Improved Sources of Lighting

13. The gaps within counties in access to electricity for lighting are also enormous. In most counties (29 out of 47), the gap between the ward with the most access to electricity and the least access is more than 40 percentage points. The most severe disparities between wards are in Mombasa (95 percentage point gap between highest and lowest ward), Garissa (92 percentage points), and Nakuru (89 percentage points).

Access to Improved Housing

14. The highest extreme in this variable is found in Baringo County where all residents in Silale ward live in grass huts while no one in Ravine ward in the same county lives in grass huts.

Overall ranking of the variables

15. Overall, the counties with the most income inequalities as measured by the gini coefficient are Tana River, Kwale, Kilifi, Lamu, Migori and Busia. However, the counties that are consistently mentioned among the most deprived hence have the lowest access to essential services compared to others across the following nine variables i.e. poverty, mean household expenditure, education, work for pay, water, sanitation, cooking fuel, access to electricity and improved housing are Mandera (8 variables), Wajir (8 variables), Turkana (7 variables) and Marsabit (7 variables).

Abbreviations

AMADPOC	African Migration and Development Policy Centre
CRA	Commission on Revenue Allocation
DANIDA	Danish International Development Agency
DAP	Drivers of Accountability Programme
EAs	Enumeration Areas
HDI	Human Development Index
IBP	International Budget Partnership
IEA	Institute of Economic Affairs
IPAR	Institute of Policy Analysis and Research
KIHBS	Kenya Intergraded Household Budget Survey
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KNBS	Kenya National Bureau of Statistics
LPG	Liquefied Petroleum Gas
NCIC	National Cohesion and Integration Commission
NTA	National Taxpayers Association
PCA	Principal Component Analysis
SAEs	Small Area Estimation
SID	Society for International Development
TISA	The Institute for Social Accountability
VIP latrine	Ventilated-Improved Pit latrine
VOCs	Volatile Organic Carbons
WDR	World Development Report

Introduction

Background

For more than half a century many people in the development sector in Kenya have worked at alleviating extreme poverty so that the poorest people can access basic goods and services for survival like food, safe drinking water, sanitation, shelter and education. However when the current national averages are disaggregated there are individuals and groups that still lag too behind. As a result, the gap between the rich and the poor, urban and rural areas, among ethnic groups or between genders reveal huge disparities between those who are well endowed and those who are deprived.

According to the world inequality statistics, Kenya was ranked 103 out of 169 countries making it the 66th most unequal country in the world. Kenya's Inequality is rooted in its history, politics, economics and social organization and manifests itself in the lack of access to services, resources, power, voice and agency. Inequality continues to be driven by various factors such as: social norms, behaviours and practices that fuel discrimination and obstruct access at the local level and/ or at the larger societal level; the fact that services are not reaching those who are most in need of them due to intentional or unintentional barriers; the governance, accountability, policy or legislative issues that do not favor equal opportunities for the disadvantaged; and economic forces i.e. the unequal control of productive assets by the different socio-economic groups.

According to the 2005 report on the World Social Situation, sustained poverty reduction cannot be achieved unless equality of opportunity and access to basic services is ensured. Reducing inequality must therefore be explicitly incorporated in policies and programmes aimed at poverty reduction. In addition, specific interventions may be required, such as: affirmative action; targeted public investments in underserved areas and sectors; access to resources that are not conditional; and a conscious effort to ensure that policies and programmes implemented have to provide equitable opportunities for all.

This chapter presents the basic concepts on inequality and poverty, methods used for analysis, justification and choice of variables on inequality. The analysis is based on the 2009 Kenya housing and population census while the 2006 Kenya integrated household budget survey is combined with census to estimate poverty and inequality measures from the national to the ward level. Tabulation of both money metric measures of inequality such as mean expenditure and non-money metric measures of inequality in important livelihood parameters like, employment, education, energy, housing, water and sanitation are presented. These variables were selected from the census data and analyzed in detail and form the core of the inequality reports. Other variables such as migration or health indicators like mortality, fertility etc. are analyzed and presented in several monographs by Kenya National Bureau of Statistics and were therefore left out of this report.

Methodology

Gini-coefficient of inequality

This is the most commonly used measure of inequality. The coefficient varies between '0', which reflects complete equality and '1' which indicates complete inequality. Graphically, the Gini coefficient can be



easily represented by the area between the Lorenz curve and the line of equality. On the figure below, the Lorenz curve maps the cumulative income share on the vertical axis against the distribution of the population on the horizontal axis. The Gini coefficient is calculated as the area (A) divided by the sum of areas (A and B) i.e. $A/(A+B)$. If $A=0$ the Gini coefficient becomes 0 which means perfect equality, whereas if $B=0$ the Gini coefficient becomes 1 which means complete inequality. Let x_i be a point on the X-axis, and y_i a point on the Y-axis, the Gini coefficient formula is:

$$Gini = 1 - \frac{2}{N} \sum_{i=1}^N (x_i - x_{i-1}) (y_i + y_{i-1})$$

An Illustration of the Lorenz Curve



Small Area Estimation (SAE)

The small area problem essentially concerns obtaining reliable estimates of quantities of interest — totals or means of study variables, for example — for geographical regions, when the regional sample sizes are small in the survey data set. In the context of small area estimation, an area or domain becomes small when its sample size is too small for direct estimation of adequate precision. If the regional estimates are to be obtained by the traditional direct survey estimators, based only on the sample data from the area of interest itself, small sample sizes lead to undesirably large standard errors for them. For instance, due to their low precision the estimates might not satisfy the generally accepted publishing criteria in official statistics. It may even happen that there are no sample members at all from some areas, making the direct estimation impossible. All this gives rise to the need of special small area estimation methodology.

Most of KNBS surveys were designed to provide statistically reliable, design-based estimates only at the national, provincial and district levels such as the Kenya Intergraded Household Budget Survey of 2005/06 (KIHBS). The sheer practical difficulties and cost of implementing and conducting sample surveys that would provide reliable estimates at levels finer than the district were generally prohibitive, both in terms of the increased sample size required and in terms of the added burden on providers of survey data (respondents). However through SAE and using the census and other survey datasets, accurate small area poverty estimates for 2009 for all the counties are obtainable.

The sample in the 2005/06 KIHBS, which was a representative subset of the population, collected detailed information regarding consumption expenditures. The survey gives poverty estimate of urban and rural poverty at the national level, the provincial level and, albeit with less precision, at the district level. However, the sample sizes of such household surveys preclude estimation of meaningful poverty measures for smaller areas such as divisions, locations or wards. Data collected through censuses are sufficiently large to provide representative measurements below the district level such as divisions, locations and sub-locations. However, this data does not contain the detailed information on consumption expenditures required to estimate poverty indicators. In small area estimation methodology, the first step of the analysis involves exploring the relationship between a set of characteristics of households and the welfare level of the same households, which has detailed information about household expenditure and consumption. A regression equation is then estimated to explain daily per capita consumption and expenditure of a household using a number of socio-economic variables such as household size, education levels, housing characteristics and access to basic services.

While the census does not contain household expenditure data, it does contain these socio-economic variables. Therefore, it will be possible to statistically impute household expenditures for the census households by applying the socio-economic variables from the census data on the estimated relationship based on the survey data. This will give estimates of the welfare level of all households in the census, which in turn allows for estimation of the proportion of households that are poor and other poverty measures for relatively small geographic areas. To determine how many people are poor in each area, the study would then utilize the 2005/06 monetary poverty lines for rural and urban households respectively. In terms of actual process, the following steps were undertaken:

Cluster Matching: Matching of the KIHBS clusters, which were created using the 1999 Population and Housing Census Enumeration Areas (EA) to 2009 Population and Housing Census EAs. The purpose was to trace the KIBHS 2005/06 clusters to the 2009 Enumeration Areas.

Zero Stage: The first step of the analysis involved finding out comparable variables from the survey (Kenya Integrated Household Budget 2005/06) and the census (Kenya 2009 Population and Housing Census). This required the use of the survey and census questionnaires as well as their manuals.

First Stage (Consumption Model): This stage involved the use of regression analysis to explore the relationship between an agreed set of characteristics in the household and the consumption levels of the same households from the survey data. The regression equation was then used to estimate and explain daily per capita consumption and expenditure of households using socio-economic variables



such as household size, education levels, housing characteristics and access to basic services, and other auxiliary variables. While the census did not contain household expenditure data, it did contain these socio-economic variables.

Second Stage (Simulation): Analysis at this stage involved statistical imputation of household expenditures for the census households, by applying the socio-economic variables from the census data on the estimated relationship based on the survey data.

Identification of poor households Principal Component Analysis (PCA)

In order to attain the objective of the poverty targeting in this study, the household needed to be established. There are three principal indicators of welfare; household income; household consumption expenditures; and household wealth. Household income is the theoretical indicator of choice of welfare/economic status. However, it is extremely difficult to measure accurately due to the fact that many people do not remember all the sources of their income or better still would not want to divulge this information. Measuring consumption expenditures has many drawbacks such as the fact that household consumption expenditures typically are obtained from recall method usually for a period of not more than four weeks. In all cases a well planned and large scale survey is needed, which is time consuming and costly to collect. The estimation of wealth is a difficult concept due to both the quantitative as well as the qualitative aspects of it. It can also be difficult to compute especially when wealth is looked at as both tangible and intangible.

Given that the three main indicators of welfare cannot be determined in a shorter time, an alternative method that is quick is needed. The alternative approach then in measuring welfare is generally through the asset index. In measuring the asset index, multivariate statistical procedures such the factor analysis, discriminate analysis, cluster analysis or the principal component analysis methods are used. Principal components analysis transforms the original set of variables into a smaller set of linear combinations that account for most of the variance in the original set. The purpose of PCA is to determine factors (i.e., principal components) in order to explain as much of the total variation in the data as possible.

In this project the principal component analysis was utilized in order to generate the asset (wealth) index for each household in the study area. The PCA can be used as an exploratory tool to investigate patterns in the data; in identify natural groupings of the population for further analysis and; to reduce several dimensionalities in the number of known dimensions. In generating this index information from the datasets such as the tenure status of main dwelling units; roof, wall, and floor materials of main dwelling; main source of water; means of human waste disposal; cooking and lighting fuels; household items such radio TV, fridge etc was required. The recent available dataset that contains this information for the project area is the Kenya Population and Housing Census 2009.

There are four main approaches to handling multivariate data for the construction of the asset index in surveys and censuses. The first three may be regarded as exploratory techniques leading to index construction. These are graphical procedures and summary measures. The two popular multivariate procedures - cluster analysis and principal component analysis (PCA) - are two of the key procedures that have a useful preliminary role to play in index construction and lastly regression modeling approach.

In the recent past there has been an increasing routine application of PCA to asset data in creating welfare indices (Gwatkin et al. 2000, Filmer and Pritchett 2001 and McKenzie 2003).

Concepts and definitions

Inequality

Inequality is characterized by the existence of unequal opportunities or life chances and unequal conditions such as incomes, goods and services. Inequality, usually structured and recurrent, results into an unfair or unjust gap between individuals, groups or households relative to others within a population. There are several methods of measuring inequality. In this study, we consider among other methods, the Gini-coefficient, the difference in expenditure shares and access to important basic services.

Equality and Equity

Although the two terms are sometimes used interchangeably, they are different concepts. Equality requires all to have same/ equal resources, while equity requires all to have the same opportunity to access same resources, survive, develop, and reach their full potential, without discrimination, bias, or favoritism. Equity also accepts differences that are earned fairly.

Poverty

The poverty line is a threshold below which people are deemed poor. Statistics summarizing the bottom of the consumption distribution (i.e. those that fall below the poverty line) are therefore provided. In 2005/06, the poverty line was estimated at Ksh1,562 and Ksh2,913 per adult equivalent¹ per month for rural and urban households respectively. Nationally, 45.2 percent of the population lives below the poverty line (2009 estimates) down from 46 percent in 2005/06.

Spatial Dimensions

The reason poverty can be considered a spatial issue is two-fold. People of a similar socio-economic background tend to live in the same areas because the amount of money a person makes usually, but not always, influences their decision as to where to purchase or rent a home. At the same time, the area in which a person is born or lives can determine the level of access to opportunities like education and employment because income and education can influence settlement patterns and also be influenced by settlement patterns. They can therefore be considered causes and effects of spatial inequality and poverty.

Employment

Access to jobs is essential for overcoming inequality and reducing poverty. People who cannot access productive work are unable to generate an income sufficient to cover their basic needs and those of their families, or to accumulate savings to protect their households from the vicissitudes of the economy.

¹ This is basically the idea that every person needs different levels of consumption because of their age, gender, height, weight, etc. and therefore we take this into account to create an adult equivalent based on the average needs of the different populations

The unemployed are therefore among the most vulnerable in society and are prone to poverty. Levels and patterns of employment and wages are also significant in determining degrees of poverty and inequality. Macroeconomic policy needs to emphasize the need for increasing regular good quality 'work for pay' that is covered by basic labour protection. The population and housing census 2009 included questions on labour and employment for the population aged 15-64.

The census, not being a labour survey, only had few categories of occupation which included work for pay, family business, family agricultural holdings, intern/volunteer, retired/home maker, full time student, incapacitated and no work. The tabulation was nested with education- for none, primary and secondary level.

Education

Education is typically seen as a means of improving people's welfare. Studies indicate that inequality declines as the average level of educational attainment increases, with secondary education producing the greatest payoff, especially for women (Cornia and Court, 2001). There is considerable evidence that even in settings where people are deprived of other essential services like sanitation or clean water, children of educated mothers have much better prospects of survival than do the children of uneducated mothers. Education is therefore typically viewed as a powerful factor in leveling the field of opportunity as it provides individuals with the capacity to obtain a higher income and standard of living. By learning to read and write and acquiring technical or professional skills, people increase their chances of obtaining decent, better-paying jobs. Education however can also represent a medium through which the worst forms of social stratification and segmentation are created. Inequalities in quality and access to education often translate into differentials in employment, occupation, income, residence and social class. These disparities are prevalent and tend to be determined by socio-economic and family background. Because such disparities are typically transmitted from generation to generation, access to educational and employment opportunities are to a certain degree inherited, with segments of the population systematically suffering exclusion. The importance of equal access to a well-functioning education system, particularly in relation to reducing inequalities, cannot be overemphasized.

Water

According to UNICEF (2008), over 1.1 billion people lack access to an improved water source and over three million people, mostly children, die annually from water-related diseases. Water quality refers to the basic and physical characteristics of water that determines its suitability for life or for human uses. The quality of water has tremendous effects on human health both in the short term and in the long term. As indicated in this report, slightly over half of Kenya's population has access to improved sources of water.

Sanitation

Sanitation refers to the principles and practices relating to the collection, removal or disposal of human excreta, household waste, water and refuse as they impact upon people and the environment. Decent sanitation includes appropriate hygiene awareness and behavior as well as acceptable, affordable and

sustainable sanitation services which is crucial for the health and wellbeing of people. Lack of access to safe human waste disposal facilities leads to higher costs to the community through pollution of rivers, ground water and higher incidence of air and water borne diseases. Other costs include reduced incomes as a result of disease and lower educational outcomes.

Nationally, 61 percent of the population has access to improved methods of waste disposal. A sizeable population i.e. 39 percent of the population is disadvantaged. Investments made in the provision of safe water supplies need to be commensurate with investments in safe waste disposal and hygiene promotion to have significant impact.

Housing Conditions (Roof, Wall and Floor)

Housing conditions are an indicator of the degree to which people live in humane conditions. Materials used in the construction of the floor, roof and wall materials of a dwelling unit are also indicative of the extent to which they protect occupants from the elements and other environmental hazards. Housing conditions have implications for provision of other services such as connections to water supply, electricity, and waste disposal. They also determine the safety, health and well being of the occupants. Low provision of these essential services leads to higher incidence of diseases, fewer opportunities for business services and lack of a conducive environment for learning. It is important to note that availability of materials, costs, weather and cultural conditions have a major influence on the type of materials used.

Energy fuel for cooking and lighting

Lack of access to clean sources of energy is a major impediment to development through health related complications such as increased respiratory infections and air pollution. The type of cooking fuel or lighting fuel used by households is related to the socio-economic status of households. High level energy sources are cleaner but cost more and are used by households with higher levels of income compared with primitive sources of fuel like firewood which are mainly used by households with a lower socio-economic profile. Globally about 2.5 billion people rely on biomass such as fuel-wood, charcoal, agricultural waste and animal dung to meet their energy needs for cooking.

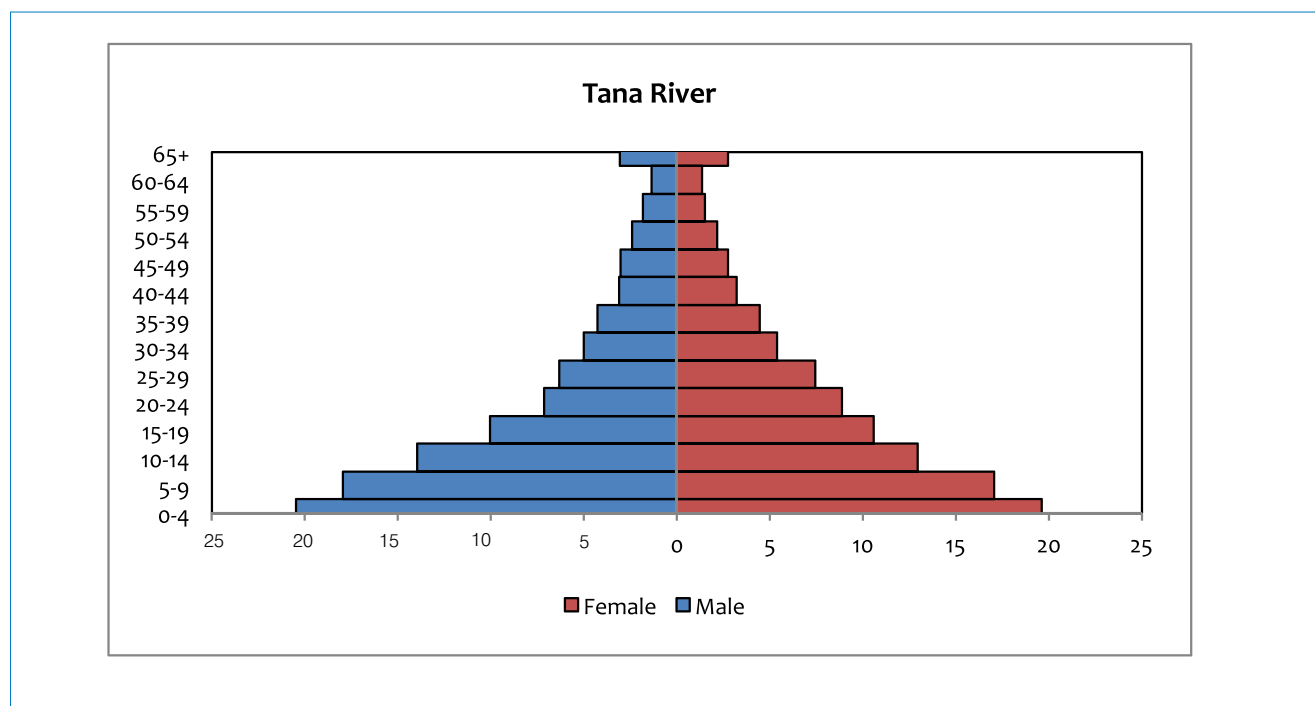


Tana River County



TANA RIVER COUNTY

Figure 40.1: Tana River Population Pyramid



Population

Tana River County has a child rich population structure, where 0-14 year olds constitute 51% of the total population. This is due to high fertility rates among women as shown by the highest percentage household size of 4-6 members at 42%.

