



ALCOHOL USE IN CENTRAL PROVINCE OF KENYA

A BASELINE SURVEY ON MAGNITUDE, CAUSES AND EFFECTS FROM THE PERSPECTIVE OF COMMUNITY MEMBERS AND INDIVIDUAL USERS

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Table of Contents

List of Tables	iv
List of Figures	vi
EXECUTIVE SUMMARY	vii
CHAPTER ONE: INTRODUCTION	1
1.1. Background	1
1.2. The Context	3
1.3. Study Rationale and Objectives	4
1.4. Scope of the study	5
CHAPTER TWO: METHODOLOGY	7
2.1. HOUSEHOLD SURVEY	7
2.1.1. Survey coverage	7
2.1.2. Sampling methodology	7
2.1.3. Sampling Frame	7
2.1.4. Sample Size and Allocation	8
2.1.5. Sampling of Eligible Respondents	9
2.1.6. Data Collection Methods	9
2.1.7. Methods of Data Analysis	9
2.1.8. Expected Outputs, Outcomes and Impact	9
CHAPTER THREE: COMMUNITY VIEWS ON ALCOHOL USE	11
3.1. MAGNITUDE OF ALCOHOL USAGE	11
3.1.1. Level of Alcohol Usage	11
3.1.2. Trend of Alcohol Usage	12
3.1.3. Availability, Affordability and Accessibility of Alcohol	13
3.1.4. Alcohol Drinking Times	15
3.1.5. Alcohol Consumption by Age and Gender Groups	16
3.2. EXPLANATORY FACTORS FOR ALCOHOL USE	18
3.2.1. Risk Factors for Alcohol Use	18
3.2.2. Reasons for Alcohol Use	19
3.2.3. Attitudes about Alcohol Use, Abstinence, Work and Education	20
3.3. EFFECTS OF ALCOHOL USE	21
3.3.1. Individual and Family Level Effects	21
3.3.2. Community Levels Effects	22
3.4. PROTECTIVE FACTORS AGAINST ALCOHOL USE	24
CHAPTER FOUR: SELF-REPORTED ALCOHOL USE	25
4.1. LIFETIME PREVALENCE	25
4.2. CURRENT USAGE	26
4.2.1. The Prevalence Rate (Past-30- Days)	26
4.2.2. Types of Alcohol Used	27
4.2.3. The Prevalence Rate (Past 14 and 7 Days)	31
4.2.4. Frequency of Alcohol Use	32
4.2.5. Alcohol Dependency Rates	35

4.3.	EXPLANATIONS FOR INDIVIDUAL ALCOHOL USE	37
4.3.1.	<i>Risk Factors for Alcohol Use</i>	37
4.3.2.	<i>Reasons for Alcohol Use</i>	38
4.4.	EFFECTS OF INDIVIDUAL ALCOHOL USE.....	39
4.5.	ALCOHOL USE INTERVENTIONS	41
	CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS	43
5.1.	INTRODUCTION	43
5.2.	SUMMARY OF KEY FINDINGS.....	43
5.3.	CONCLUSION.....	45
5.4.	RECOMMENDATIONS	45
	REFERENCES.....	47
	APPENDIX 1: COMMUNITY PERCEPTION ON TRENDS OF ALCOHOL USE ACROSS THE DISTRICTS	49
	APPENDIX 2: ALCOHOL AVAILABILITY, AFFORDABILITY AND ACCESSIBILITY ACROSS DISTRICTS	51
	APPENDIX 3: ALCOHOL CONSUMPTION PERIODS OF THE DAY ACROSS THE DISTRICTS .	54
	APPENDIX 5: ALCOHOL USE ACROSS AGE AND GENDER.....	56