Employment

The 2009 population and housing census covered in brief the labour status as tabulated below. The main variable of interest for inequality discussed in the text is work for pay by level of education. The other variables, notably family business, family agricultural holdings, intern/volunteer, retired/homemaker, fulltime student, incapacitated and no work are tabulated and presented in the annex table 40.3 up to ward level.

Table 40: Overall Employment by Education Levels in Tana River County

Education Level	Work for pay	Family Business	Family Agricultural Holding	Intern/Volunteer	Retired/ Homemaker	Fulltime Student	Incapacitated	No work	Number of Individuals
Total	11.2	10.3	40.6	1.4	19.9	6.3	0.4	9.9	110,044
None	6.7	10.2	41.9	1.4	28.8	0.3	0.6	10.0	58,416
Primary	11.7	10.1	43.8	1.4	10.8	12.4	0.3	9.6	38,061
Secondary+	29.4	11.0	25.9	1.7	6.8	14.9	0.2	10.2	13,567

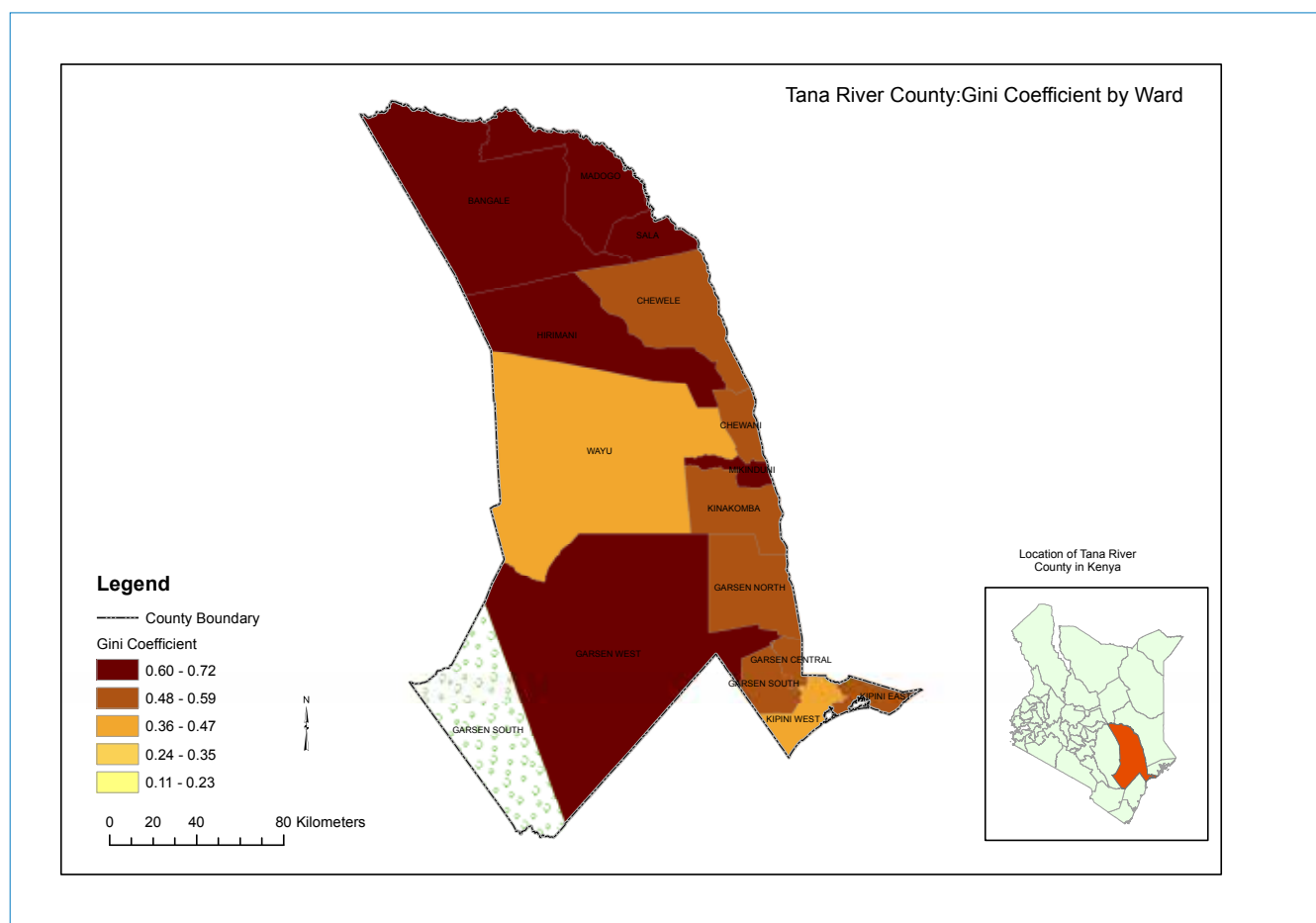
In Tana River County, 7% of the residents with no formal education, 12% of those with a primary education and 29% of those with a secondary level of education or above are working for pay. Work for pay is highest in Nairobi at 49% and this is 20 percentage points above the level in Tana River for those with secondary level of education

or above.

Gini Coefficient

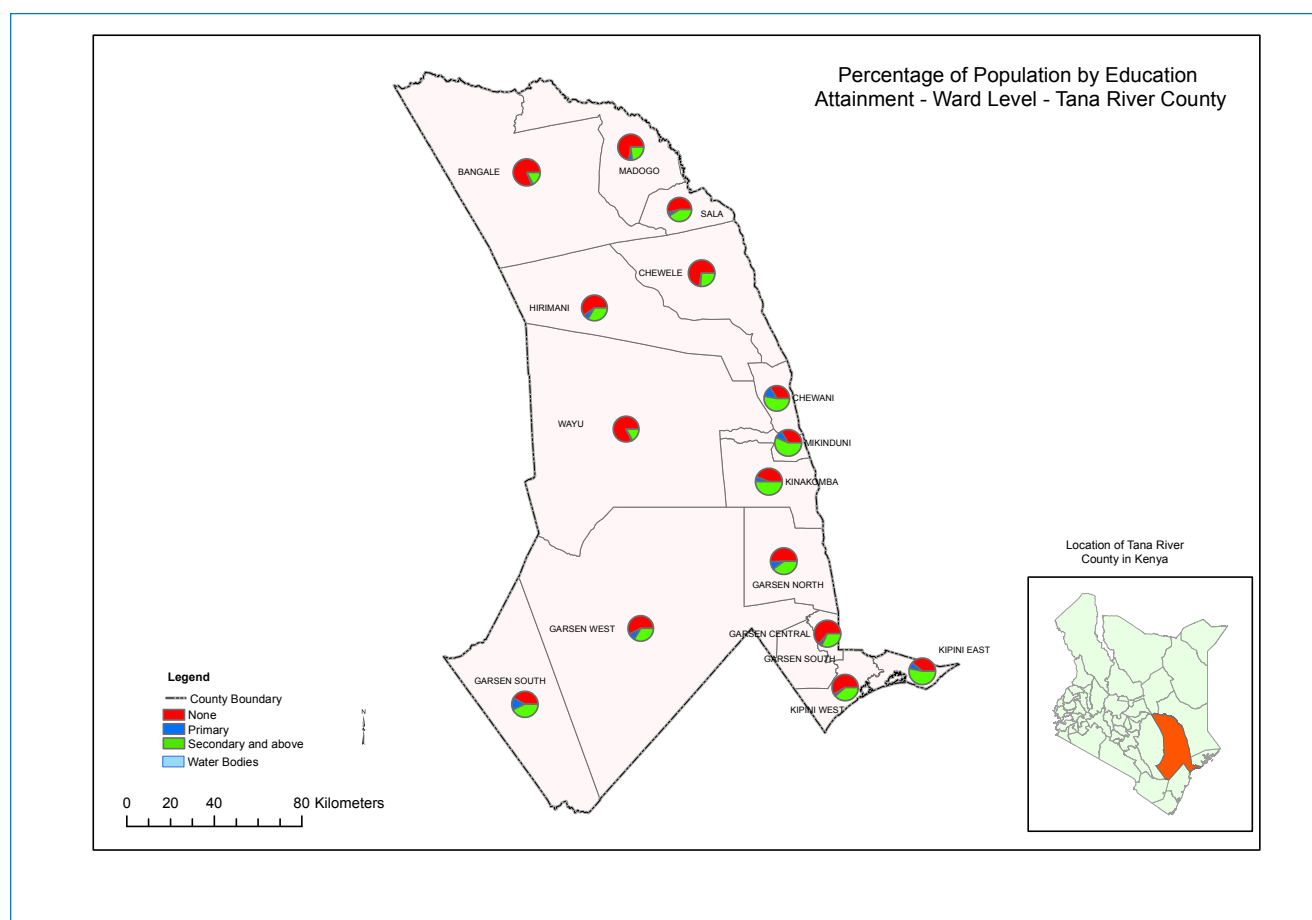
In this report, the Gini index measures the extent to which the distribution of consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of '0' represents perfect equality, while an index of '1' implies perfect inequality. Tana River County's Gini index is 0.617 compared with Turkana County, which has the least inequality nationally (0.283).

Figure 40.2: Tana River County-Gini Coefficient by Ward



Education

Figure 40.3: Tana River County-Percentage of Population by Education Attainment by Ward



Only 7% of Tana River County residents have secondary level of education or above. Galole constituency has the highest share of residents with a secondary level of education or above at 9%. This is twice Bura constituency, which has the lowest share of residents with a secondary level of education or above. Galole constituency is 2 percentage points above the county average. Garsen South ward has the highest share of residents with a secondary level of education or above at 15%. This is 14 percentage points above Wayu ward, which has the lowest share of residents with a secondary level of education or above. Garsen South ward is 8 percentage points above the county average.

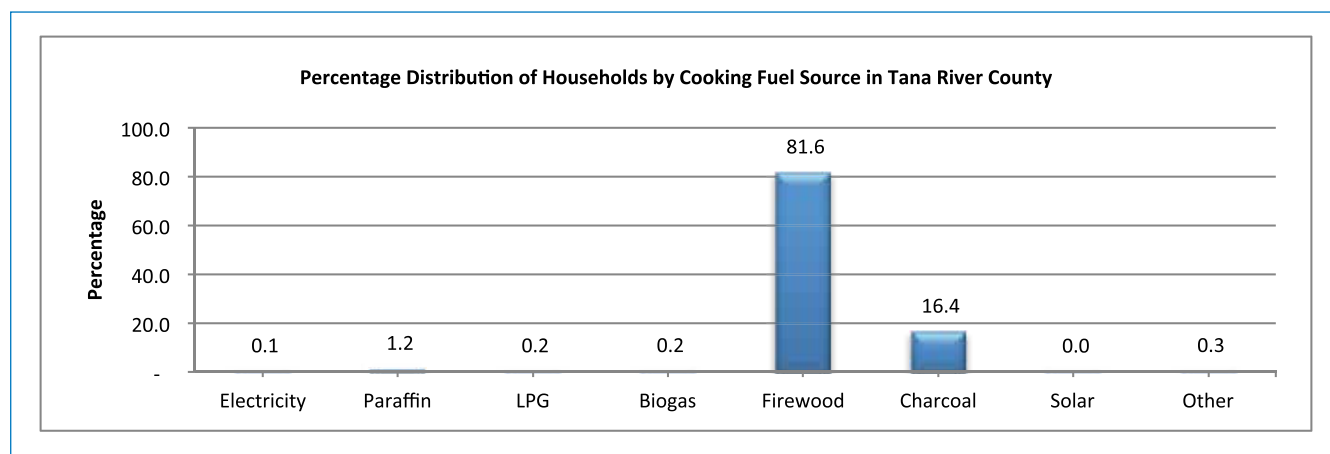
A total of 37% of Tana River County residents have a primary level of education only. Galole constituency has the highest share of residents with a primary level of education only at 45%. This is 18 percentage points above Bura constituency, which has the lowest share of residents with a primary level of education only. Galole constituency is 8 percentage points above the county average. Mikinduni ward has the highest share of residents with a primary level of education only at 57%. This is three times Wayu ward, which has the lowest share of residents with a primary level of education only. Mikinduni is at 20 percentage points above the county average.

A total of 56% of Tana River County residents have no formal education. Bura constituency has the highest share of residents with no formal education at 69%. This is 22 percentage points above Galole constituency, which has the lowest share of residents with no formal education. Bura constituency is 13 percentage points above the county average. Wayu ward has the highest percentage of residents with no formal education at 82%. This is twice Mikinduni ward, which has the lowest percentage of residents with no formal education. Wayu ward is 26 percentage points above the county average.

Energy

Cooking Fuel

Figure 40.4: Percentage Distribution of Households by Source of Cooking Fuel in Tana River County



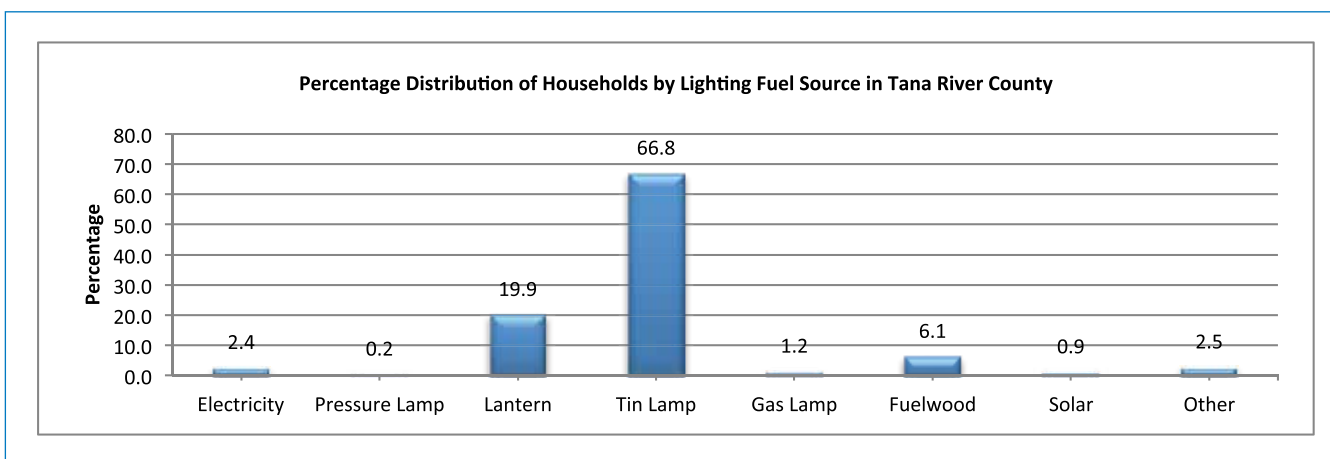
Less than 1% of residents in Tana River County use liquefied petroleum gas (LPG), and 1% use paraffin. 82% use firewood and 16% use charcoal. Firewood is the most common cooking fuel by gender with no significant differential as 81% of male headed households and 82% in female headed households use it.

Garsen constituency has the highest level of firewood use in Tana River County at 89%. This is 13 percentage points above Bura constituency, which has the lowest share at 76%. Garsen constituency is about 7 percentage points above the county average. Kipini West ward has the highest level of firewood use in Tana River County at 98%. This is twice Sala ward, which has the lowest share at 48%. This is 16 percentage points above the county average.

Bura constituency has the highest level of charcoal use in Tana River County at 21%. This is twice Garsen constituency, which has the lowest share at 10%. Burai constituency is 5 percentage points above the county average. Sala ward has the highest level of charcoal use in Tana River County at 50%. This is 48 percentage points more than Kipini West and Wayu wards, which have the lowest share. Sala ward is 34 percentage points above the county average.

Lighting

Figure 40.5: Percentage Distribution of Households by Source of Lighting Fuel in Tana River County



Only 2% of residents in Tana River County use electricity as their main source of lighting. A further 20% use lanterns, and 67% use tin lamps. 6% use fuel wood. Electricity use by gender has no significant variation with male headed households at 3% as compared with female headed households at 2%.

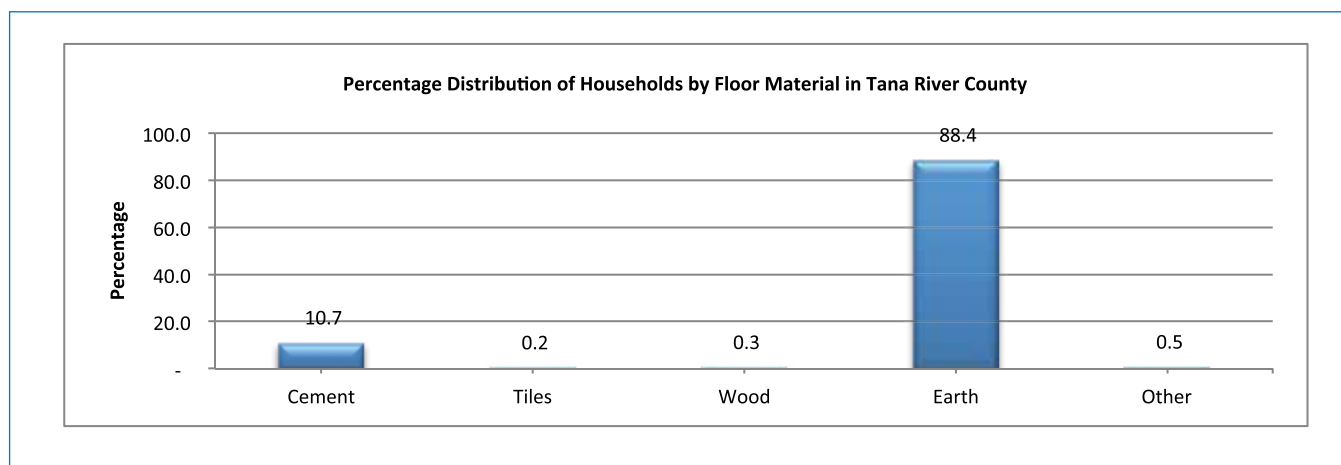
Galole constituency has the highest level of electricity use at 3%. This is 1% point above Garsen and Bura constituencies that have the lowest share. Galole constituency is 1% point above the county average. Chewani ward has the highest level of electricity use at 7%. This is 7% points above Bangale ward that has no level of electricity use. Chewani ward is 5% points above the county average.

Housing

Flooring

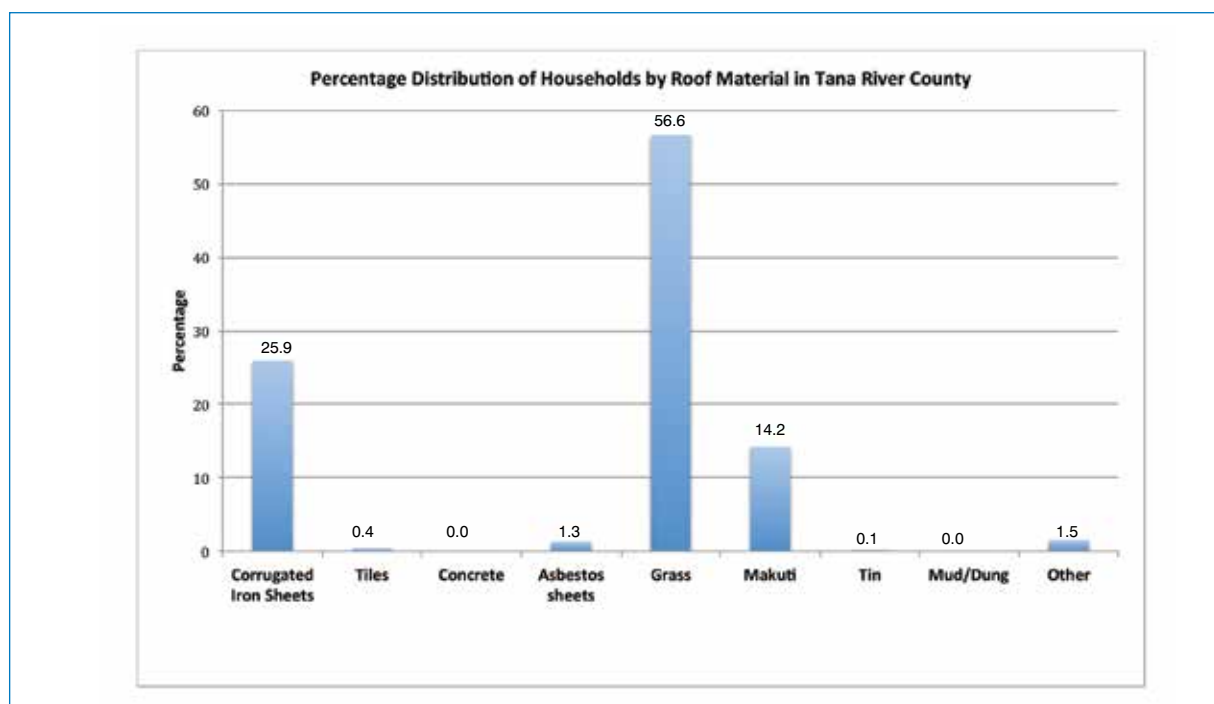
In Tana River County, 11% of residents have homes with cement floors, while 88% have earth floors. Less than 1% has wood or tile floors. Galole constituency has the highest share of cement floors at 13%. That is 5 percentage points above Garsen constituency, which has the lowest share of cement floors. Galole constituency is 2 percentage points above the county average. Chewani ward has the highest share of cement floors at 26%. That is 25 percentage points above Chewele and Kipini West wards, which have the lowest share of cement floors. Chewani ward is 15 percentage points above the county average.

Figure 40.6: Percentage Distribution of Households by Floor Material in Tana River County



Roofing

Figure 40.7: Percentage Distribution of Households by Roof Material in Tana River County



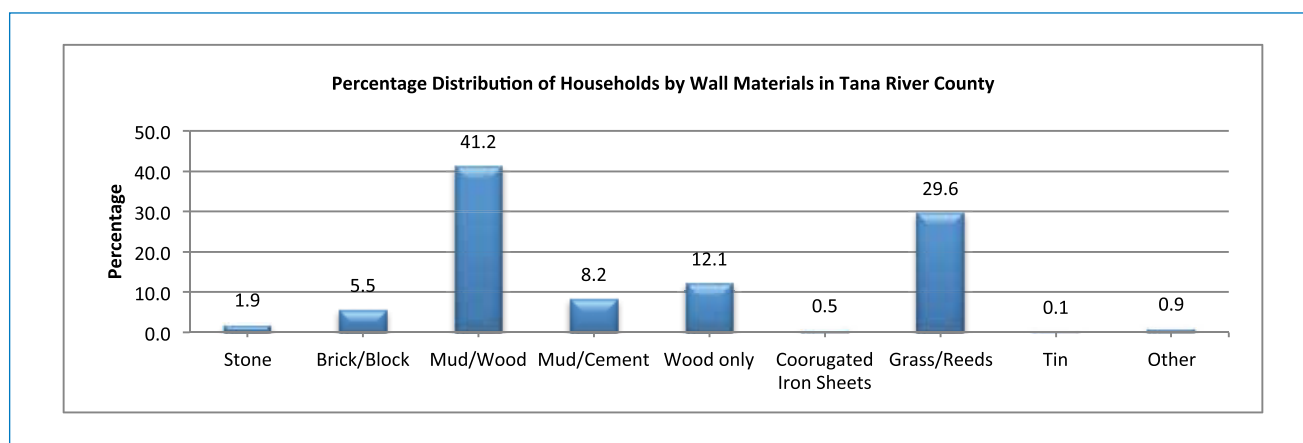
In Tana River County, none of residents have homes with concrete roofs, while 26% have corrugated iron sheet roofs. Grass and makuti roofs constitute 71% of homes, and none have mud/dung roofs.

Galole constituency has the highest share of corrugated iron sheet roofs at 35%. That is almost twice Garsen constituency, which has the lowest share of corrugated iron sheet roofs. Galole constituency is 9 percentage points above the county average. Chewani ward has the highest share of corrugated iron sheet roofs at 52%. That is almost 26 times Garsen Central ward, which has the lowest share of corrugated iron sheet roofs. Chewani ward is 26 percentage points above the county average.

Garsen constituency has the highest share of grass/makuti roofs at 79%. That is 18 percentage points above Galole constituency, which has the lowest share of grass/makuti roofs. Garsen constituency is 8 percentage points above the county average. Wayu ward has the highest share of grass/makuti roofs at 97%. This is twice Mikinduni ward, which has the lowest share. Wayu ward is 26 percentage points above the county average.

Walls

Figure 40.8: Percentage Distribution of Households by Wall Material in Tana River County



In Tana River County, 7% of homes have either brick or stone walls. 49% of homes have mud/wood or mud/cement walls. 12% have wood walls. 1% has corrugated iron walls. 30% have grass/thatched walls. 1% has tin or other walls.

Galole constituency has the highest share of brick/stone walls at 9%. That is 3 percentage points above Garsen constituency, which has the lowest share of brick/stone walls. Galole constituency is 2 percentage points above the county average. Chewani ward has the highest share of brick/stone walls at 18%. That is 17 percentage points above Chewele ward, which has the lowest share of brick/stone walls. Chewani ward is 11 percentage points above the county average.

Garsen constituency has the highest share of mud with wood/cement walls at 62%. That is twice Bura constituency, which has the lowest share of mud with wood/cement. Garsen constituency is 13 percentage points above the county average. Mikinduni ward has the highest share of mud with wood/cement walls at 82%. That is eight times Bangale ward, which has the lowest share of mud with wood/cement walls. Mikinduni ward is 33 percentage points above the county average.

Water

Improved sources of water comprise protected spring, protected well, borehole, piped into dwelling, piped and rain water collection while unimproved sources include pond, dam, lake, stream/river, unprotected spring, unprotected well, jabia, water vendor and others.

In Tana River County, 42% of residents use improved sources of water, with the rest relying on unimproved sources. There is no gender differential in use of improved sources as 42% of male headed households and 41% in female headed households use it.

Garsen constituency has the highest share of residents using improved sources of water at 54%. That is twice Bura constituency, which has the lowest share using improved sources of water. Garsen constituency is 12 percentage points above the county average. Garsen West ward, has the highest share of residents using improved sources of water at 76% each. That is 74 percentage points above Hirimani ward, which has the lowest share using improved sources of water. Garsen West ward is 34 percentage points above the county average.

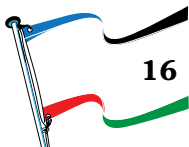
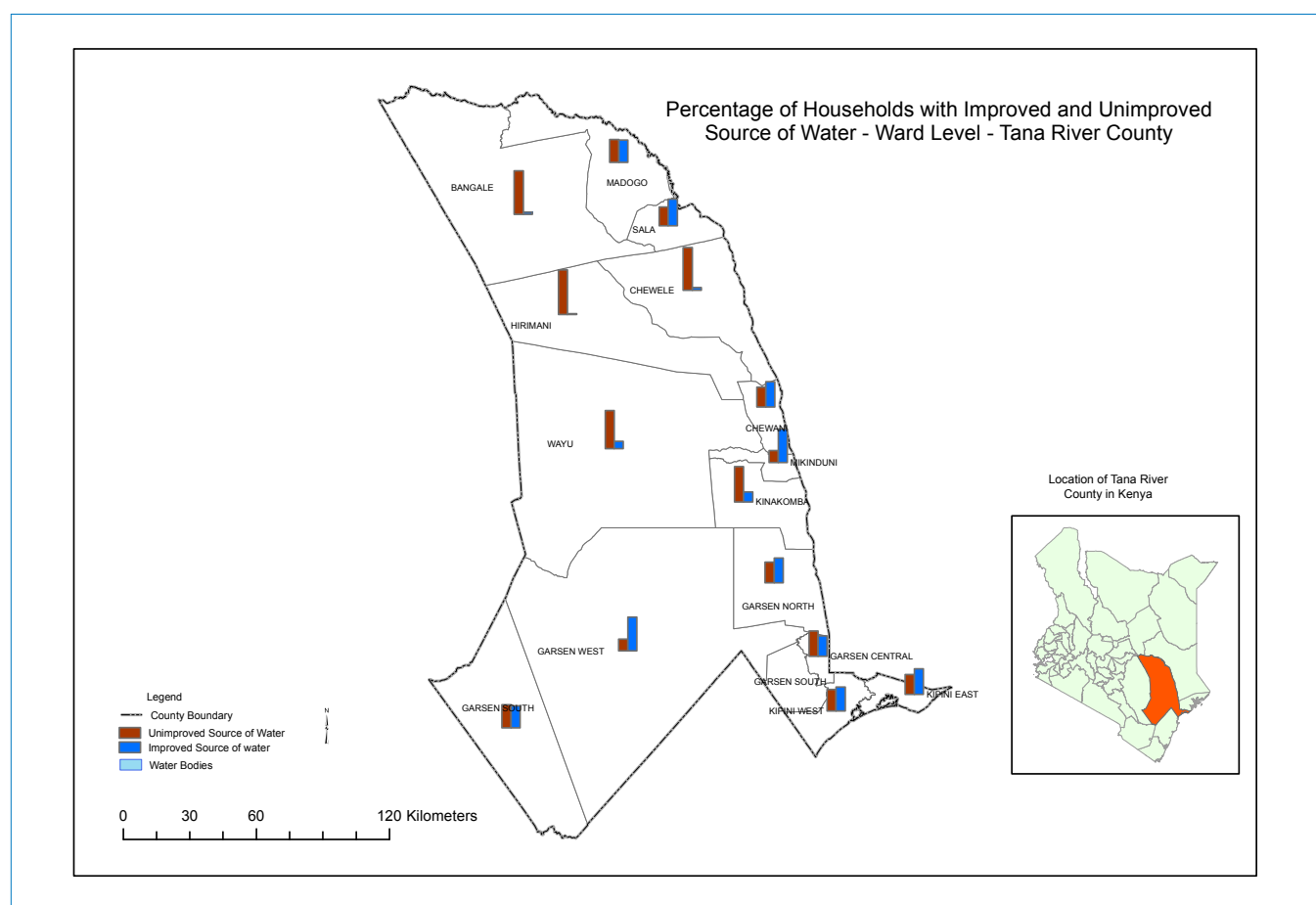


Figure 40.9: Tana River County-Percentage of Households with Improved and Unimproved Sources of Water by Ward

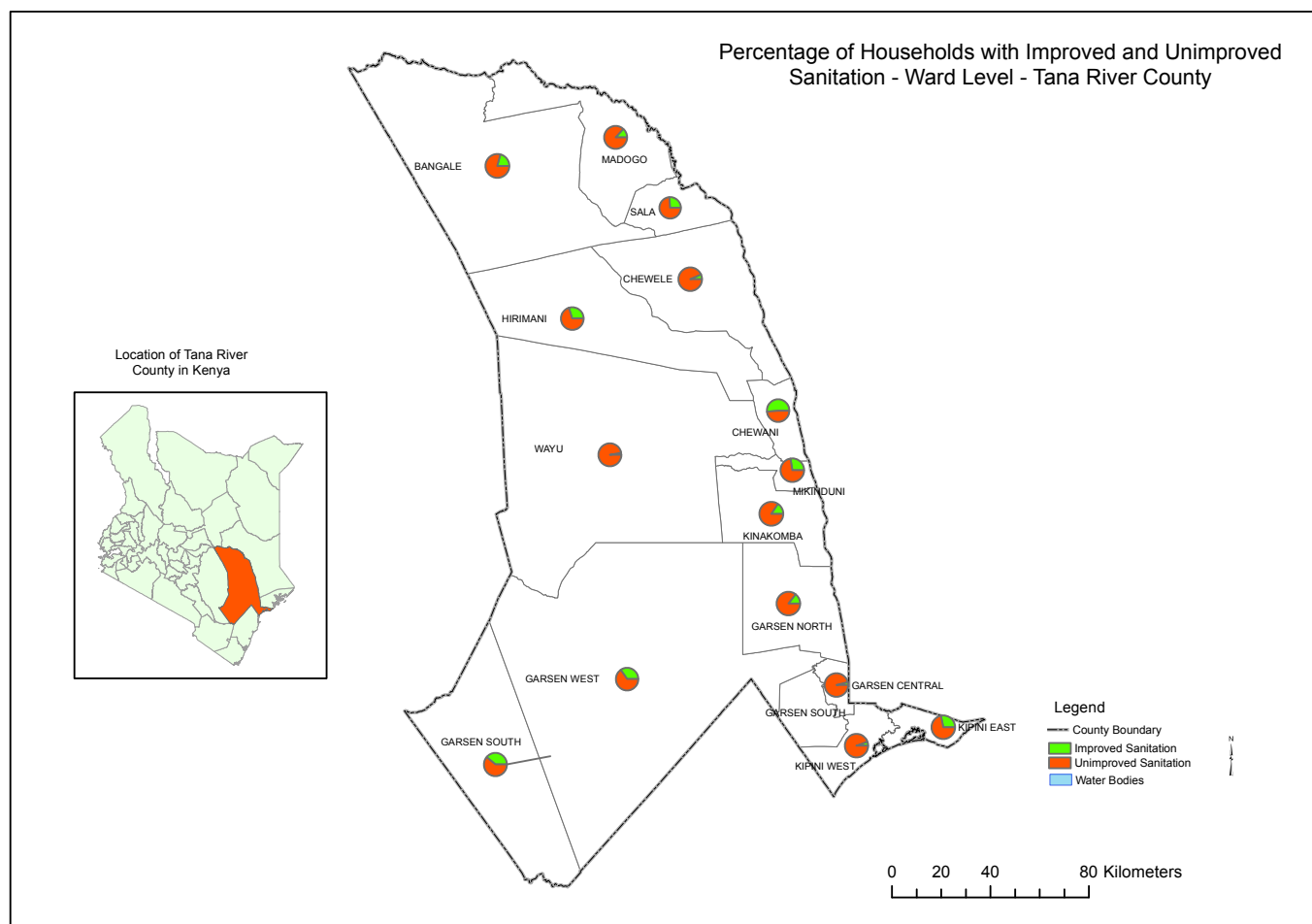


Sanitation

A total of 22% of residents in Tana River County use improved sanitation, while the rest use unimproved sanitation. There is no significant gender differential in use of improved sanitation as 21% of male headed households and 23% in female headed households use it.

Galole constituency has the highest share of residents using improved sanitation at 29%. That is almost twice Bura constituency, which has the lowest share using improved sanitation. Galole constituency is 7 percentage points above the county average. Chewani ward has the highest share of residents using improved sanitation at 52%. That is almost 17 times Wayu ward, which has the lowest share using improved sanitation. Chewani ward is 30 percentage points above the county average.

Figure 40.10: Tana River County –Percentage of Households with Improved and Unimproved Sanitation by Ward



Tana River County Annex Tables

40. TANA RIVER

Table 40.1: Gender, Age group, Demographic Indicators and Households Size by County Constituency and Wards

County/Constituency/ Wards	Gender		Age group				Demographic indicators					Protion of HH Members:					
	Total Pop	Male	Female	0-5 yrs	0-14 yrs	10-18 yrs	15-34 yrs	15-64 yrs	65+ yrs	sex Ratio	Total depen- dancy Ratio	Child depen- dancy Ratio	aged depen- dancy ratio	0-3	4-6	7+	total
Kenya	37,919,647	18,787,698	19,131,949	7,035,670	16,346,414	8,293,207	13,329,717	20,249,800	1,323,433	0.982	0.873	0.807	0.065	41.5	38.4	20.1	8,493,380
Rural	26,075,195	12,869,034	13,206,161	5,059,515	12,024,773	6,134,730	8,303,007	12,984,788	1,065,634	0.974	1.008	0.926	0.082	33.2	41.3	25.4	5,239,879
Urban	11,844,452	5,918,664	5,925,788	1,976,155	4,321,641	2,158,477	5,026,710	7,265,012	257,799	0.999	0.630	0.595	0.035	54.8	33.7	11.5	3,253,501
Tana River County	238,688	118,685	120,003	57,371	121,690	52,258	72,557	110,044	6,954	0.989	1.169	1.106	0.063	28.6	42.4	29.1	45,227
Garsen Constituency	96,287	48,407	47,880	21,913	48,296	21,862	29,126	44,975	3,016	1.011	1.141	1.074	0.067	27.9	41.8	30.3	17972
Kipini East	19,520	9,864	9,656	4,457	9,792	4,350	5,907	9,222	506	1.022	1.117	1.062	0.055	29.3	38.8	31.9	3652
Garsen South	15,955	7,987	7,968	3,297	7,463	3,620	5,020	7,829	663	1.002	1.038	0.953	0.085	28.8	42.3	28.9	3037
Kipini West	17,895	9,301	8,594	4,292	9,228	3,888	5,330	8,164	503	1.082	1.192	1.130	0.062	28.9	41.7	29.4	3427
Garsen Central	14,809	7,508	7,301	3,518	7,692	3,538	4,422	6,702	415	1.028	1.210	1.148	0.062	23.0	42.8	34.2	2553
Garsen West	10,613	5,124	5,489	2,369	5,210	2,434	3,243	5,072	331	0.934	1.092	1.027	0.065	32.0	41.5	26.5	2110
Garsen North	17,495	8,623	8,872	3,980	8,911	4,032	5,204	7,986	598	0.972	1.191	1.116	0.075	25.3	44.4	30.3	3193
Galole Constituency	60,362	29,050	31,312	15,141	31,399	13,105	18,098	27,391	1,572	0.928	1.204	1.146	0.057	28.2	42.6	29.2	11324
Kinakomba	13,590	6,561	7,029	3,392	7,224	3,156	3,966	5,969	397	0.933	1.277	1.210	0.067	25.7	42.6	31.7	2456
Mikinduni	9,423	4,567	4,856	2,318	4,826	2,105	2,949	4,319	278	0.940	1.182	1.117	0.064	23.6	40.6	35.8	1589
Chewani	23,908	11,477	12,431	5,667	11,824	5,110	7,570	11,500	584	0.923	1.079	1.028	0.051	31.4	40.5	28.1	4627
Wayu	13,441	6,445	6,996	3,764	7,525	2,734	3,613	5,603	313	0.921	1.399	1.343	0.056	27.6	47.3	25.1	2652
Bura Constituency	82,039	41,228	40,811	20,317	41,995	17,291	25,333	37,678	2,366	1.010	1.177	1.115	0.063	29.6	42.8	27.6	15931

Chewele	16,312	7,977	8,335	4,060	8,537	3,634	4,858	7,247	528	0.957	1.251	1.178	0.073	25.4	45.8	28.7	3077
Hirimani	15,162	7,523	7,639	3,700	7,793	3,173	4,300	6,920	449	0.985	1.191	1.126	0.065	30.6	41.4	28.1	2933
Bangale	14,069	7,146	6,923	3,352	7,464	3,123	4,139	6,214	391	1.032	1.264	1.201	0.063	22.9	42.3	34.7	2464
Sala	10,312	5,399	4,913	2,614	4,854	1,840	3,702	5,193	265	1.099	0.986	0.935	0.051	41.5	38.5	20.1	2303
Madogo	26,184	13,183	13,001	6,591	13,347	5,521	8,334	12,104	733	1.014	1.163	1.103	0.061	29.4	44.0	26.6	5154