List of Tables

Table 1: Sample Allocation.....	8
Table 2: Selection of Households.....	8
Table 3: Community Perception of level of Alcohol usage by Districts.....	11
Table 4: Alcohol Risk Factors across Districts	19
Table 5: Reasons for Alcohol use across the districts.....	20
Table 6: Attitudes towards alcohol users and abstainers, work and education	21
Table 7: Individual and family-level effects of alcohol use by districts	22
Table 8: Community Level Effects of Alcohol Use by Districts	23
Table 9: Protective Factors against Alcohol Use by Districts.....	24
Table 10: Expressions of Drinking Problem felt Daily or at Least Once a Week.....	35
Table 11: Expressions of Drinking Problem felt Daily or at least once a week by Gender	35
Table 13: Expressions of Drinking Problem felt during the last one year by gender	36
Table 14: Expressions of Drinking Problem	36
Table 15: Expressions of Drinking Problem by gender	36
Table 16: Risk factors for alcohol use by type of alcohol	37
Table 17: Risk factors for alcohol use by gender	37
Table 18: Reasons for alcohol use by type of alcohol.....	38
Table 19: Reasons for alcohol use by gender	38
Table 20: Effects of alcohol use by type of alcohol	39
Table 21: Effects of alcohol use by gender	40
Table 22: Individual Monthly Expenditure on Selected Items.....	41
Table 23: Alcohol Use Interventions by types of Alcohol	41
Table 24: Alcohol Use Interventions by Gender	42
Table 25: Community perception on 1 st generation alcohol use trend by district	49
Table 26: Community perception on 2 nd generation alcohol use trend by district.....	49
Table 27: Community perception on traditional liquor use trend by district	49
Table 28: Community perception on chang'aa use trend by district	49
Table 29: Availability of 1 st generation alcohol by district.....	51
Table 30: Affordability of 1 st generation alcohol by district	51
Table 31: Accessibility of 1 st generation alcohol by district.....	51
Table 32: Availability of 2 nd generation alcohol by district.....	51
Table 33: Affordability of 2 nd generation alcohol by district	52
Table 34: Accessibility of 2 nd generation alcohol by district.....	52
Table 35: Availability of traditional liquor by district	52
Table 36: Affordability of traditional liquor by district	52
Table 37: Accessibility of traditional liquor by district	53
Table 38: Availability of chang'aa by district	53
Table 39: Affordability of chang'aa by district.....	53
Table 40: Accessibility of chang'aa by district	53
Table 41: Alcohol Consumption before 12.00 Noon by District	54
Table 42: Alcohol Consumption between 12 Noon – 6 Pm By District	54

Table 43: Alcohol Consumption between 6 PM – 11 PM by District.....	54
Table 45: Alcohol usage among males under 18 years	56
Table 46: Alcohol usage among females under 18 years	56
Table 47: Alcohol usage among males 19 - 24 years	56
Table 49: Alcohol usage among males aged 25 - 34 years	57
Table 50: Alcohol usage among females aged 25 - 34 years	57
Table 51: Alcohol usage among males aged 35 - 54 years	58
Table 52: Alcohol usage among females aged 35 - 54 years	58
Table 53: Alcohol usage among males 55 years and above	58
Table 54: Alcohol usage among females 55 years and above	59

List of Figures

Figure 1: Community Perception on alcohol use by type	12
Figure 2: Alcohol availability by type.....	13
Figure 3: Alcohol affordability by type	14
Figure 4: Alcohol accessibility by type.....	14
Figure 5: Incidence of drinking at different times of the day.....	16
Figure 6: Alcohol use across age and gender	18
Figure 7: Risk Factors for alcohol use	19
Figure 9: Current alcohol prevalence rate (%) by district and gender	26
Figure 11: Male alcohol Prevalence by type	29
Figure 12: Female alcohol prevalence by type.....	29
Figure 13: Male usage of different types of alcohol.....	30
Figure 14: Female usage of different types of alcohol.....	30
Figure 15: Last 14 days prevalence rate (%) of alcohol by type	31
Figure 16: Last 7 days prevalence rate (%) of alcohol by type	32
Figure 17: Alcohol usage at different time periods by type	32
Figure 18: Usage of second generation alcohol daily or four (4) times in a week.....	33
Figure 19: Alcohol usage rate (%) at different periods of the day	33
Figure 20: Alcohol usage rate (%) of 1st Generation and 2nd Generation alcohol at different periods of the day.....	34

EXECUTIVE SUMMARY

This baseline survey on alcohol use in Central Province came in the background of public and Government concern over increasing alcohol use in the province. It also came in the background of a previous fact finding mission (NACADA, 2009) that confirmed the existence of an acute alcohol problem. The purpose of this study was to investigate principally through quantitative means the magnitude of alcohol use and the underlying causative factors and effects. The ultimate goal was to gather data and information that would assist in formulation and implementation of effective prevention and control policies and other interventions. The specific objectives were to:

1. Ascertain the magnitude of alcohol abuse with respect to types of alcohol, age, gender, and other social, economic and demographic factors;
2. Identify social environmental risk and protective factors to alcohol abuse;
3. Establish the impact of alcohol abuse on health, security and socioeconomic indicators in the community;
4. Assess the influence of existing alcohol regulations, related policies and other interventions;
5. Make recommendations with regard to appropriate policies and interventions.