Table 40.2: Employment by County, Constituency and Wards

County/Constituency/ Wards	Work for pay	Family Business	Family Ag- ricultural Holding	Intern/Vol- unteer	Retired/ Homemaker	Fulltime Student	Incapaci- tated	No work	Number of Individuals
Kenya	23.7	13.1	32.0	1.1	9.2	12.8	0.5	7.7	20,249,800
Rural	15.6	11.2	43.5	1.0	8.8	13.0	0.5	6.3	12,984,788
Urban	38.1	16.4	11.4	1.3	9.9	12.2	0.3	10.2	7,265,012
Tana River County	11.2	10.3	40.6	1.4	19.9	6.3	0.4	9.9	110,044
Garsen Constituency	10.7	9.5	57.4	1.4	7.2	6.3	0.5	7.0	44,975
Kipini East	7.9	9.6	66.0	1.2	3.7	4.8	0.4	6.5	9,222
Garsen South	18.1	9.6	44.2	1.4	8.3	8.4	0.6	9.5	7,829
Kipini West	9.8	8.0	76.5	0.7	0.7	2.4	0.2	1.8	8,164
Garsen Central	10.1	6.3	54.3	2.7	17.4	6.5	0.4	2.3	6,702
Garsen West	12.5	17.7	27.5	1.6	13.0	8.4	0.5	18.9	5,072
Garsen North	7.0	8.5	62.5	0.9	4.5	8.8	0.8	7.0	7,986
Galole Constituency	12.1	11.6	36.2	2.0	20.2	8.2	0.6	9.0	27,391
Kinakomba	12.2	6.4	43.3	2.1	19.3	10.0	0.7	6.0	5,969
Mikinduni	11.2	5.8	41.6	5.9	16.7	9.6	0.6	8.7	4,319
Chewani	16.1	14.2	33.6	1.1	14.2	9.8	0.5	10.5	11,500
Wayu	4.5	16.4	30.0	1.0	36.0	2.0	0.6	9.5	5,603
Bura Constituency	11.3	10.2	23.7	1.1	34.8	4.8	0.4	13.9	37,678
Cheweale	6.7	9.2	25.3	1.3	38.3	4.4	0.7	14.1	7,247
Hirimani	14.5	9.8	25.8	0.7	27.4	4.7	0.4	16.7	6,920
Bangale	5.2	12.1	27.6	0.8	35.9	4.8	0.2	13.4	6,214
Sala	19.0	10.3	12.3	0.8	36.7	4.8	0.1	16.1	5,193
Madogo	11.9	9.9	24.3	1.4	35.4	5.2	0.3	11.6	12,104

Table 40.3: Employment and Education Levels by County, Constituency and Wards

County /constituency/ Wards	Education Totallevel	Work for pay	Family Business	Family Agri- cultural Holding	Intern/ Volunteer	Retired/ Home- maker	Fulltime Student	Incapac- itated	No work	Number of Indi- viduals
Kenya	Total	23.7	13.1	32.0	1.1	9.2	12.8	0.5	7.7	20,249,800
Kenya	None	11.1	14.0	44.4	1.7	14.7	0.8	1.2	12.1	3,154,356
Kenya	Primary	20.7	12.6	37.3	0.8	9.6	12.1	0.4	6.5	9,528,270
Kenya	Secondary+	32.7	13.3	20.2	1.2	6.6	18.6	0.2	7.3	7,567,174
Rural	Total	15.6	11.2	43.5	1.0	8.8	13.0	0.5	6.3	12,984,788
Rural	None	8.5	13.6	50.0	1.4	13.9	0.7	1.2	10.7	2,614,951
Rural	Primary	15.5	10.8	45.9	0.8	8.4	13.2	0.5	5.0	6,785,745
Rural	Secondary+	21.0	10.1	34.3	1.0	5.9	21.9	0.3	5.5	3,584,092
Urban	Total	38.1	16.4	11.4	1.3	9.9	12.2	0.3	10.2	7,265,012
Urban	None	23.5	15.8	17.1	3.1	18.7	1.5	1.6	18.8	539,405
Urban	Primary	33.6	16.9	16.0	1.0	12.3	9.5	0.4	10.2	2,742,525
Urban	Secondary+	43.2	16.1	7.5	1.3	7.1	15.6	0.2	9.0	3,983,082
Tana River	Total	11.2	10.3	40.6	1.4	19.9	6.3	0.4	9.9	110,044
Tana River	None	6.7	10.2	41.9	1.4	28.8	0.3	0.6	10.0	58,416
Tana River	Primary	11.7	10.1	43.8	1.4	10.8	12.4	0.3	9.6	38,061

Tana River	Secondary+	29.4	11.0	25.9	1.7	6.8	14.9	0.2	10.2	13,567
Garsen Constituency	Total	10.7	9.5	57.4	1.4	7.2	6.3	0.5	7.0	44,975
Garsen Constituency	None	8.4	9.6	62.5	1.7	10.4	0.4	0.6	6.5	21,090
Garsen Constituency	Primary	8.4	9.4	58.8	1.0	4.5	10.8	0.3	6.7	17,323
Garsen Constituency	Secondary+	24.2	9.7	37.6	1.2	3.9	13.7	0.2	9.5	6,562
Kipini East Wards	Total	7.9	9.6	66.0	1.2	3.7	4.8	0.4	6.5	9,222
Kipini East Wards	None	7.0	11.9	67.8	1.5	4.7	0.2	0.8	6.2	2,717
Kipini East Wards	Primary	5.8	8.7	68.1	1.1	3.3	6.3	0.2	6.4	5,225
Kipini East Wards	Secondary+	18.1	8.4	53.9	1.1	2.9	8.3	0.1	7.3	1,280
Garsen South Wards	Total	18.1	9.6	44.2	1.4	8.3	8.4	0.6	9.5	7,829
Garsen South Wards	None	11.6	10.3	56.7	1.6	10.8	0.6	0.7	7.8	2,871
Garsen South Wards	Primary	14.9	9.4	44.7	1.1	7.0	12.3	0.5	10.1	2,937
Garsen South Wards	Secondary+	31.9	9.1	25.6	1.6	6.6	13.9	0.4	10.9	2,021
Kipini West Wards	Total	9.8	8.0	76.5	0.7	0.7	2.4	0.2	1.8	8,164
Kipini West Wards	None	11.2	6.9	78.4	1.0	0.9	0.1	0.2	1.3	4,856
Kipini West Wards	Primary	6.7	9.5	74.9	0.2	0.3	5.9	0.1	2.6	2,829
Kipini West Wards	Secondary+	14.2	9.6	67.9	0.4	0.6	4.8	0.2	2.3	479
Garsen Central Wards	Total	10.1	6.3	54.3	2.7	17.4	6.5	0.4	2.3	6,702
Garsen Central Wards	None	8.9	6.7	57.0	3.3	20.7	0.2	0.5	2.7	4,311
Garsen Central Wards	Primary	8.9	5.6	52.5	1.5	12.9	17.0	0.3	1.4	1,906
Garsen Central Wards	Secondary+	25.8	5.4	37.3	1.7	6.4	20.8	0.2	2.5	485
Garsen West Wards	Total	12.5	17.7	27.5	1.6	13.0	8.4	0.5	18.9	5,072
Garsen West Wards	None	7.1	16.6	32.6	1.5	18.1	0.5	0.6	23.1	2,824
Garsen West Wards	Primary	12.2	20.0	27.0	2.1	7.6	16.7	0.6	13.9	1,403
Garsen West Wards	Secondary+	31.2	17.5	11.2	1.3	4.7	20.8	0.1	13.0	845
Garsen North Wards	Total	7.0	8.5	62.5	0.9	4.5	8.8	0.8	7.0	7,986
Garsen North Wards	None	3.4	8.8	71.6	1.3	8.7	0.8	1.2	4.2	3,511
Garsen North Wards	Primary	6.0	8.0	60.3	0.7	1.5	15.1	0.5	7.9	3,023
Garsen North Wards	Secondary+	17.7	8.8	45.1	0.6	0.8	14.8	0.3	11.9	1,452
Galole Constituency	Total	12.1	11.6	36.2	2.0	20.2	8.2	0.6	9.0	27,391
Galole Constituency	None	5.3	11.7	36.5	1.8	34.0	0.3	0.9	9.5	11,191

Galole Constituency	Primary	10.8	10.8	42.8	2.1	11.6	13.3	0.3	8.4	11,862
Galole Constituency	Secondary+	33.5	13.9	17.6	2.5	7.9	15.0	0.2	9.5	4,338
Kinakomba Wards	Total	12.2	6.4	43.3	2.1	19.3	10.0	0.7	6.0	5,969
Kinakomba Wards	None	6.8	5.8	41.3	3.6	34.3	0.3	1.3	6.7	2,314
Kinakomba Wards	Primary	13.9	6.5	48.0	1.0	9.4	16.6	0.4	4.3	2,990
Kinakomba Wards	Secondary+	23.6	8.6	29.3	1.8	11.3	14.4	0.3	10.7	665
Mikinduni Wards	Total	11.2	5.8	41.6	5.9	16.7	9.6	0.6	8.7	4,319
Mikinduni Wards	None	5.7	6.1	45.9	3.4	29.7	0.8	1.2	7.2	1,119
Mikinduni Wards	Primary	9.3	5.6	45.0	7.0	13.0	11.6	0.4	8.2	2,445
Mikinduni Wards	Secondary+	25.6	6.1	24.0	6.4	9.4	16.0	0.3	12.3	755
Chewani Wards	Total	16.1	14.2	33.6	1.1	14.2	9.8	0.5	10.5	11,500
Chewani Wards	None	7.4	11.2	36.8	1.3	26.9	0.3	1.1	15.0	2,981
Chewani Wards	Primary	10.3	14.2	41.7	0.7	11.2	12.3	0.3	9.3	5,744
Chewani Wards	Secondary+	37.7	17.1	13.4	1.7	6.9	14.8	0.1	8.3	2,775
Wayu Wards	Total	4.5	16.4	30.0	1.0	36.0	2.0	0.6	9.5	5,603
Wayu Wards	None	3.2	16.1	31.8	0.9	39.3	0.1	0.6	8.0	4,777
Wayu Wards	Primary	6.2	18.6	21.4	1.3	19.6	12.6	0.6	19.8	683
Wayu Wards	Secondary+	39.2	16.1	11.2	0.7	4.2	16.1	-	12.6	143
Bura Constituency	Total	11.3	10.2	23.7	1.1	34.8	4.8	0.4	13.9	37,678
Bura Constituency	None	6.0	10.1	27.7	1.0	41.5	0.3	0.4	13.1	26,135
Bura Constituency	Primary	19.4	10.5	15.8	1.0	21.9	14.5	0.2	16.6	8,876
Bura Constituency	Secondary+	35.5	9.5	10.6	1.6	11.9	17.5	0.3	13.1	2,667
Cheweale Wards	Total	6.7	9.2	25.3	1.3	38.3	4.4	0.7	14.1	7,247
Cheweale Wards	None	4.3	9.6	27.4	1.1	44.0	0.3	0.7	12.7	5,276
Cheweale Wards	Primary	11.1	8.3	20.9	1.6	24.6	15.0	0.8	17.8	1,727
Cheweale Wards	Secondary+	27.9	4.9	12.3	4.1	13.1	18.9	1.6	17.2	244
Hirimani Wards	Total	14.5	9.8	25.8	0.7	27.4	4.7	0.4	16.7	6,920
Hirimani Wards	None	10.0	9.9	22.1	0.8	37.7	0.3	0.6	18.6	4,112
Hirimani Wards	Primary	14.1	9.6	35.9	0.5	13.9	10.6	0.1	15.3	1,894
Hirimani Wards	Secondary+	35.6	9.6	21.3	1.0	8.9	12.6	0.2	10.8	914
Bangale Wards	Total	5.2	12.1	27.6	0.8	35.9	4.8	0.2	13.4	6,214

Bangale Wards	None	2.8	11.3	31.1	0.8	39.8	0.3	0.2	13.8	5,334
Bangale Wards	Primary	17.3	16.5	7.0	0.8	14.9	32.2	-	11.4	659
Bangale Wards	Secondary+	27.6	18.6	4.5	0.9	6.8	32.1	-	9.5	221
Sala Wards	Total	19.0	10.3	12.3	0.8	36.7	4.8	0.1	16.1	5,193
Sala Wards	None	8.5	9.9	18.6	0.7	46.5	0.2	0.1	15.5	2,555
Sala Wards	Primary	27.9	10.8	6.5	0.8	28.8	8.8	0.1	16.4	2,218
Sala Wards	Secondary+	35.5	10.5	4.1	1.7	18.3	11.2	0.2	18.6	420
Madogo Wards	Total	11.9	9.9	24.3	1.4	35.4	5.2	0.3	11.6	12,104
Madogo Wards	None	6.4	9.9	30.9	1.4	41.3	0.2	0.4	9.7	8,858
Madogo Wards	Primary	22.4	10.9	7.4	1.4	21.8	17.7	0.2	18.3	2,378
Madogo Wards	Secondary+	39.5	8.0	3.6	1.7	12.9	21.7	-	12.7	868

Table 40.4: Employment and Education Levels in Male Headed Household by County, Constituency and Wards

County, Constituency and Wards	Education Level reached	Work for Pay	Family Business	Family Agri-cultural holding	Internal/ Volunteer	Retired/ Home-maker	Fulltime Student	Incapacitated	No work	Population (15-64)
Kenya National	Total	25.5	13.5	31.6	1.1	9.0	11.4	0.4	7.5	14,757,992
Kenya National	None	11.4	14.3	44.2	1.6	13.9	0.9	1.0	12.6	2,183,284
Kenya National	Primary	22.2	12.9	37.3	0.8	9.4	10.6	0.4	6.4	6,939,667
Kenya National	Secondary+	35.0	13.8	19.8	1.1	6.5	16.5	0.2	7.0	5,635,041
Rural Rural	Total	16.8	11.6	43.9	1.0	8.3	11.7	0.5	6.3	9,262,744
Rural Rural	None	8.6	14.1	49.8	1.4	13.0	0.8	1.0	11.4	1,823,487
Rural Rural	Primary	16.5	11.2	46.7	0.8	8.0	11.6	0.4	4.9	4,862,291
Rural Rural	Secondary+	23.1	10.6	34.7	1.0	5.5	19.6	0.2	5.3	2,576,966
Urban Urban	Total	40.2	16.6	10.9	1.3	10.1	10.9	0.3	9.7	5,495,248
Urban Urban	None	25.8	15.5	16.1	3.0	18.2	1.4	1.3	18.7	359,797
Urban Urban	Primary	35.6	16.9	15.4	1.0	12.8	8.1	0.3	9.9	2,077,376
Urban Urban	Secondary+	45.1	16.6	7.3	1.2	7.4	13.8	0.1	8.5	3,058,075
Tana River	Total	12.4	10.4	42.2	1.4	18.1	5.5	0.4	9.6	83,152
Tana River	None	7.4	10.4	43.8	1.4	26.3	0.3	0.5	9.9	43,105
Tana River	Primary	12.8	10.1	45.2	1.4	10.3	10.7	0.3	9.2	29,610
Tana River	Secondary+	31.9	11.0	26.7	1.6	6.3	12.6	0.2	9.6	10,437

Garsen Constituency	Total	11.8	9.7	58.2	1.4	6.1	5.7	0.4	6.7	34,607
Garsen Constituency	None	9.5	9.8	63.1	1.7	8.7	0.3	0.5	6.4	15,912
Garsen Constituency	Primary	9.1	9.4	60.1	1.0	4.1	9.7	0.3	6.4	13,632
Garsen Constituency	Secondary+	26.1	10.1	38.0	1.2	3.6	12.1	0.2	8.8	5,063
Kipini East Ward	Total	8.4	9.6	67.1	1.2	2.9	4.4	0.3	6.1	7,347
Kipini East Ward	None	7.8	11.8	68.9	1.4	3.7	0.1	0.6	5.6	2,072
Kipini East Ward	Primary	6.3	8.8	69.1	1.1	2.7	5.8	0.2	6.1	4,237
Kipini East Ward	Secondary+	18.4	8.9	55.5	1.2	2.1	7.0	0.1	6.8	1,038
Garsen South Ward	Total	19.9	9.8	44.0	1.4	7.6	7.5	0.4	9.3	5,852
Garsen South Ward	None	13.1	11.1	56.1	1.5	8.9	0.5	0.5	8.3	2,132
Garsen South Ward	Primary	16.3	8.9	45.8	1.2	7.0	11.2	0.4	9.4	2,232
Garsen South Ward	Secondary+	35.2	9.2	24.1	1.7	6.8	12.2	0.3	10.6	1,488
Kipini West Ward	Total	11.3	8.5	74.8	0.6	0.5	2.3	0.2	1.8	6,612
Kipini West Ward	None	12.8	7.3	76.6	1.0	0.6	0.1	0.2	1.3	3,937
Kipini West Ward	Primary	7.7	10.2	73.3	0.1	0.3	5.7	0.1	2.6	2,290
Kipini West Ward	Secondary+	16.1	10.4	65.7	0.3	0.5	4.7	-	2.3	385
Garsen Central Ward	Total	11.2	6.6	55.6	2.9	15.0	6.0	0.4	2.4	5,149
Garsen Central Ward	None	9.9	7.0	58.2	3.6	17.8	0.2	0.4	2.8	3,299
Garsen Central Ward	Primary	9.6	6.0	54.5	1.5	10.8	15.5	0.4	1.6	1,493
Garsen Central Ward	Secondary+	29.1	5.3	36.4	2.0	5.9	19.3	-	2.0	357
Garsen West Ward	Total	14.0	17.8	28.7	1.7	11.4	7.3	0.5	18.6	3,636
Garsen West Ward	None	7.6	16.6	33.9	1.5	15.7	0.7	0.5	23.5	1,971
Garsen West Ward	Primary	13.7	20.0	29.0	2.0	7.5	13.6	0.8	13.4	1,036
Garsen West Ward	Secondary+	34.7	18.1	11.6	1.4	4.3	17.6	0.2	12.1	629
Garsen North Ward	Total	7.7	8.6	63.0	0.9	3.9	8.2	0.7	7.0	6,011
Garsen North Ward	None	3.8	9.0	72.3	1.2	7.6	0.6	1.2	4.3	2,501
Garsen North Ward	Primary	6.2	7.7	61.8	0.7	1.6	13.6	0.3	8.1	2,344
Garsen North Ward	Secondary+	19.0	9.3	45.6	0.7	0.7	13.7	0.3	10.6	1,166
Galole Constituency	Total	13.2	12.0	38.8	2.0	17.6	7.2	0.4	8.8	20,183
Galole Constituency	None	5.6	12.8	39.9	1.6	29.6	0.2	0.7	9.5	7,751
Galole Constituency	Primary	11.4	10.6	45.1	2.2	11.2	11.3	0.3	8.1	9,118