The overall design of the study was a cross-sectional survey which gathered views of community members and of individual alcohol users from seven Central Province districts (as at 1999 Census) namely Kiambu, Kirinyaga, Muranga, Nyandarua, Nyeri, Thika and Maragua. The survey also disaggregated for rural and urban areas of the province. The sampling procedure involved selection of Enumeration Areas (EAs) using Probability Proportional to Size (PPS) and random selection of households. In computation of the sample size, it was estimated that 30 % of adults in Central province consume alcohol, a coefficient of variation (CV) of 10% is targeted, design effect of 2 and a non-response adjustment of 5%. Based on above assumptions a uniform sample of 500 households per district was expected resulting into an overall sample of 3,500, which as adjusted to 3,495. The survey managed to capture 3,259 or 93.2%.

From the community views on alcohol use, the findings point at the following key findings:

- **Magnitude:** There is a very strong consensus in the community that alcohol use is a major problem in the province owing to the high level of usage, increasing trend and ease of availability, affordability and accessibility.
- **Level of alcohol consumption:** About two thirds of community members reported that alcohol consumption in their areas is high or very high. Across the districts, the level of usage ranged from a low of 51.5 per cent in Nyandarua to a high of 75.4 per cent in Kirinyaga.
- **Trends:** More than 80 per cent of the respondents felt that the second generation alcohol was increasing, while 58 per cent expressed the view that the first generation alcohol was decreasing. However, a significant proportion of the respondents held the view that traditional liquor and chang'aa usage was more of constant than increasing or decreasing.
- **Availability, affordability and accessibility:** The findings reveal that the second generation alcohol as the most available, affordable and accessible type of alcohol in the province. Chang'aa and traditional liquor were reported to be the least available and accessible types of alcohol.
- **Drinking time:** A significant proportion of the respondents (nearly 60%) reported that in their areas there is alcohol consumption before noon, apparently the most productive hours of the day. There was also a clustering of drinking activities between noon and 6 pm.
- **Alcohol usage by age and gender:** A significant proportion of the respondents rated the consumption of alcohol among people aged less than 18 years as "high". Further, results point at the concentration of the drinking among the youth, gender notwithstanding. "Very high" usage was reported for ages 25 – 34 years (males, 79%; and females, 15%); and 19 – 24 years (males, 77%; and females, 14%). Alcohol consumption among males aged 35 – 54 years was rated as "very high". However, alcohol usage declined with reference to ages 55 years or above.

Besides the community perspective on alcohol use, this survey made an inquiry on individual experiences with alcohol. Some of the key highlights include:

- **Life time prevalence:** The findings show that 29.6 per cent of the community members surveyed had used alcohol on at least one occasion in their lifetimes. However, the lifetime prevalence rate was higher among males than for females with 53 per cent and 8 per cent respectively.
- **Current usage (last 30 days):** As measured by use in the past 30 days, current usage was estimated at 18 per cent with a male rate of 34 per cent while the female rate stood at 3 per cent.

- Type of alcohol: Less than 50 per cent of the respondents were using first generation alcohol, while consumption of the second generation alcohol stood at 40 per cent. The others accounted for 10 per cent.
- Frequency of use: As was the case with the community perception, a significant number of people reported using alcohol before noon. Further scrutiny reveals that most of those taking alcohol before noon were clustered around chang'aa and the second generation alcohol
- Alcohol dependency rates: The findings show that dependency was higher for chang'aa, traditional liquor and second generation alcohol compared with the first generation brands. For instance, 75 per cent of chang'aa users regularly felt that they needed it to remove hangover. In addition, alcohol dependency was reported more for male users.
- The findings reveal that some of the risk factors include: idleness; peer pressure; unemployment; work related stress. The risk factors also varied by gender. For instance, while more males used alcohol due to occupational factors (e.g. work related stress, idleness, and unemployment) more of the females used it due to relational issues notably marital problems, problems with parents and peer pressure. Some of the reasons pointed out for taking alcohol include: to feel good or have fun; relaxation; cope with stress; interact with others; and 'kill time'. These factors also vary with district. Religious values; parental restrictions; positive peer pressure; work and school commitment; fear of stigmatization and peoples bad experience with alcohol were found to be important protective factors.
- The study further found out that alcohol abuse has several adverse effects to the individual, the household and the community. Such effects included: episodes of loss of consciousness; inability to meet financial obligations; having multiple sex partners; threatened and attempted suicides; motor vehicle accidents and domestic violence. Others include community level effects such as: low school enrollment; high school drop-out rates; poor results in national examinations; decreased employability; marital breakdown; and infertility.
- In conclusion, the findings point to a relatively high level of usage of alcohol in Central Province of Kenya. This vindicates the current public and policy makers concern of high alcohol use in the province. However, a more worrying question is the increasing penetration of the second generation brands that are eating into the market of the first generation alcohol. Nevertheless, the fact that many people do not know about the trend of traditional liquor and chang'aa may partly be linked to their illegality. This is because, unlike the first and second generation brands, chang'aa and traditional liquor are processed, marketed and consumed with some secrecy.
- From the community and individual perspective there is strong consensus on the adverse implications of alcohol use in the province in general. In fact the