Galole Constituency	Secondary+	36.0	13.7	19.1	2.4	7.4	12.1	0.1	9.1	3,314
Kinakomba Ward	Total	13.6	6.6	47.6	1.7	15.2	8.9	0.6	5.8	4,305
Kinakomba Ward	None	6.9	6.5	47.5	3.2	26.9	0.3	1.1	7.6	1,505
Kinakomba Ward	Primary	15.3	6.0	51.2	0.9	8.3	14.1	0.4	3.7	2,299
Kinakomba Ward	Secondary+	25.9	9.0	31.9	1.2	11.6	10.8	-	9.6	501
Mikinduni Ward	Total	11.9	5.3	43.2	6.1	15.7	8.7	0.3	8.8	3,397
Mikinduni Ward	None	6.1	5.3	46.8	2.5	29.7	0.7	0.7	8.2	816
Mikinduni Ward	Primary	9.6	5.2	46.7	7.5	12.4	10.2	0.2	8.1	1,981
Mikinduni Ward	Secondary+	27.5	5.7	26.5	6.3	7.8	14.3	-	11.8	600
Chewani Ward	Total	17.6	14.3	35.2	1.0	13.2	8.3	0.3	10.1	8,420
Chewani Ward	None	8.4	11.4	38.7	1.4	24.2	0.3	0.9	14.6	1,976
Chewani Ward	Primary	10.5	14.3	43.7	0.6	11.4	10.4	0.2	9.0	4,333
Chewani Ward	Secondary+	40.5	16.9	14.5	1.6	6.5	11.7	0.2	8.1	2,111
Wayu Ward	Total	4.9	18.5	33.3	0.9	31.0	1.7	0.4	9.3	4,061
Wayu Ward	None	3.3	18.2	35.6	0.9	33.8	0.1	0.4	7.7	3,454
Wayu Ward	Primary	8.1	20.4	22.6	1.2	17.0	10.3	0.6	19.8	505
Wayu Ward	Secondary+	42.2	18.6	8.8	1.0	3.9	14.7	-	10.8	102
Bura Constituency	Total	12.6	10.1	24.9	1.1	33.1	4.1	0.3	13.8	28,362
Bura Constituency	None	6.4	9.9	29.6	1.0	39.5	0.2	0.3	13.0	19,442
Bura Constituency	Primary	22.0	10.9	15.7	1.1	21.7	12.1	0.2	16.3	6,860
Bura Constituency	Secondary+	39.6	8.9	11.4	1.5	11.4	14.6	0.3	12.5	2,060
Cheweale Ward	Total	7.7	9.2	27.0	1.3	35.2	4.3	0.7	14.6	5,309
Cheweale Ward	None	4.6	9.6	29.7	1.1	40.8	0.3	0.5	13.3	3,783
Cheweale Ward	Primary	12.1	8.9	21.5	1.5	22.9	13.8	0.9	18.4	1,316
Cheweale Ward	Secondary+	36.2	4.3	11.9	3.8	11.9	15.7	1.9	14.3	210
Hirimani Ward	Total	16.1	9.6	25.9	0.7	26.1	4.4	0.4	16.6	5,115
Hirimani Ward	None	11.0	9.8	22.2	0.7	36.2	0.4	0.6	19.0	2,999
Hirimani Ward	Primary	16.0	9.7	36.1	0.6	13.6	9.4	0.1	14.5	1,388
Hirimani Ward	Secondary+	37.5	8.7	21.6	1.0	8.2	11.8	0.3	11.0	728
Bangale Ward	Total	5.9	11.8	30.6	0.8	34.3	3.3	0.2	13.0	4,564
Bangale Ward	None	3.1	10.6	33.9	0.9	37.6	0.2	0.2	13.5	3,968

Bangale Ward	Primary	21.5	19.7	8.8	0.9	14.8	24.3	-	10.0	452
Bangale Ward	Secondary+	36.1	19.4	6.3	-	6.3	22.9	-	9.0	144
Sala Ward	Total	21.1	10.0	12.3	0.8	35.7	4.3	0.1	15.7	4,068
Sala Ward	None	9.6	9.2	19.8	0.7	44.5	0.2	0.2	15.8	1,874
Sala Ward	Primary	29.6	10.8	6.1	0.8	30.0	7.2	0.1	15.3	1,855
Sala Ward	Secondary+	37.8	10.0	4.4	1.5	18.6	10.3	0.3	17.1	339
Madogo Ward	Total	12.9	9.9	25.9	1.4	34.1	4.3	0.2	11.3	9,306
Madogo Ward	None	6.4	9.8	33.0	1.3	39.9	0.2	0.2	9.2	6,818
Madogo Ward	Primary	26.0	11.2	7.4	1.5	20.4	14.7	0.1	18.8	1,849
Madogo Ward	Secondary+	44.8	7.7	4.4	1.6	12.1	17.7	-	11.9	639

Table 40.5: Employment and Education Levels in Female Headed Households by County, Constituency and Wards

County, Constituency and Wards	Education Level reached	Work for Pay	Family Business	Family Agri-cultural holding	Internal/ Volunteer	Retired/ Home-maker	Fulltime Student	Incapaci-tated	No work	Population 15-64)
Kenya National	Total	18.87	11.91	32.74	1.20	9.85	16.66	0.69	8.08	5,518,645
Kenya National	None	10.34	13.04	44.55	1.90	16.45	0.80	1.76	11.17	974,824
Kenya National	Primary	16.74	11.75	37.10	0.89	9.82	16.23	0.59	6.89	2,589,877
Kenya National	Secondary+	25.95	11.57	21.07	1.27	6.59	25.16	0.28	8.11	1,953,944
Rural Rural	Total	31.53	15.66	12.80	1.54	9.33	16.99	0.54	11.60	1,781,078
Rural Rural	None	8.36	12.26	50.31	1.60	15.77	0.59	1.67	9.44	794,993
Rural Rural	Primary	13.02	9.90	43.79	0.81	9.49	17.03	0.60	5.36	1,924,111
Rural Rural	Secondary+	15.97	8.87	33.03	1.06	6.80	27.95	0.34	5.98	1,018,463
Urban Urban	Total	12.83	10.12	42.24	1.04	10.09	16.51	0.76	6.40	3,737,567
Urban Urban	None	19.09	16.50	19.04	3.22	19.45	1.70	2.18	18.83	179,831
Urban Urban	Primary	27.49	17.07	17.79	1.13	10.76	13.93	0.55	11.29	665,766
Urban Urban	Secondary+	36.81	14.50	8.06	1.51	6.36	22.11	0.22	10.43	935,481
Tana River	Total	7.86	9.97	35.68	1.46	25.15	8.60	0.68	10.60	26,912
Tana River	None	4.83	9.76	36.55	1.52	35.79	0.37	0.89	10.30	15,298
Tana River	Primary	7.90	10.04	39.02	1.24	12.29	18.42	0.43	10.66	8,440
Tana River	Secondary+	22.31	10.81	22.62	1.80	8.07	22.15	0.32	11.94	3,174
Garsen Constituency	Total	7.11	9.11	54.71	1.35	10.74	8.40	0.67	7.91	10,354
Garsen Constituency	None	4.89	8.99	60.51	1.62	15.64	0.52	0.91	6.92	5,174
Garsen Constituency	Primary	5.78	9.53	54.14	1.14	6.19	15.04	0.43	7.74	3,683
Garsen Constituency	Secondary+	18.04	8.48	36.07	0.94	5.01	19.31	0.40	11.76	1,497
Kipini East Ward	Total	5.79	9.44	61.82	1.39	6.65	6.43	0.48	7.99	1,865
Kipini East Ward	None	4.51	11.82	64.39	1.71	7.93	0.31	1.24	8.09	643
Kipini East Ward	Primary	3.97	8.66	63.75	1.32	5.91	8.66	0.10	7.64	982
Kipini East Ward	Secondary+	16.67	6.25	47.08	0.83	6.25	13.75	-	9.17	240
Garsen South Ward	Total	12.49	9.21	44.61	1.37	10.27	10.98	1.06	10.02	1,977
Garsen South Ward	None	7.17	7.85	58.59	1.76	16.24	0.95	1.22	6.22	739

Garsen South Ward	Primary	10.35	11.06	41.13	0.99	7.09	15.74	1.13	12.48	705
Garsen South Ward	Secondary+	22.70	8.63	29.83	1.31	6.19	18.57	0.75	12.01	533
Kipini West Ward	Total	3.74	5.80	83.83	0.90	1.22	2.77	0.19	1.55	1,552
Kipini West Ward	None	4.35	5.33	85.85	1.09	1.96	0.22	0.22	0.98	919
Kipini West Ward	Primary	2.23	6.49	81.63	0.56	-	6.68	-	2.41	539
Kipini West Ward	Secondary+	6.38	6.38	76.60	1.06	1.06	5.32	1.06	2.13	94
Garsen Central Ward	Total	6.58	5.16	49.77	2.00	25.76	8.13	0.52	2.07	1,549
Garsen Central Ward	None	5.54	5.64	53.07	2.38	30.10	0.20	0.69	2.38	1,010
Garsen Central Ward	Primary	6.08	3.89	44.77	1.46	20.68	22.38	-	0.73	411
Garsen Central Ward	Secondary+	16.41	5.47	39.84	0.78	7.81	25.00	0.78	3.91	128
Garsen West Ward	Total	8.64	17.34	24.51	1.60	16.92	11.07	0.56	19.36	1,436
Garsen West Ward	None	5.74	16.53	29.43	1.52	23.68	0.12	0.94	22.04	853
Garsen West Ward	Primary	7.90	20.16	21.53	2.18	7.63	25.34	-	15.26	367
Garsen West Ward	Secondary+	21.30	15.74	10.19	0.93	6.02	30.09	-	15.74	216
Garsen North Ward	Total	4.91	8.41	61.06	0.96	6.28	10.38	1.01	6.99	1,975
Garsen North Ward	None	2.57	8.32	70.10	1.29	11.29	1.29	1.29	3.86	1,010
Garsen North Ward	Primary	5.15	9.28	55.23	0.74	1.03	20.18	1.03	7.36	679
Garsen North Ward	Secondary+	12.59	6.64	43.01	0.35	1.05	19.23	-	17.13	286
Galole Constituency	Total	9.03	10.68	29.03	2.12	27.27	11.14	0.96	9.78	7,202
Galole Constituency	None	4.59	9.04	28.90	2.21	43.94	0.35	1.40	9.57	3,439
Galole Constituency	Primary	8.61	11.38	35.30	1.71	12.95	19.77	0.62	9.66	2,742
Galole Constituency	Secondary+	25.07	14.30	12.63	2.94	9.60	24.29	0.39	10.77	1,021
Kinakomba Ward	Total	8.56	6.15	32.15	2.96	29.67	13.03	1.09	6.39	1,658
Kinakomba Ward	None	6.56	4.33	29.70	4.33	47.90	0.37	1.73	5.07	808
Kinakomba Ward	Primary	9.29	7.98	37.45	1.16	12.77	24.82	0.29	6.24	689
Kinakomba Ward	Secondary+	15.53	7.45	21.74	3.73	10.56	26.09	1.24	13.66	161
Mikinduni Ward	Total	8.68	7.59	35.68	5.31	20.07	12.80	1.52	8.35	922
Mikinduni Ward	None	4.62	8.25	43.56	5.94	29.70	0.99	2.31	4.62	303
Mikinduni Ward	Primary	8.19	7.11	37.72	4.53	15.30	17.24	1.08	8.84	464
Mikinduni Ward	Secondary+	18.06	7.74	14.19	6.45	15.48	22.58	1.29	14.19	155
Chewani Ward	Total	12.21	13.86	29.19	1.30	17.11	13.73	0.78	11.82	3,080
Chewani Ward	None	5.27	10.85	32.94	1.09	32.24	0.30	1.49	15.82	1,005
Chewani Ward	Primary	9.43	14.17	35.65	1.06	10.49	18.21	0.64	10.35	1,411
Chewani Ward	Secondary+	28.61	17.77	9.79	2.11	8.28	24.55	-	8.89	664
Wayu Ward	Total	3.37	11.02	21.40	0.97	49.29	2.92	0.84	10.18	1,542
Wayu Ward	None	2.87	10.73	22.00	0.91	53.67	0.23	0.91	8.69	1,323
Wayu Ward	Primary	0.56	13.48	17.98	1.69	26.97	19.10	0.56	19.66	178
Wayu Ward	Secondary+	31.71	9.76	17.07	-	4.88	19.51	-	17.07	41
Bura Constituency	Total	7.78	10.38	19.74	1.08	39.46	6.86	0.47	14.23	9,356
Bura Constituency	None	4.91	10.73	21.94	1.08	47.20	0.25	0.61	13.28	6,685
Bura Constituency	Primary	10.82	9.13	16.43	0.79	22.53	22.78	0.15	17.37	2,015
Bura Constituency	Secondary+	27.74	10.67	7.47	1.98	12.65	25.30	-	14.18	656
Cheweale Ward	Total	6.20	8.72	20.20	1.46	45.59	4.79	0.81	12.24	1,985
Cheweale Ward	None	3.48	9.57	21.35	1.34	51.81	0.33	1.00	11.11	1,494
Cheweale Ward	Primary	8.03	6.57	18.73	1.70	30.17	18.73	0.24	15.82	411
Cheweale Ward	Secondary+	47.50	3.75	6.25	2.50	8.75	16.25	-	15.00	80
Hirimani Ward	Total	10.32	9.98	25.46	0.72	30.89	5.49	0.39	16.75	1,803
Hirimani Ward	None	7.48	9.92	21.82	0.90	41.66	0.09	0.63	17.49	1,109

Hirimani Ward	Primary	9.11	9.11	35.45	0.20	14.65	13.86	-	17.62	505
Hirimani Ward	Secondary+	30.16	12.70	20.11	1.06	11.11	14.81	-	10.05	189
Bangale Ward	Total	3.21	12.79	19.39	0.67	40.42	8.85	0.18	14.48	1,650
Bangale Ward	None	1.98	13.03	22.91	0.59	46.12	0.44	0.22	14.71	1,366
Bangale Ward	Primary	8.21	9.66	2.90	0.48	14.98	49.28	-	14.49	207
Bangale Ward	Secondary+	11.69	16.88	1.30	2.60	7.79	49.35	-	10.39	77
Sala Ward	Total	11.29	11.47	12.09	0.62	40.18	6.67	-	17.69	1,125
Sala Ward	None	5.43	11.75	15.42	0.44	52.13	0.15	-	14.68	681
Sala Ward	Primary	19.01	10.74	7.99	0.55	22.87	17.08	-	21.76	363
Sala Ward	Secondary+	25.93	12.35	2.47	2.47	17.28	14.81	-	24.69	81
Madogo Ward	Total	8.56	9.95	19.01	1.47	39.78	8.13	0.64	12.46	2,793
Madogo Ward	None	6.34	10.12	23.98	1.52	45.90	0.20	0.79	11.15	2,035
Madogo Ward	Primary	10.02	9.83	7.56	0.95	26.84	27.98	0.38	16.45	529
Madogo Ward	Secondary+	24.89	8.73	1.31	2.18	15.28	32.75	-	14.85	229

Table 40.6: Gini Coefficient by County, Constituency and Ward

County/Constituency/Wards	Pop. Share	Mean	Consump. Share	Gini
Kenya	1	3,440	1	0.445
Rural	0.688	2,270	0.454	0.361
Urban	0.312	6,010	0.546	0.368
Tana River County	0.006	2,010	0.004	0.617
Garsen Constituency	0.003	1,810	0.0014	0.608
Kipini East	0.001	2,040	0.0003	0.566
Garsen South	0.000	2,770	0.0003	0.586
Kipini West	0.000	938	0.0001	0.409
Garsen Central	0.000	917	0.0001	0.521
Garsen West	0.000	3,350	0.0003	0.594
Garsen North	0.000	1,410	0.0002	0.593
Galole Constituency	0.002	2,280	0.0011	0.622
Kinakomba	0.000	1,350	0.0001	0.577
Mikinduni	0.000	2,040	0.0002	0.603
Chewani	0.001	3,710	0.0007	0.565
Wayu	0.000	831	0.0001	0.406
Bura Constituency	0.002	2,040	0.0013	0.616
Chewelee	0.000	991	0.0001	0.546
Hirimani	0.000	2,610	0.0003	0.595
Bangale	0.000	1,680	0.0002	0.573
Sala	0.000	2,970	0.0002	0.586
Madogo	0.001	2,200	0.0004	0.615

Table 40.7: Education by County, Constituency and Wards

County/Constituency/Wards	None	Primary	Secondary+	Total Pop
Kenya	25.2	52.0	22.8	34,024,396
Rural	29.5	54.7	15.9	23,314,262
Urban	15.8	46.2	38.0	10,710,134
Tana River County	56.2	37.1	6.7	207,641

Garsen Constituency	51.0	41.0	8.0	84,669
Kipini East	39.0	53.3	7.7	17,032
Garsen South	42.0	43.3	14.7	14,167
Kipini West	58.0	38.9	3.1	15,550
Garsen Central	63.9	32.2	3.9	12,976
Garsen West	57.4	33.3	9.3	9,438
Garsen North	50.6	39.7	9.7	15,506
Galole Constituency	46.7	44.8	8.6	52,061
Kinakomba	44.1	50.0	5.9	11,703
Mikinduni	33.8	56.8	9.4	8,161
Chewani	33.8	52.5	13.7	20,764
Wayu	82.0	16.7	1.3	11,433
Bura Constituency	69.4	26.7	3.9	70,911
Cheweale	71.9	26.3	1.8	14,108
Hirimani	59.8	33.0	7.2	13,173
Bangale	81.1	17.1	1.8	12,352
Sala	54.2	41.0	4.8	8,834
Madogo	72.9	23.1	4.0	22,444

Table 40.8: Education for Male and Female Headed Households by County, Constituency and Ward

County/Constituency/ Wards	None	Primary	Secondary+	Total Pop	None	Primary	Secondary+	Total Pop
Kenya	23.5	51.8	24.7	16,819,031	26.8	52.2	21.0	17,205,365
Rural	27.7	54.9	17.4	11,472,394	31.2	54.4	14.4	11,841,868
Urban	14.4	45.2	40.4	5,346,637	17.2	47.2	35.6	5,363,497
Tana River County	51.1	40.0	8.9	102,886	61.3	34.2	4.6	104,755
Garsen Constituency	46.2	43.2	10.6	42,537	55.9	38.8	5.4	42,132
Kipini East	33.9	55.7	10.4	8,636	44.4	50.7	4.9	8,396
Garsen South	37.8	44.0	18.3	7,051	46.3	42.5	11.2	7,116
Kipini West	54.3	41.2	4.6	8,124	62.1	36.4	1.6	7,426
Garsen Central	58.5	35.8	5.8	6,591	69.6	28.6	1.9	6,385
Garsen West	50.9	36.5	12.6	4,545	63.5	30.4	6.1	4,893
Garsen North	46.1	41.0	12.9	7,590	55.0	38.5	6.5	7,916
Galole Constituency	41.5	47.0	11.5	24,843	51.4	42.7	5.9	27,218
Kinakomba	38.7	52.6	8.8	5,592	49.1	47.6	3.3	6,111
Mikinduni	29.0	57.8	13.3	3,937	38.2	55.9	5.8	4,224
Chewani	29.3	53.2	17.5	9,881	37.8	51.9	10.2	10,883
Wayu	75.7	22.1	2.1	5,433	87.8	11.7	0.6	6,000

Bura Constituency	63.5	31.3	5.2	35,506		75.2	22.2	2.6	35,405
Chewele	65.3	31.7	3.0	6,834		78.1	21.1	0.8	7,274
Hirimani	53.5	36.9	9.5	6,507		66.0	29.2	4.9	6,666
Bangale	76.3	21.0	2.7	6,257		86.1	13.0	0.9	6,095
Sala	46.7	46.9	6.4	4,657		62.5	34.4	3.1	4,177
Madogo	68.1	27.0	4.9	11,251		77.8	19.1	3.1	11,193

Table 40.9: Cooking Fuel by County, Constituency and Wards

County/Constituency/ Wards	Electricity	Paraffin	LPG	Biogas	Firewood	Charcoal	Solar	Other	Households
Kenya	0.8	11.7	5.1	0.7	64.4	17.0	0.1	0.3	8,493,380
Rural	0.2	1.4	0.6	0.3	90.3	7.1	0.1	0.1	5,239,879
Urban	1.8	28.3	12.3	1.4	22.7	32.8	0.0	0.6	3,253,501
Tana River County	0.1	1.2	0.2	0.2	81.6	16.4	0.0	0.3	45,227
Garsen Constituency	0.1	0.7	0.2	0.2	89.1	9.5	0.0	0.2	17,972
Kipini East	0.1	0.8	0.1	0.2	90.2	8.5	0.1	0.1	3,652
Garsen South	0.1	0.9	0.3	0.3	81.2	17.2	0.0	0.1	3,037
Kipini West	-	0.2	0.1	0.2	97.6	1.5	0.1	0.3	3,427
Garsen Central	0.0	0.1	0.0	0.2	96.0	3.4	-	0.2	2,553
Garsen West	0.7	2.4	0.6	0.2	65.5	30.2	0.0	0.3	2,110
Garsen North	0.0	0.2	0.0	0.1	96.6	2.9	0.1	0.0	3,193
Galole Constituency	0.1	1.6	0.2	0.3	77.2	20.3	0.1	0.2	11,324
Kinakomba	-	0.2	0.0	0.1	88.1	11.4	0.2	0.0	2,456
Mikinduni	0.1	0.4	-	0.3	72.1	27.2	-	-	1,589
Chewani	0.2	3.2	0.5	0.7	61.8	33.3	0.1	0.2	4,627
Wayu	-	0.6	0.2	0.1	96.9	1.9	0.0	0.3	2,652
Bura Constituency	0.2	1.4	0.1	0.2	76.2	21.4	0.0	0.5	15,931
Chewele	0.1	0.2	0.1	0.2	94.3	5.1	-	0.1	3,077
Hirimani	-	0.5	0.0	0.2	78.5	20.0	0.1	0.6	2,933
Bangale	-	0.2	0.1	0.2	94.1	4.6	0.0	0.8	2,464
Sala	0.4	1.1	0.1	0.3	48.1	49.5	-	0.6	2,303
Madogo	0.3	3.3	0.2	0.3	68.3	27.4	-	0.3	5,154

Table 40.10: Cooking Fuel for Male Headed Households by County, Constituency and Wards

County/Constituency/ Wards	Electricity	Paraffin	LPG	Biogas	Firewood	Charcoal	Solar	Other	Households
Kenya	0.9	13.5	5.3	0.8	61.4	17.7	0.1	0.4	5,762,320
Rural	0.2	1.6	0.6	0.3	89.6	7.5	0.1	0.1	3,413,616
Urban	1.9	30.9	12.0	1.4	20.4	32.5	0.0	0.7	2,348,704
Tana River County	0.1	1.3	0.2	0.3	81.3	16.5	0.0	0.3	31,379
Garsen Constituency	0.1	0.8	0.2	0.2	89.3	9.1	0.1	0.2	12,805
Kipini East	0.1	0.8	0.0	0.2	90.3	8.3	0.1	0.1	2,819
Garsen South	0.1	1.1	0.4	0.3	81.4	16.5	0.0	0.1	2,105

Kipini West	0.0	0.3	0.1	0.3	97.7	1.3	0.0	0.3	2,561
Garsen Central	0.1	0.2	0.1	0.1	95.7	3.7	0.0	0.3	1,776
Garsen West	0.8	2.9	0.7	0.2	64.1	30.9	0.1	0.4	1,364
Garsen North	0.0	0.2	0.0	0.2	96.5	2.8	0.1	0.0	2,180
Galole Constituency	0.1	1.9	0.3	0.4	76.4	20.7	0.1	0.2	7,579
Kinakomba	0.0	0.3	0.0	0.1	86.9	12.5	0.3	0.0	1,584
Mikinduni	0.1	0.3	0.0	0.2	73.3	26.2	0.0	0.0	1,173
Chewani	0.2	3.9	0.6	0.9	61.6	32.5	0.1	0.3	3,158
Wayu	0.0	0.7	0.1	0.1	96.7	2.2	0.1	0.2	1,664
Bura Constituency	0.2	1.5	0.1	0.2	75.3	22.2	0.0	0.5	10,995
Cheweale	0.1	0.2	0.1	0.2	93.9	5.5	0.0	0.2	1,998
Hirimani	0.0	0.7	0.1	0.3	79.1	19.0	0.0	0.9	1,916
Bangale	0.0	0.2	0.1	0.1	94.1	4.9	0.0	0.6	1,709
Sala	0.4	1.0	0.1	0.4	44.8	52.8	0.0	0.7	1,660
Madogo	0.4	3.5	0.1	0.2	68.4	27.0	0.0	0.4	3,712

Table 40.11: Cooking Fuel for Female Headed Households by County, Constituency and Wards

County/Constituency/Wards	Electricity	Paraffin	LPG	Biogas	Firewood	Charcoal	Solar	Other	Households
Kenya	0.6	7.9	4.6	0.7	70.6	15.5	0.0	0.1	2,731,060
Rural	0.1	1.0	0.5	0.3	91.5	6.5	0.0	0.1	1,826,263
Urban	1.6	21.7	13.0	1.5	28.5	33.6	0.0	0.3	904,797
Tana River County	0.1	0.8	0.1	0.2	82.3	16.2	0.0	0.2	13,848
Garsen Constituency	0.1	0.4	0.1	0.1	88.7	10.5	0.0	0.1	5,167
Kipini East	-	0.7	0.1	0.2	89.8	9.1	-	-	833
Garsen South	-	0.2	0.1	0.1	80.8	18.7	-	0.1	932
Kipini West	-	-	-	0.1	97.2	2.2	0.1	0.3	866
Garsen Central	-	-	-	0.3	96.8	3.0	-	-	777
Garsen West	0.5	1.6	0.4	0.1	68.1	29.1	-	0.1	746
Garsen North	-	0.2	-	-	96.7	3.1	-	-	1,013
Galole Constituency	0.1	0.9	0.2	0.1	78.8	19.7	0.0	0.2	3,745
Kinakomba	-	0.1	0.1	0.1	90.3	9.3	-	0.1	872
Mikinduni	-	0.7	-	0.5	68.5	30.3	-	-	416
Chewani	0.3	1.8	0.2	0.1	62.4	35.1	0.1	0.1	1,469
Wayu	-	0.4	0.2	0.1	97.4	1.4	-	0.5	988
Bura Constituency	0.1	1.2	0.1	0.2	78.3	19.7	0.1	0.3	4,936
Cheweale	0.1	0.3	0.1	0.2	95.1	4.3	-	-	1,079

Hirimani	-	0.2	-	0.2	77.2	22.0	0.2	0.2	1,017
Bangale	-	0.3	0.1	0.3	94.2	3.8	0.1	1.2	755
Sala	0.6	1.4	0.2	-	56.6	40.7	-	0.5	643
Madogo	0.1	2.9	0.2	0.3	67.9	28.4	-	0.1	1,442

Table 40.12: Lighting Fuel by County, Constituency and Wards

County/Constituency/ Wards	Electricity	Pressure Lamp	Lantern	Tin Lamp	Gas Lamp	Fuelwood	Solar	Other	Households
Kenya	22.9	0.6	30.6	38.5	0.9	4.3	1.6	0.6	5,762,320
Rural	5.2	0.4	34.7	49.0	1.0	6.7	2.2	0.7	3,413,616
Urban	51.4	0.8	23.9	21.6	0.6	0.4	0.7	0.6	2,348,704
Tana River County	2.4	0.2	19.9	66.8	1.2	6.1	0.9	2.5	31,379
Garsen Constituency	2.2	0.2	16.3	74.7	0.3	3.7	1.0	1.5	12,805
Kipini East	3.0	0.3	16.5	70.9	0.3	6.5	2.2	0.4	2,819
Garsen South	5.1	0.2	23.5	66.4	0.5	0.6	1.0	2.7	2,105
Kipini West	0.2	0.3	11.5	77.9	0.3	6.2	0.3	3.3	2,561
Garsen Central	0.2	0.1	4.4	89.3	0.3	4.0	0.1	1.7	1,776
Garsen West	5.4	0.2	28.0	64.6	0.6	0.6	0.1	0.5	1,364
Garsen North	0.2	0.1	16.0	78.8	0.1	2.7	1.8	0.3	2,180
Galole Constituency	3.0	0.3	16.1	72.3	0.5	5.4	1.6	0.9	7,579
Kinakomba	0.2	0.2	12.5	82.1	1.1	1.4	1.9	0.5	1,584
Mikinduni	0.6	0.1	9.8	85.8	0.4	1.3	1.9	0.1	1,173
Chewani	6.8	0.5	26.0	62.1	0.3	2.0	2.0	0.4	3,158
Wayu	0.2	0.0	5.8	73.0	0.4	17.6	0.3	2.7	1,664
Bura Constituency	2.1	0.1	26.8	53.8	2.6	9.2	0.4	4.9	10,995
Cheweale	0.1	0.2	22.7	58.0	3.4	14.1	0.5	1.1	1,998
Hirimani	0.3	0.2	22.0	64.4	1.7	6.0	1.4	4.0	1,916
Bangale	0.0	0.0	40.5	32.3	2.4	9.1	0.1	15.5	1,709
Sala	5.2	0.3	27.0	56.8	0.9	8.0	0.1	1.7	1,660
Madogo	4.0	0.0	25.6	54.3	3.3	8.7	0.2	3.9	3,712

Table 40.13: Lighting Fuel for Male Headed Households by County, Constituency and Wards

County/Constituency/Wards	Electricity	Pressure Lamp	Lantern	Tin Lamp	Gas Lamp	Fuelwood	Solar	Other	Households
Kenya	24.6	0.6	30.4	36.8	0.9	4.2	1.7	0.7	5,762,320
Rural	5.6	0.5	35.3	47.5	1.1	6.8	2.4	0.7	3,413,616
Urban	52.4	0.9	23.3	21.2	0.6	0.4	0.7	0.7	2,348,704
Tana River County	2.5	0.2	19.9	66.0	1.1	6.4	1.0	2.8	31,379
Garsen Constituency	2.3	0.2	16.4	73.3	0.3	4.4	1.1	1.9	12,805
Kipini East	2.7	0.3	16.0	71.1	0.3	6.6	2.5	0.5	2,819
Garsen South	5.7	0.2	23.5	65.0	0.6	0.8	1.1	3.1	2,105
Kipini West	0.3	0.2	11.6	75.2	0.4	7.7	0.4	4.3	2,561
Garsen Central	0.3	0.1	4.7	87.4	0.3	4.8	0.0	2.4	1,776
Garsen West	6.3	0.3	28.2	63.0	0.4	0.8	0.1	0.8	1,364
Garsen North	0.3	0.1	17.6	76.7	0.1	3.1	1.9	0.3	2,180

Galole Constituency	3.3	0.3	15.9	71.8	0.5	5.6	1.8	0.9	7,579
Kinakomba	0.2	0.2	12.4	81.4	1.2	1.8	2.3	0.6	1,584
Mikinduni	0.6	0.1	9.5	85.9	0.4	1.4	2.0	0.2	1,173
Chewani	7.6	0.4	25.0	61.9	0.3	2.1	2.2	0.5	3,158
Wayu	0.2	0.1	6.3	71.3	0.4	19.1	0.4	2.4	1,664
Bura Constituency	2.1	0.1	26.7	53.7	2.4	9.4	0.4	5.2	10,995
Cheweale	0.1	0.2	22.2	58.7	3.3	14.3	0.4	1.0	1,998
Hirimani	0.4	0.2	21.6	64.8	1.7	5.3	1.6	4.6	1,916
Bangale	0.1	0.0	39.1	31.4	2.9	11.1	0.1	15.5	1,709
Sala	4.6	0.3	27.8	56.9	0.8	7.7	0.1	1.7	1,660
Madogo	4.0	0.0	25.5	54.1	2.9	8.8	0.2	4.5	3,712

Table 40.14: Lighting Fuel for Female Headed Households by County, Constituency and Wards

County/Constituency/Wards	Electricity	Pressure Lamp	Lantern	Tin Lamp	Gas Lamp	Fuelwood	Solar	Other	Households
Kenya	19.2	0.5	31.0	42.1	0.8	4.5	1.4	0.5	2,731,060
Rural	4.5	0.4	33.7	51.8	0.8	6.5	1.8	0.5	1,826,263
Urban	48.8	0.8	25.4	22.6	0.7	0.6	0.6	0.5	904,797
Tana River County	2.1	0.2	20.1	68.4	1.3	5.3	0.7	1.9	13,848
Garsen Constituency	1.9	0.2	16.0	78.4	0.3	2.0	0.7	0.4	5,167
Kipini East	3.8	0.4	17.9	70.1	0.4	6.4	1.1	-	833
Garsen South	4.0	-	23.7	69.4	0.2	0.1	0.9	1.7	932
Kipini West	0.1	0.5	11.1	85.9	0.1	1.7	0.2	0.3	866
Garsen Central	0.1	-	3.6	93.4	0.3	2.1	0.4	0.1	777
Garsen West	3.6	-	27.6	67.4	0.9	0.3	0.1	-	746
Garsen North	0.1	0.1	12.6	83.5	0.2	1.8	1.5	0.2	1,013
Galole Constituency	2.2	0.3	16.4	73.4	0.5	5.1	1.1	1.0	3,745
Kinakomba	0.2	0.3	12.6	83.4	1.0	0.8	1.3	0.3	872
Mikinduni	0.5	-	10.8	85.6	0.5	1.0	1.7	-	416
Chewani	5.2	0.5	28.0	62.4	0.3	2.0	1.4	0.3	1,469
Wayu	0.2	-	5.1	75.7	0.4	15.2	0.3	3.1	988
Bura Constituency	2.1	0.2	27.2	54.2	2.8	8.8	0.4	4.3	4,936
Cheweale	0.1	0.2	23.5	56.8	3.6	13.7	0.6	1.5	1,079
Hirimani	0.2	0.4	22.7	63.6	1.9	7.4	1.0	2.9	1,017
Bangale	-	0.1	43.6	34.6	1.5	4.5	0.1	15.6	755

Sala	6.7	0.2	24.7	56.6	1.1	9.0	-	1.7	643
Madogo	4.0	0.1	25.7	54.8	4.4	8.3	0.2	2.5	1,442

Table 40.15: Main material of the Floor by County, Constituency and Wards

County/Constituency/ wards	Cement	Tiles	Wood	Earth	Other	Households
Kenya	41.2	1.6	0.7	56.0	0.5	8,493,380
Rural	22.1	0.3	0.7	76.5	0.4	5,239,879
Urban	71.8	3.5	0.9	23.0	0.8	3,253,501
Tana River County	10.7	0.2	0.3	88.4	0.5	45,227
Garsen Constituency	7.9	0.2	0.2	91.0	0.7	17,972
Kipini East	6.5	0.1	0.3	92.2	0.8	3,652
Garsen South	15.6	0.5	0.1	82.1	1.6	3,037
Kipini West	0.8	0.1	0.2	98.9	0.1	3,427
Garsen Central	3.3	0.0	0.1	96.5	0.1	2,553
Garsen West	23.1	0.6	0.2	75.8	0.4	2,110
Garsen North	3.5	0.1	0.2	95.4	0.8	3,193
Galole Constituency	12.8	0.1	0.3	86.4	0.4	11,324
Kinakomba	4.2	-	0.2	95.1	0.5	2,456
Mikinduni	7.5	0.1	0.1	91.3	1.0	1,589
Chewani	25.6	0.2	0.4	73.5	0.3	4,627
Wayu	1.7	0.1	0.2	98.0	0.1	2,652
Bura Constituency	12.4	0.2	0.4	86.7	0.3	15,931
Cheweale	1.1	-	0.3	98.4	0.3	3,077
Hirimani	18.3	0.2	1.5	79.6	0.3	2,933
Bangale	8.9	0.1	0.3	90.3	0.4	2,464
Sala	12.9	0.3	0.0	86.6	0.2	2,303
Madogo	17.3	0.2	0.1	82.2	0.2	5,154

Table 40.16: Main Material of the Floor in Male and Female Headed Households by County, Constituency and Ward

County/Constituency/ wards	Cement	Tiles	Wood	Earth	Other	Households	Cement	Tiles	Wood	Earth	Other	Households
Kenya	42.8	1.6	0.8	54.2	0.6	5,762,320	37.7	1.4	0.7	59.8	0.5	2,731,060
Rural	22.1	0.3	0.7	76.4	0.4	3,413,616	22.2	0.3	0.6	76.6	0.3	1,826,263
Urban	72.9	3.5	0.9	21.9	0.8	2,348,704	69.0	3.6	0.9	25.8	0.8	904,797
Tana River County	10.5	0.1	0.3	88.6	0.4	31,379	11.2	0.2	0.2	87.9	0.5	13,848
Garsen Constituency	7.7	0.2	0.2	91.2	0.6	12,805	8.4	0.3	0.1	90.5	0.8	5,167
Kipini East	6.3	0.1	0.3	92.6	0.7	2,819	7.3	0.1	0.2	90.9	1.4	833
Garsen South	15.2	0.4	0.2	82.7	1.5	2,105	16.7	0.6	-	80.8	1.8	932
Kipini West	0.8	0.1	0.2	98.8	0.1	2,561	0.6	-	0.1	99.1	0.2	866

Garsen Central	3.5	-	0.1	96.3	0.1	1,776	2.7	0.1	-	96.9	0.3	777
Garsen West	23.7	0.7	0.3	74.9	0.4	1,364	22.0	0.4	-	77.3	0.3	746
Garsen North	3.9	0.0	0.3	94.9	0.8	2,180	2.7	0.2	-	96.4	0.7	1,013
Galole Constituency	12.9	0.1	0.4	86.3	0.4	7,579	12.7	0.1	-	86.7	0.5	3,745
Kinakomba	4.2	-	0.3	95.0	0.4	1,584	4.1	-	-	95.3	0.6	872
Mikinduni	7.0	0.1	0.2	91.8	0.9	1,173	8.9	-	-	89.9	1.2	416
Chewani	25.3	0.2	0.6	73.8	0.2	3,158	26.3	0.2	-	72.9	0.5	1,469
Wayu	1.7	0.1	0.2	97.8	0.1	1,664	1.6	0.1	-	98.3	-	988
Bura Constituency	12.1	0.1	0.4	87.1	0.2	10,995	13.0	0.2	0.5	86.0	0.3	4,936
Cheweale	0.9	-	0.3	98.6	0.2	1,998	1.4	-	0.3	98.0	0.4	1,079
Hirimani	18.2	0.3	1.5	79.7	0.4	1,916	18.6	0.2	1.6	79.5	0.1	1,017
Bangale	7.7	0.1	0.2	91.6	0.5	1,709	11.8	0.1	0.5	87.3	0.3	755
Sala	12.9	0.3	0.1	86.6	0.1	1,660	12.8	0.2	-	86.6	0.5	643
Madogo	16.8	0.1	0.1	82.8	0.1	3,712	18.6	0.3	0.1	80.7	0.4	1,442