findings show an overwhelming disapproval of alcohol use in the community implying that those who abuse alcohol do so against the expectations of the community. Across the seven districts, hard work and education as still highly treasured values. Such solid community disapproval of alcohol use augurs very well for any interventions meant to address the challenge posed by the problem of alcohol abuse in the province.

In view of the study findings, the following recommendations are made:

- Increased community education on the adverse effects of alcohol at the individual, household and community level. This may include the provision of IEC materials, use of theater, mass media and especially the local FM radio stations; games and sports and increased targeting of the youth.
- Enhanced enforcement of the new legal provision on alcohol since it became evident that there was laxity in the enforcement of the old legal regime that governed the production and sale of alcohol in the country.
- Pro-actively engage the community leaders in leading the campaigns against alcohol abuse in Central Kenya.
- Working with relevant government departments to ensure that the youth are positively engaged into productive activities e.g. increased uptake of the devolved funds in a way that is beneficial to the youth.

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CHAPTER ONE: INTRODUCTION

1.1. Background

The World Health Organization (WHO) estimates that there are about 2 billion (33%) people worldwide who consume alcoholic beverages and 76.3 million with diagnosable alcohol use disorders (WHO, 2004) making alcohol the most widely used and abused substance world over (Basangwa *et al.*, 2006). The widespread use of alcohol is fuelled by ease of its production process (i.e., a plain process of fermentation achieved by yeast acting on sugar) and multiple daily usage for recreation, curative and religious purposes (Basangwa *et al.*, 2006). Alcohol use, however, has serious health and social effects making its prevention and control a public health priority. According to WHO (2002, 2004), alcohol causes 1.8 million deaths (3.2% of total) one third (600,000) of which result from unintentional injuries. It also causes a loss of 58.3 million (4% of total) of Disability-Adjusted Life Years (DALY) of which 40% are due to neuro-psychiatric conditions.

Alcohol consumption and abuse is influenced by multiple factors including gender, family history and parental influence. Men are more likely to use alcohol with some estimates indicating a ratio of 5:1 (Emmite and Swierzewski, 2008). Men are also at higher risk of heavy drinking and intoxication (Gmel, Rehm, & Kuntsche, 2003) and developing alcohol use disorders (Jhingan *et al.*, 2003). However, the number of women who drink, abuse, and become dependent on alcohol is rising.

Studies indicate that up to 25% of children with an alcoholic parent will develop alcohol abuse or dependence (Basangwa *et al.*, 2006). The prevalence of alcoholism among individuals with alcoholic parents or siblings is two and half times that of the general population. The major familial risk factors for alcoholism include growing up with parents who are dependent on alcohol, use alcohol to cope with stress, and have coexisting psychological disorder(s). Others are family violence and having several close blood relatives who are alcohol dependent. Some

studies show that regardless of a family history of alcoholism, a lack of parental monitoring, severe and recurrent family conflict, and poor parent-child relationships can contribute to alcohol abuse in adolescents. Children with conduct disorders, poor socialization, and ineffective coping skills as well as those with little connection to parents, other family members, or school may be at an increased risk for alcohol abuse and/or dependence. Peers also influence drinking behavior. Recent studies in the USA reported that lower educational levels and unemployment do not cause higher rates of alcoholism (Emmite and Swierzewski, 2008).

Studies indicate that intoxication is the most common cause of alcohol-related problems, leading to injuries and premature deaths (Basangwa *et al.*, 2006). In Australia alcohol intoxication is responsible for 30% of road accidents, 44% of fire injuries, 34% of falls and drowning, 16% of child abuse cases, 12% of suicides, 10% of industrial accidents and 67% of the years of life lost from drinking (Government of South Australia, 2010) over a 25% of all drug-caused deaths and five (5) per cent of deaths from all causes (Health Department of Western Australia, 1998). Alcohol also leads to criminal behaviour – in Australia over 70% of prisoners convicted of violent assaults have drunk alcohol before committing the offence and more than 40% of domestic violence incidents involve alcohol.