Table 40.17: Main Roofing Material by County Constituency and Wards

County/Constituency/ Wards	Corrugated Iron Sheets	Tiles	Concrete	Asbestos sheets	Grass	Makuti	Tin	Mud/Dung	Other	Households
Kenya	73.5	2.2	3.6	2.2	13.3	3.2	0.3	0.8	1.0	8,493,380
Rural	70.3	0.7	0.2	1.8	20.2	4.2	0.2	1.2	1.1	5,239,879
Urban	78.5	4.6	9.1	2.9	2.1	1.5	0.3	0.1	0.9	3,253,501
Tana River County	25.9	0.4	0.0	1.3	56.6	14.2	0.1	0.0	1.5	45,227
Garsen Constituency	17.7	0.6	0.1	0.6	56.6	22.4	0.2	0.0	1.8	17,972
Kipini East	10.6	0.3	0.2	0.9	24.3	57.1	0.7	0.0	5.9	3,652
Garsen South	33.8	0.4	0.0	1.0	44.8	18.0	0.0	0.0	2.1	3,037
Kipini West	5.5	0.3	0.0	0.4	68.3	25.0	0.1	0.1	0.4	3,427
Garsen Central	1.7	2.4	0.0	0.4	87.7	7.6	0.0	0.0	0.2	2,553
Garsen West	38.6	0.1	0.3	0.2	56.8	3.4	0.3	0.0	0.2	2,110
Garsen North	22.3	0.3	0.0	0.4	67.4	8.5	0.1	0.0	0.9	3,193
Galole Constituency	35.2	0.2	0.0	2.6	52.3	8.7	0.0	0.1	1.0	11,324
Kinakomba	29.8	0.3	0.0	0.4	58.3	9.2	0.0	0.0	1.9	2,456
Mikinduni	50.9	0.2	0.0	7.7	33.0	6.3	0.0	0.1	1.8	1,589
Chewani	51.6	0.2	0.0	3.3	30.1	14.1	0.0	0.1	0.6	4,627
Wayu	2.3	0.0	0.0	0.3	96.9	0.2	0.0	0.0	0.4	2,652
Bura Constituency	28.5	0.3	0.0	1.2	59.8	8.7	0.1	0.0	1.4	15,931
Cheweale	8.4	0.3	0.1	1.2	64.8	18.9	0.1	0.1	6.1	3,077
Hirimani	44.3	0.1	0.0	1.0	50.3	4.1	0.1	0.1	0.1	2,933

Bangale	16.3	0.3	0.0	0.1	80.3	2.8	0.0	0.0	0.2	2,464
Sala	48.9	0.3	0.0	4.6	41.8	3.9	0.0	0.0	0.5	2,303
Madogo	28.3	0.3	0.0	0.2	60.4	10.3	0.0	0.1	0.4	5,154

Table 40.18: Main Roofing Material in Male Headed Households by County, Constituency and Wards

County/Constituency/ Wards	Corrugated Iron Sheets	Tiles	Concrete	Asbestos sheets	Grass	Makuti	Tin	Mud/Dung	Other	Households
Kenya	73.0	2.3	3.9	2.3	13.5	3.2	0.3	0.5	1.0	5,762,320
Rural	69.2	0.8	0.2	1.8	21.5	4.4	0.2	0.9	1.1	3,413,616
Urban	78.5	4.6	9.3	2.9	2.0	1.4	0.3	0.1	0.9	2,348,704
Tana River County	25.9	0.4	0.0	1.4	55.5	15.1	0.1	0.0	1.5	31,379
Garsen Constituency	17.0	0.7	0.1	0.6	55.6	23.9	0.3	0.0	1.9	12,805
Kipini East	10.0	0.2	0.1	1.0	25.0	57.1	0.9	-	5.6	2,819
Garsen South	32.5	0.4	0.0	1.1	44.3	19.3	-	-	2.3	2,105
Kipini West	5.0	0.3	0.0	0.4	68.7	25.0	-	0.0	0.4	2,561
Garsen Central	1.5	2.8	-	0.3	86.4	8.8	0.1	-	0.2	1,776
Garsen West	40.6	0.1	0.3	0.2	54.7	3.3	0.4	-	0.3	1,364
Garsen North	22.9	0.4	0.0	0.3	65.9	9.4	0.1	-	1.0	2,180
Galole Constituency	36.2	0.2	0.0	2.8	50.2	9.4	-	0.1	1.0	7,579
Kinakomba	29.8	0.4	-	0.6	56.9	10.1	-	-	2.3	1,584
Mikinduni	50.8	0.3	-	7.9	32.7	6.5	-	0.1	1.8	1,173
Chewani	51.9	0.2	0.0	3.4	28.8	15.0	-	0.1	0.5	3,158
Wayu	2.4	-	-	0.4	96.8	0.1	-	-	0.3	1,664
Bura Constituency	29.0	0.3	0.0	1.3	59.0	8.9	0.1	0.0	1.4	10,995
Chewele	8.0	0.3	0.1	1.4	64.4	19.5	0.2	0.1	6.2	1,998
Hirimani	46.2	0.2	-	1.2	48.0	4.2	0.1	-	0.1	1,916
Bangale	14.9	0.4	-	0.1	80.6	3.7	-	-	0.3	1,709
Sala	51.2	0.4	-	5.1	38.6	4.4	-	-	0.4	1,660
Madogo	28.1	0.2	-	0.3	60.9	9.9	0.1	0.1	0.4	3,712

Table 40.19: Main Roofing Material in Female Headed Households by County, Constituency and Wards

County/Constituency/Wards	Corrugated Iron Sheets	Tiles	Concrete	Asbestos sheets	Grass	Makuti	Tin	Mud/ Dung	Other	Households
Kenya	74.5	2.0	3.0	2.2	12.7	3.2	0.3	1.2	1.0	2,731,060
Rural	72.5	0.7	0.1	1.8	17.8	3.9	0.3	1.8	1.1	1,826,263
Urban	78.6	4.5	8.7	2.9	2.3	1.6	0.3	0.1	0.9	904,797
Tana River County	26.0	0.3	0.0	1.0	59.3	11.9	0.0	0.1	1.4	13,848
Garsen Constituency	19.4	0.4	0.1	0.5	59.2	18.7	0.1	0.0	1.5	5,167
Kipini East	12.7	0.5	0.2	0.7	22.0	57.3	-	-	6.6	833
Garsen South	36.6	0.2	-	0.6	45.8	15.0	0.1	-	1.6	932
Kipini West	6.9	0.2	-	0.3	67.0	24.9	0.2	0.1	0.2	866
Garsen Central	2.3	1.4	-	0.5	90.7	5.0	-	-	-	777
Garsen West	35.0	0.1	0.3	0.3	60.6	3.5	0.1	-	0.1	746
Garsen North	21.1	0.3	-	0.6	70.5	6.7	-	0.1	0.7	1,013
Galole Constituency	33.2	0.1	0.0	2.1	56.4	7.2	0.0	0.1	1.0	3,745
Kinakomba	29.8	0.1	-	0.2	61.0	7.6	-	-	1.3	872
Mikinduni	51.2	-	-	7.2	34.1	5.8	-	-	1.7	416
Chewani	50.9	0.1	0.1	3.1	32.7	12.1	0.1	0.1	0.9	1,469
Wayu	2.1	-	-	-	97.1	0.2	-	0.1	0.5	988
Bura Constituency	27.5	0.2	-	0.8	61.5	8.5	0.0	0.1	1.5	4,936
Chewelee	9.2	0.2	-	0.8	65.6	18.0	0.1	0.1	6.0	1,079
Hirimani	40.7	0.1	-	0.6	54.6	3.8	-	0.2	-	1,017
Bangale	19.5	0.3	-	0.1	79.5	0.7	-	-	-	755
Sala	43.1	0.2	-	3.4	50.2	2.5	-	-	0.6	643
Madogo	29.1	0.3	-	-	59.1	11.4	-	-	0.2	1,442

Table 40.20: Main material of the wall by County, Constituency and Wards

County/Constituency/Wards	Stone	Brick/Block	Mud/Wood	Mud/Cement	Wood only	Corrugated Iron Sheets	Grass/Reeds	Tin	Other	Households
Kenya	16.7	16.9	36.5	7.7	11.1	6.7	3.0	0.3	1.2	8,493,380
Rural	5.7	13.8	50.0	7.6	14.4	2.5	4.4	0.3	1.4	5,239,879
Urban	34.5	21.9	14.8	7.8	5.8	13.3	0.8	0.3	0.9	3,253,501
Tana River County	1.9	5.5	41.2	8.2	12.1	0.5	29.6	0.1	0.9	45,227
Garsen Constituency	1.8	4.2	52.8	9.6	1.6	0.3	28.3	0.2	1.3	17,972
Kipini East	0.8	2.6	67.4	12.8	1.0	0.1	12.3	0.5	2.5	3,652
Garsen South	3.9	11.9	46.9	11.6	1.1	0.6	21.5	0.0	2.6	3,037
Kipini West	0.3	0.3	61.2	4.0	2.7	0.3	30.5	0.1	0.6	3,427
Garsen Central	0.4	2.1	44.3	6.0	2.2	0.0	44.7	0.1	0.2	2,553
Garsen West	6.7	8.5	34.9	15.1	1.2	0.8	32.5	0.0	0.3	2,110
Garsen North	0.6	1.8	51.2	9.4	1.3	0.1	34.7	0.1	0.9	3,193
Galole Constituency	3.9	4.9	49.1	9.4	3.3	0.4	28.2	0.0	0.8	11,324
Kinakomba	1.2	1.4	69.5	2.5	5.5	0.0	19.1	0.0	0.8	2,456
Mikinduni	3.5	2.3	60.0	21.8	0.3	1.0	9.9	0.0	1.1	1,589
Chewani	7.4	10.3	56.5	12.7	0.6	0.5	11.0	0.0	0.9	4,627
Wayu	0.4	0.1	10.8	2.6	7.9	0.2	77.5	0.1	0.5	2,652
Bura Constituency	0.6	7.5	22.6	5.9	30.2	0.7	32.0	0.1	0.5	15,931
Chewelee	0.1	0.4	33.6	3.6	50.0	0.2	10.5	0.0	1.6	3,077
Hirimani	0.5	3.6	25.8	13.3	32.5	1.6	22.4	0.1	0.1	2,933
Bangale	0.6	0.4	4.1	6.3	81.9	1.0	5.6	0.0	0.0	2,464
Sala	0.4	11.3	42.6	5.2	3.7	0.9	35.5	0.1	0.3	2,303
Madogo	1.0	15.7	14.0	3.2	4.1	0.4	61.3	0.0	0.3	5,154

Table 40.21: Main Material of the Wall in Male Headed Households by County, Constituency and Ward

County/ Constituency/ Wards	Stone	Brick/ Block	Mud/ Wood	Mud/ Cement	Wood only	Corrugated Iron Sheets	Grass/ Reeds	Tin	Other	House-holds
Kenya	17.5	16.6	34.7	7.6	11.4	7.4	3.4	0.3	1.2	5,762,320
Rural	5.8	13.1	48.9	7.3	15.4	2.6	5.2	0.3	1.4	3,413,616
Urban	34.6	21.6	14.0	7.9	5.6	14.4	0.7	0.3	0.9	2,348,704
Tana River County	1.8	5.6	42.2	8.1	11.7	0.6	29.0	0.1	0.9	31,379
Garsen Constituency	1.6	4.2	53.0	9.5	1.6	0.4	28.1	0.2	1.3	12,805
Kipini East	0.6	2.3	66.8	13.1	1.1	0.1	13.2	0.7	2.3	2,819
Garsen South	3.5	12.3	46.8	11.5	1.0	0.7	21.6	-	2.7	2,105
Kipini West	0.2	0.3	60.2	3.8	2.9	0.4	31.3	0.1	0.7	2,561
Garsen Central	0.3	2.5	42.0	5.5	2.1	0.1	47.1	0.1	0.3	1,776
Garsen West	7.0	8.9	35.4	15.4	1.4	1.1	30.4	-	0.4	1,364
Garsen North	0.7	1.9	52.8	9.1	1.1	0.1	33.3	0.0	1.0	2,180
Galole Constituency	3.8	5.2	51.4	9.3	3.1	0.5	26.0	0.0	0.8	7,579
Kinakomba	1.1	1.7	73.8	2.4	4.4	-	15.7	0.1	0.8	1,584
Mikinduni	3.0	2.4	60.9	20.7	0.3	1.3	10.5	-	1.0	1,173
Chewani	7.2	10.6	58.5	11.9	0.7	0.6	9.7	-	0.9	3,158
Wayu	0.5	0.1	9.9	3.1	8.2	0.2	77.5	-	0.5	1,664
Bura Constituency	0.6	7.6	23.3	5.7	29.4	0.9	32.0	0.1	0.5	10,995
Chewelee	0.2	0.4	34.2	3.9	48.8	0.4	10.8	-	1.5	1,998
Hirimani	0.6	3.7	26.9	13.8	32.6	1.6	20.7	0.2	0.1	1,916
Bangale	0.5	0.4	4.0	5.0	83.9	1.3	4.9	0.1	0.1	1,709
Sala	0.5	10.7	46.0	5.5	4.3	1.0	31.6	0.1	0.2	1,660
Madogo	0.9	15.3	14.3	3.0	3.6	0.5	62.0	0.0	0.4	3,712

Table 40.22: Main Material of the Wall in Female Headed Households by County, Constituency and Ward

County/ Constituency	Stone	Brick/Block	Mud/Wood	Mud/Cement	Wood only	Corrugated Iron Sheets	Grass/ Reeds	Tin	Other	Households
Kenya	15.0	17.5	40.4	7.9	10.5	5.1	2.1	0.3	1.2	2,731,060
Rural	5.4	14.9	52.1	8.0	12.6	2.4	2.8	0.4	1.4	1,826,263
Urban	34.2	22.6	16.9	7.6	6.2	10.5	0.8	0.3	0.9	904,797

Tana River County	2.2	5.4	39.0	8.5	12.9	0.3	30.9	0.1	0.9	13,848
Garsen Constituency	2.2	4.2	52.2	9.9	1.5	0.1	28.6	0.1	1.2	5,167
Kipini East	1.6	3.7	69.5	12.0	0.6	-	9.5	-	3.1	833
Garsen South	4.7	11.1	47.0	11.6	1.4	0.3	21.2	0.1	2.6	932
Kipini West	0.5	0.2	64.4	4.4	2.0	0.1	27.9	0.1	0.3	866
Garsen Central	0.5	1.0	49.4	6.9	2.6	-	39.4	-	0.1	777
Garsen West	6.3	7.6	33.9	14.5	0.9	0.3	36.3	-	0.1	746
Garsen North	0.3	1.6	47.8	10.1	1.7	-	37.8	0.2	0.6	1,013
Galole Constituency	4.1	4.2	44.5	9.5	3.9	0.2	32.8	0.1	0.8	3,745
Kinakomba	1.4	0.9	61.6	2.8	7.3	-	25.3	-	0.7	872
Mikinduni	5.0	2.2	57.7	25.0	0.2	0.2	8.4	-	1.2	416
Chewani	8.0	9.5	52.3	14.4	0.5	0.3	14.0	-	1.1	1,469
Wayu	0.3	0.2	12.2	1.6	7.4	0.1	77.5	0.2	0.4	988
Bura Constituency	0.6	7.4	20.9	6.2	31.8	0.5	31.9	0.0	0.6	4,936
Cheweale	0.1	0.4	32.6	3.0	52.3	-	9.8	-	1.9	1,079
Hirimani	0.3	3.5	23.9	12.5	32.3	1.6	25.8	-	0.2	1,017
Bangale	0.9	0.4	4.2	9.3	77.5	0.3	7.4	-	-	755
Sala	0.2	12.8	33.7	4.2	2.3	0.6	45.6	-	0.6	643
Madogo	1.3	16.6	13.2	3.5	5.3	0.2	59.5	0.1	0.3	1,442

Table 40.23: Source of Water by County, Constituency and Ward

County/Constituency/ Wards	Pond	Dam	Lake	Stream/ River	Unprotect- ed Spring	Unprotected Well	Jabia	Water vendor	Other	Unimproved Sources	Protected Spring	Protected Well	Bore- hole	Piped into Dwelling	Piped	Rain Water Collection	Im- proved Sources	Number of Individuals
Kenya	2.7	2.4	1.2	23.2	5.0	6.9	0.3	5.2	0.4	47.4	7.6	7.7	11.6	5.9	19.2	0.7	52.6	37,919,647
Rural	3.6	3.2	1.5	29.6	6.4	8.7	0.4	2.2	0.5	56.0	9.2	8.1	12.0	1.8	12.1	0.8	44.0	26,075,195
Urban	0.9	0.7	0.5	9.2	1.9	2.9	0.2	11.8	0.1	28.3	4.0	6.8	10.7	14.7	34.9	0.5	71.7	11,844,452
Tana River County	1.2	6.7	1.1	27.4	0.7	12.6	0.1	3.2	5.3	58.5	0.6	12.1	17.7	1.5	9.6	0.1	41.5	238,688
Garsen Constituency	2.5	1.4	2.6	20.9	1.4	8.8	0.1	1.9	5.9	45.6	0.5	21.9	24.3	0.5	7.0	0.1	54.4	96,287
Kipini East	4.9	0.0	5.6	12.6	0.6	19.0	0.0	0.0	0.0	42.8	1.7	23.1	31.6	0.0	0.8	0.0	57.2	19,520
Garsen South	4.3	0.2	0.1	13.7	6.7	5.0	0.5	4.4	16.4	51.3	0.2	20.4	14.4	1.7	11.9	0.1	48.7	15,955
Kipini West	2.1	6.0	3.0	21.0	0.4	9.2	0.2	4.4	1.0	47.4	0.4	37.7	14.2	0.0	0.0	0.3	52.6	17,895
Garsen Central	1.0	0.0	5.6	24.2	0.2	5.4	0.0	0.0	19.5	55.9	0.2	5.4	30.9	0.0	7.6	0.0	44.1	14,809
Garsen West	1.2	2.6	0.5	9.0	0.4	7.3	0.0	2.7	0.0	23.7	0.4	19.9	22.1	1.8	32.0	0.0	76.3	10,613
Garsen North	0.6	0.0	0.0	40.9	0.0	4.5	0.0	0.1	0.0	46.1	0.2	21.1	31.5	0.0	1.1	0.0	53.9	17,495
Galole Constituency	0.6	1.6	0.2	32.4	0.3	16.5	0.0	1.6	4.8	57.9	1.1	11.5	13.8	3.6	12.1	0.0	42.1	60,362
Kinakomba	0.1	0.0	0.1	56.0	0.0	12.8	0.0	1.1	8.2	78.2	3.6	13.3	4.8	0.0	0.0	0.0	21.8	13,590
Mikinduni	0.4	0.0	0.0	21.1	0.1	0.6	0.0	3.1	0.0	25.3	0.8	23.4	42.9	0.1	7.5	0.0	74.7	9,423
Chewani	0.2	0.0	0.3	41.3	0.0	0.1	0.0	2.2	0.0	44.1	0.5	9.6	9.1	9.1	27.6	0.0	55.9	23,908
Wayu	2.2	7.0	0.1	0.5	1.2	60.4	0.0	0.0	13.1	84.6	0.1	4.6	10.6	0.0	0.0	0.0	15.4	13,441
Bura Constituency	0.0	16.7	0.1	31.5	0.2	14.2	0.2	6.1	5.1	74.0	0.2	1.1	12.9	1.0	10.7	0.1	26.0	82,039
Cheweale	0.1	24.0	0.1	62.5	0.0	8.0	0.0	0.0	0.0	94.6	0.1	0.1	4.7	0.0	0.0	0.4	5.4	16,312
Hirimani	0.0	18.0	0.1	8.6	0.0	18.8	0.5	25.4	26.9	98.3	0.1	0.1	0.0	0.1	1.3	0.0	1.7	15,162