Alcohol contributes to short-term effects including loss of work productivity through absenteeism, lateness or leaving early, feeling sick at work, having problems with job tasks, accidents, and damage to co-worker and customer relations (Blum, Roman and Martin, 1993; Gordis, 1999; Randerson, 2007)¹. This further leads to organizational constraints in form of high turn-over and subsequent recruitment, consumption of health benefits, for example, in case of illness or accidents that would result to compensation (Randerson, 2007). In the United States, alcohol and drug abuse by employees is estimated to contribute to company loss of \$100 billion a year (Buddy, 2003). Furthermore, alcohol abuse among employees can threaten public safety, for instance, in the case of neglect of essential duty as health/medical care, security or

¹ Employee relationships are hampered because colleagues may resent or feel they must ‘cover up’ for someone with a problem.

aggression among workers or with clients. Besides alcohol causes enormous psychosocial losses in terms of pain and suffering experienced by the users and their significant others as well as by the employer.

1.2. The Context

WHO normally estimates the scale of alcohol consumption on the basis of recorded alcohol data, which refers to licensed liquor and unrecorded alcohol data that refers to unlicensed liquor. The unrecorded alcohol in Kenya constitutes traditional and illegal beverages (e.g., *chang'aa*) that are poorly monitored for quality and strength and often contain impurities and adulterants. For instance *kumi kumi* is illicit liquor made from sorghum, maize or millet but contains methanol and is adulterated with car battery acid and formalin.

In Kenya only 15% of alcohol consumption is recorded and based on this measure Kenyans aged 15 years and above on average consume 1.74 liters of pure alcohol annually (WHO, 2004). This is a moderate level compared to some other African countries like Zimbabwe (5.08 litres) Tanzania (5.29 litres) and Botswana (5.38 litres). On the other hand, based on unrecorded alcohol the per capita consumption (15+) from 1995 was 5.0 litres, which compares with levels found in the high range African countries such as Swaziland (4.1 litres), Rwanda (4.3 litres), Burundi (4.7 litres), Seychelles (5.2 litres), Zimbabwe (9.0 litres) and Uganda (10.7 litres) (WHO, 2004).

Recent community studies (NACADAA, 2007, 2009a, b) indicate significant alcohol consumption in Kenya. The NACADAA (2007) countrywide survey indicated a current usage of alcohol (i.e., consumption in the last 30 days) among persons aged 15-65 years (n = 3,356) to be 14.2% with male consumption being 22.9% and female consumption being 5.9%. Other rates of consumption were: rural - 13.0%, urban - 17.7%; legal/package alcohol – 9.1%, traditional

liquor – 5.5% and *chang'aa*² – 3.8%. Disaggregating by province, the lowest use was found in North Eastern (0 %) and Western provinces (6.8%) while the other six provinces were comparable with a range of 13% - 19% (i.e., Rift Valley - 12.5%, Eastern – 14.8%, Nyanza – 17.0%, Central – 17.7%, Coast – 18.6%, Nairobi – 18.6%).

The survey also looked at lifetime usage (i.e., ever used alcohol) with the results showing 39% usage among 15 – 65 year olds (53.2% male and 25.8% female; 38.8% rural and 40.2% urban) and 8% among children aged 10 – 14 years (8.6% males, 7.1% females; 8.6% rural and 5.6% urban). The study further revealed that 2.4% of the children (10- 14 years old) had ever consumed *chang'aa* while 15% of 15-65 year olds had ever consumed the same highly potent illicit spirit. In terms of impact, the survey showed that 5% of alcohol users had ever sought medical treatment for alcohol related ailments.

Alcohol use has also led to so many deaths in Kenya. In this year (2010) alone, the cases of large number of people dying out of a single episode of drinking poisonous illicit liquor have occurred in Shauri Moyo and Laikipia. Other most conspicuous cases include the use of *kumi kimi* in November 2000 which resulted in 140 deaths and lose of sight among some users in poor Nairobi neighborhoods (Mukuru kwa Njenga and Mukuru Kaiyaba) (Mureithi, 2002; WHO, 2004). Similar incidents have also been in Muranga (Muthithi and Kabati areas), Naivasha and Machakos. This shows an urgent need to prevent and control alcohol abuse in Kenya, which however, would only be possible if such efforts were backed by scientific evidence.