Bangale	0.0	46.6	0.2	2.4	1.0	45.0	0.0	0.0	0.0	95.1	0.1	3.7	1.1	0.0	0.0	0.0	4.9	14,069
Sala	0.1	2.5	0.0	38.8	0.0	0.4	0.0	0.0	0.2	42.1	0.3	0.4	49.9	0.7	6.6	0.0	57.9	10,312
Madogo	0.0	0.9	0.1	38.1	0.1	4.4	0.2	4.3	0.2	48.3	0.3	1.2	17.3	2.9	30.1	0.0	51.7	26,184

Table 40.24: Source of Water of Male headed Household by County Constituency and Ward

County/Constituency/ Wards	Pond	Dam	Lake	Stream/ River	Unpro- tected Spring	Unpro- tected Well	Jabia	Water vendor	Other	Unim- proved Sources	Pro- tected Spring	Pro- tected Well	Bore- hole	Piped into Dwelling	Piped	Rain Water Collection	Improved Sources	Number of Individuals
Kenya	2.7	2.3	1.1	22.4	4.8	6.7	0.4	5.6	0.4	46.4	7.4	7.7	11.7	6.2	19.9	0.7	53.6	26,755,066
Rural	3.7	3.1	1.4	29.1	6.3	8.6	0.4	2.4	0.5	55.6	9.2	8.2	12.1	1.9	12.2	0.8	44.4	18,016,471
Urban	0.8	0.6	0.5	8.5	1.8	2.8	0.2	12.1	0.1	27.5	3.8	6.7	10.8	14.9	35.8	0.5	72.5	8,738,595
Tana River County	1.2	6.2	1.2	27.9	0.7	12.8	0.1	3.1	4.9	58.2	0.6	12.4	18.2	1.4	9.2	0.1	41.8	174,506
Garsen Constituency	2.6	1.4	2.7	21.1	1.4	9.0	0.1	1.8	5.6	45.9	0.5	22.0	24.4	0.5	6.7	0.1	54.1	71,679
Kipini East	4.8	0.0	6.0	13.1	0.7	19.1	-	0.0	-	43.7	1.5	23.4	30.7	0.0	0.7	-	56.3	15,216
Garsen South	4.6	-	0.2	13.5	6.8	5.0	0.4	3.9	16.6	51.0	0.2	20.5	14.8	1.8	11.6	0.0	49.0	11,670
Kipini West	2.2	5.7	2.8	21.6	0.5	8.7	0.2	4.5	1.1	47.4	0.5	37.8	14.2	-	-	0.2	52.6	13,898
Garsen Central	0.9	0.1	5.5	25.1	0.2	5.7	-	0.0	17.8	55.4	0.1	5.3	31.5	0.0	7.6	-	44.6	10,909
Garsen West	1.5	2.9	0.5	9.7	0.5	7.6	-	3.0	-	25.6	0.2	19.2	20.0	1.8	33.1	-	74.4	7,241
Garsen North	0.5	-	0.0	40.4	-	4.4	-	0.1	-	45.4	0.2	20.5	33.0	0.0	0.8	-	54.6	12,745
Galole Constituency	0.6	1.6	0.2	33.0	0.3	15.6	-	1.6	4.0	57.0	1.3	12.0	14.6	3.4	11.8	0.0	43.0	42,874
Kinakomba	0.1	-	0.1	58.5	-	11.6	-	1.3	6.3	77.8	4.4	12.4	5.3	-	-	-	22.2	9,330
Mikinduni	0.4	0.0	0.1	22.4	0.2	0.6	-	2.7	-	26.3	0.6	22.8	43.3	0.1	6.9	-	73.7	7,261

Chewani	0.2	-	0.4	41.2	-	0.1	-	2.1	0.0	44.0	0.5	10.5	9.8	8.6	26.6	-	56.0	17,040
Wayu	2.3	7.5	0.1	0.6	1.3	59.9	-	-	12.2	83.9	0.1	5.9	10.1	-	-	0.0	16.1	9,243
Bura Constituency	0.0	15.3	0.1	32.3	0.2	15.3	0.2	5.8	4.7	73.8	0.2	1.1	13.5	1.0	10.3	0.1	26.2	59,953
Chewele	-	21.1	0.1	64.4	-	8.3	-	0.0	-	93.9	0.1	0.2	5.1	0.0	-	0.6	6.1	11,357
Hirimani	-	18.5	0.1	9.2	0.1	19.6	0.4	24.5	25.8	98.3	0.2	0.1	0.0	0.1	1.3	0.0	1.7	10,591
Bangale	-	42.3	0.1	2.8	1.1	49.2	-	-	-	95.5	0.1	3.1	1.2	-	-	-	4.5	10,421
Sala	0.1	2.2	-	38.1	0.0	0.5	-	-	0.2	41.2	0.3	0.5	50.8	0.9	6.3	0.1	58.8	7,905
Madogo	0.1	1.0	0.1	39.4	0.1	4.9	0.2	4.5	0.3	50.5	0.3	1.4	17.2	2.6	28.1	0.0	49.5	19,679

Table 40.25: Source of Water of Female headed Household by County, Constituency and Ward

County/Constituency/ Wards	Pond	Dam	Lake	Stream/River	Unprotect- ed Spring	Unprotect- ed Well	Jabia	Water vendor	Other	Unimproved Sources	Protected Spring	Protected Well	Bore- hole	Piped into Dwelling	Piped	Rain Water Collection	Improved Sources	Number of Individuals
Kenya	2.8	2.7	1.3	25.2	5.3	7.4	0.3	4.4	0.3	49.7	8.1	7.7	11.3	5.1	17.5	0.7	50.3	11,164,581
Rural	3.4	3.5	1.6	30.6	6.5	8.9	0.3	1.8	0.4	57.0	9.5	8.0	11.5	1.6	11.7	0.8	43.0	8,058,724
Urban	1.0	0.8	0.6	11.1	2.3	3.4	0.2	11.1	0.1	30.5	4.7	7.0	10.5	14.2	32.5	0.6	69.5	3,105,857
Tana River County	1.0	8.0	1.0	26.2	0.6	12.2	0.1	3.5	6.5	59.2	0.5	11.5	16.4	1.7	10.7	0.1	40.8	64,182
Garsen Constituency	2.2	1.5	2.3	20.1	1.3	8.4	0.1	2.0	6.8	44.7	0.6	21.7	24.2	0.5	8.1	0.2	55.3	24,608
Kipini East	5.1	-	4.4	11.0	0.5	18.6	-	-	-	39.6	2.5	22.0	34.8	0.0	1.1	-	60.4	4,304
Garsen South	3.5	0.7	-	14.0	6.3	5.0	0.6	5.7	16.1	52.0	0.0	20.2	13.2	1.3	13.0	0.4	48.0	4,285
Kipini West	1.8	6.9	3.4	19.0	0.3	11.0	0.1	4.2	0.9	47.5	0.2	37.7	14.1	-	-	0.6	52.5	3,997
Garsen Central	1.3	-	5.7	21.6	-	4.4	-	-	24.3	57.3	0.3	5.5	29.1	-	7.8	-	42.7	3,900
Garsen West	0.4	2.0	0.6	7.4	0.2	6.7	-	2.2	-	19.6	0.7	21.4	26.7	1.9	29.8	-	80.4	3,372

Garsen North	0.8	-	0.0	42.3	-	4.7	-	0.2	-	48.1	0.0	22.6	27.5	-	1.7	-	51.9	4,750
Galole Constituency	0.6	1.4	0.1	30.8	0.3	18.6	-	1.6	6.6	60.0	0.8	10.2	11.8	4.1	13.0	0.0	40.0	17,488
Kinakomba	-	-	0.1	50.4	-	15.6	-	0.7	12.3	79.0	1.9	15.3	3.8	-	-	-	21.0	4,260
Mikinduni	0.3	-	-	16.8	-	0.4	-	4.6	-	22.1	1.5	25.4	41.4	-	9.6	-	77.9	2,162
Chewani	0.2	-	0.3	41.6	-	0.0	-	2.2	-	44.4	0.4	7.4	7.3	10.4	30.1	-	55.6	6,868
Wayu	1.9	5.9	-	0.5	1.1	61.6	-	-	15.1	86.0	-	1.9	11.9	-	0.1	0.1	14.0	4,198
Bura Constituency	0.1	20.4	0.1	29.3	0.1	11.4	0.2	6.8	6.1	74.5	0.1	1.1	11.2	1.2	11.8	0.0	25.5	22,086
Cheweale	0.2	30.4	0.3	58.0	-	7.3	-	-	0.0	96.2	-	-	3.8	-	-	-	3.8	4,955
Hirimani	-	16.6	-	7.2	-	16.8	0.8	27.4	29.4	98.3	0.1	0.1	-	0.1	1.4	-	1.7	4,571
Bangale	-	58.6	0.3	1.3	0.7	33.0	-	-	-	93.9	0.1	5.4	0.6	-	-	-	6.1	3,648
Sala	0.2	3.4	-	41.3	-	-	-	-	0.1	45.1	-	0.3	46.9	0.0	7.6	-	54.9	2,407
Madogo	-	0.4	-	34.2	0.1	2.9	0.0	3.7	0.1	41.4	0.2	0.5	17.6	3.9	36.3	0.1	58.6	6,505

Table 40.26: Human Waste Disposal by County, Constituency and Ward

County/ Constituency	Main Sewer	Septic Tank	Cess Pool	VIP Latrine	Pit Latrine	Improved Sanitation	Pit Latrine Uncovered	Bucket	Bush	Other	Unimproved Sanitation	Number of HH Members
Kenya	5.91	2.76	0.27	4.57	47.62	61.14	20.87	0.27	17.58	0.14	38.86	37,919,647
Rural	0.14	0.37	0.08	3.97	48.91	53.47	22.32	0.07	24.01	0.13	46.53	26,075,195
Urban	18.61	8.01	0.70	5.90	44.80	78.02	17.67	0.71	3.42	0.18	21.98	11,844,452
Tana River County	0.20	0.40	0.06	1.36	19.65	21.67	6.03	0.18	71.88	0.24	78.33	238,688
Garsen Constituency	0.21	0.58	0.10	1.19	18.16	20.26	4.78	0.12	74.55	0.29	79.74	96,287
Kipini East	0.39	0.07	0.06	1.02	26.54	28.08	6.53	0.12	64.47	0.80	71.92	19,520
Garsen South	0.19	1.68	0.11	2.11	34.69	38.78	7.27	0.21	53.69	0.04	61.22	15,955
Kipini West	0.08	0.00	0.21	0.96	4.31	5.55	2.18	0.02	91.84	0.41	94.45	17,895
Garsen Central	0.00	1.42	0.01	0.41	2.07	3.90	1.08	0.23	94.70	0.09	96.10	14,809
Garsen West	0.79	0.48	0.23	2.91	30.41	34.82	7.90	0.04	57.25	0.00	65.18	10,613

Garsen North	0.02	0.11	0.03	0.41	14.12	14.69	4.46	0.12	80.57	0.16	85.31	17,495
Galole Constituency	0.30	0.28	0.05	1.44	26.79	28.86	4.30	0.10	66.56	0.18	71.14	60,362
Kinakomba	0.00	0.03	0.02	0.57	14.97	15.59	2.07	0.02	82.29	0.03	84.41	13,590
Mikinduni	0.15	0.14	0.10	0.73	26.18	27.29	5.33	0.18	67.13	0.06	72.71	9,423
Chewani	0.71	0.64	0.05	2.97	47.10	51.48	6.97	0.13	41.01	0.41	48.52	23,908
Wayu	0.00	0.00	0.04	0.07	3.03	3.14	1.08	0.07	95.71	0.00	96.86	13,441
Bura Constituency	0.09	0.27	0.02	1.50	16.15	18.03	8.78	0.30	72.64	0.23	81.97	82,039
Chewele	0.02	0.00	0.08	0.51	6.36	6.98	3.57	0.00	89.30	0.15	93.02	16,312
Hirimani	0.18	0.28	0.00	2.20	26.92	29.58	8.24	0.00	62.09	0.09	70.42	15,162
Bangale	0.00	0.14	0.00	0.38	20.46	20.98	2.41	0.06	76.46	0.09	79.02	14,069
Sala	0.25	0.88	0.00	3.16	21.90	26.19	14.50	2.29	56.20	0.82	73.81	10,312
Madogo	0.07	0.27	0.00	1.66	11.44	13.44	13.52	0.02	72.81	0.21	86.56	26,184

Table 40.27: Human Waste Disposal in Male Headed household by County, Constituency and Ward

County/ Constituency/wards	Main Sewer	Septic Tank	Cess Pool	VIP Latrine	Pit Latrine	Improved Sanitation	Pit Latrine Uncovered	Bucket	Bush	Other	Unimproved Sanitation	Number of HH Members
Kenya	6.30	2.98	0.29	4.60	47.65	61.81	20.65	0.28	17.12	0.14	38.19	26,755,066
Rural	0.15	0.40	0.08	3.97	49.08	53.68	22.22	0.07	23.91	0.12	46.32	18,016,471
Urban	18.98	8.29	0.73	5.89	44.69	78.58	17.41	0.70	3.13	0.18	21.42	8,738,595
Tana River County	0.17	0.43	0.06	1.28	19.15	21.09	5.94	0.19	72.55	0.24	78.91	174,506
Garsen Constituency	0.19	0.62	0.10	1.13	17.89	19.92	4.70	0.12	74.97	0.29	80.08	71,679
Kipini East	0.34	0.03	0.06	0.87	26.23	27.53	6.14	0.13	65.42	0.78	72.47	15,216
Garsen South	0.07	1.92	0.13	1.99	33.68	37.78	7.52	0.15	54.48	0.06	62.22	11,670
Kipini West	0.05	0.00	0.09	0.93	4.11	5.18	2.01	0.02	92.39	0.40	94.82	13,898
Garsen Central	0.00	1.56	0.02	0.50	1.83	3.91	0.84	0.22	94.90	0.12	96.09	10,909
Garsen West	0.91	0.48	0.33	3.00	29.75	34.47	8.09	0.06	57.38	0.00	65.53	7,241
Garsen North	0.02	0.10	0.05	0.35	15.49	16.01	4.68	0.14	79.04	0.13	83.99	12,745
Galole Constituency	0.28	0.31	0.04	1.41	26.17	28.21	4.22	0.09	67.29	0.18	71.79	42,874
Kinakomba	0.00	0.00	0.00	0.51	14.50	15.02	1.91	0.03	83.04	0.00	84.98	9,330
Mikinduni	0.00	0.18	0.12	0.48	24.90	25.69	5.34	0.23	68.74	0.00	74.31	7,261
Chewani	0.70	0.71	0.02	3.02	45.79	50.24	6.76	0.07	42.48	0.45	49.76	17,040
Wayu	0.00	0.00	0.05	0.06	2.79	2.91	1.01	0.06	96.02	0.00	97.09	9,243
Bura Constituency	0.09	0.30	0.02	1.35	15.63	17.39	8.64	0.35	73.42	0.21	82.61	59,953

Chewele	0.00	0.00	0.00	0.11	0.55	6.64	7.31	3.13	0.00	89.40	0.16	92.69	11,357
Hirimani	0.21	0.32	0.00	0.00	2.10	27.78	30.40	7.78	0.00	61.72	0.09	69.60	10,591
Bangale	0.00	0.19	0.00	0.00	0.49	17.07	17.75	2.23	0.08	79.82	0.12	82.25	10,421
Sala	0.33	0.92	0.00	0.00	2.28	22.28	25.81	15.43	2.44	55.52	0.80	74.19	7,905
Madogo	0.02	0.26	0.01	0.01	1.50	10.84	12.62	12.96	0.03	74.28	0.11	87.38	19,679

Table 40.28: Human Waste Disposal in Female Headed Household by County, Constituency and Ward

County/ Constituency	Main Sewer	Septic Tank	Cess Pool	VIP Latrine	Pit Latrine	Improved Sanitation	Pit Latrine Uncovered	Bucket	Bush	Other	Unimproved Sanitation	Number of HH Memmbers
Kenya	5.0	2.2	0.2	4.5	47.6	59.5	21.4	0.3	18.7	0.2	40.5	11,164,581.0
Rural	0.1	0.3	0.1	4.0	48.5	53.0	22.6	0.1	24.2	0.1	47.0	8,058,724.0
Urban	17.6	7.2	0.6	5.9	45.1	76.4	18.4	0.7	4.3	0.2	23.6	3,105,857.0
Tana River	0.3	0.3	0.1	1.6	21.0	23.2	6.3	0.1	70.0	0.3	76.8	64,182.0
Garsen	0.3	0.5	0.1	1.4	19.0	21.2	5.0	0.1	73.3	0.3	78.8	24,608.0
Kipini East	0.6	0.2	0.1	1.6	27.6	30.0	7.9	0.1	61.1	0.9	70.0	4,304.0
Garsen South	0.5	1.0	0.1	2.5	37.5	41.5	6.6	0.4	51.6	0.0	58.5	4,285.0
Kipini West	0.2	0.0	0.6	1.1	5.0	6.9	2.8	0.0	89.9	0.5	93.1	3,997.0
Garsen Central	0.0	1.0	0.0	0.1	2.7	3.9	1.7	0.3	94.1	0.0	96.1	3,900.0
Garsen West	0.5	0.5	0.0	2.7	31.8	35.6	7.5	0.0	57.0	0.0	64.4	3,372.0
Garsen North	0.0	0.1	0.0	0.6	10.4	11.2	3.9	0.1	84.7	0.3	88.8	4,750.0
Galole	0.4	0.2	0.1	1.5	28.3	30.4	4.5	0.1	64.8	0.2	69.6	17,488.0
Kinakomba	0.0	0.1	0.1	0.7	16.0	16.9	2.4	0.0	80.6	0.1	83.1	4,260.0
Mikinduni	0.6	0.0	0.0	1.6	30.5	32.7	5.3	0.0	61.7	0.3	67.3	2,162.0
Chewani	0.7	0.5	0.1	2.9	50.4	54.5	7.5	0.3	37.4	0.3	45.5	6,868.0
Wayu	0.0	0.0	0.0	0.1	3.5	3.6	1.2	0.1	95.0	0.0	96.4	4,198.0
Bura	0.1	0.2	0.0	1.9	17.6	19.8	9.2	0.2	70.6	0.3	80.2	22,086.0
Chewele	0.1	0.0	0.0	0.4	5.7	6.2	4.6	0.0	89.1	0.1	93.8	4,955.0
Hirimani	0.1	0.2	0.0	2.4	24.9	27.7	9.3	0.0	62.9	0.1	72.3	4,571.0
Bangale	0.0	0.0	0.0	0.1	30.2	30.2	2.9	0.0	66.9	0.0	69.8	3,648.0
Sala	0.0	0.7	0.0	6.1	20.6	27.5	11.4	1.8	58.4	0.9	72.5	2,407.0
Madogo	0.2	0.3	0.0	2.1	13.3	15.9	15.2	0.0	68.4	0.5	84.1	6,505.0



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Kenya National Bureau of Statistics (KNBS)
Herufi House, LT. Tumbo Road, Off Harambee Avenue
P.O. BOX 30266 00100 Nairobi GPO, Kenya
Nairobi 317586/8, 317612/22, 317623, 317651
Email: info@knbs.or.ke; Website: www.knbs.or.ke



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Society for International Development
Regional Office for Eastern Africa
Britam Centre, First Floor, Ragati/Mara Road
P O Box 2404 – 00100 Nairobi Kenya
Telephone: +254 - 20 - 2737991 • Fax: +254 - 20 - 273 7992
Email: sidea@sidint.org • Website: www.sidint.net