1.3. Study Rationale and Objectives

The purpose of this study was to conduct a baseline survey on alcohol use in Central Province with a view to influencing prevention and control policies and other interventions. The

² *Chang'aa* is an illegal alcoholic drink which is distilled from grains like maize and sorghum and sometimes adulterated with jet fuel battery acid to accelerate fermentation and make it more potent.

proposed study comes in the back of a recent fact finding study (NACADA, 2009) which explored through public forums and secondary data various manifestations of alcohol abuse in the province. The study found out that alcohol use begins early as 10 years of age with the highest use being among those aged between 15-35 years. It also established the key predisposing and protective factors as well as impacts.

The broad objective of the present study is to examine quantitatively the nature, patterns and scale of alcohol abuse in Central Province and identify appropriate prevention and control policies and interventions. The specific objectives were:

1. To ascertain the magnitude of alcohol abuse with respect to types of alcohol, and to age, gender, and other social, economic and demographic factors;
2. To identify social environmental risk and protective factors to alcohol abuse;
3. To establish the impact of alcohol abuse on health, security and socioeconomic indicators in the community;
4. To assess the influence of existing alcohol regulations, related policies and other interventions;
5. To make recommendations with regard to appropriate policies and interventions.

1.4. Scope of the study

The magnitude of alcohol abuse was established through lifetime and current amount used and frequency of abuse disaggregating for age, gender, situational factors like marital status and religion, socioeconomic status and dwelling (rural-urban; slum). Other factors were availability and accessibility of various types of alcohol, consumption hours and frequency of selling points relative to other amenities like schools, hospitals, churches, groceries, money transaction outlets etc.

The risk factors were established through examination of situational factors like unemployment, poverty, family history of alcohol use, beliefs and values, legal and regulatory provisions and enforcement among others. The protective factors were established through examination of individual, family and community resources available including resilience and coping skills, family responsibility and values, religion, legal/regulatory provisions and

enforcement among others.

The impact of alcohol abuse were established through analysis of alcohol related mortality (death by alcohol; by alcohol related suicide, murder and accidents; related morbidity (e.g., sexual disorder, infertility, liver cirrhosis, suicide ideation, attempts and completion; disability adjusted years of life lost (e.g., contrast risk of death among alcohol users and non-using populations), reckless behavior (e.g. drunk driving, fighting, unprotected sex, prostitution). Others were economic consequences including household expenditure (compare alcohol and others including food, clothing, school fees etc), financial management (e.g., improper selling/disposing of property such as land and livestock, betting/gambling), exposure to criminal victimization (e.g., drinking in dark alleys, late at night), family stability, participation in community projects and activities (*baraza, kazi kwa vijana*), employability, cultural identity etc. The study also reviewed provisions and enforcement of laws and regulations with reference to liquor licensing, control of illegal alcohol etc.

CHAPTER TWO: METHODOLOGY

The overall design of the study was a cross-sectional survey of patterns of alcohol abuse in terms of frequency, risk and protective factors and impacts. This necessitates examination of self-reported use and abuse in the general population and among users, as well as examination of their views and those of key stakeholders including users significant others, government officials, civil society, faith based organization, business community among others. The study was conducted through the following methods and tools:

2.1. HOUSEHOLD SURVEY

2.1.1. Survey coverage

The target population for the study was all adults aged 15 – 64 years. The survey covered all the 7 districts (as of 1999 Census) in Central province ; Kiambu, Kirinyaga, Muranga, Nyandarua, Nyeri, Thika and Maragua (as at now Central province is divided into several other districts but there is no complete information, since 2009 census results have not been released)³. The survey disaggregated for rural and urban areas of the province.

2.1.2. Sampling methodology

A two stage cluster sample design was adopted. The first stage involved selection of EAs using Probability Proportional to Size (PPS) and the second was random selection of households.

2.1.3. Sampling Frame

The sampling frame for the study was the EAs from 1999 census and stratified according to district and urban/rural classification.

³ In addition, the new constitution of 2010 has abolished and replaced the districts with counties. The province has now five counties namely Kiambu, Muranga, Nyeri, Kirinyaga, and Nyandarua. However, the specific boundaries have not yet been specified. This implies that although the counties would be suitable context for presentation of the current survey, it is not possible to do so given that the survey was designed in the context of the seven districts existing as of 1999.

2.1.4. Sample Size and Allocation

In computation of the sample size, it was estimated that 30 % of adults in Central province consume alcohol, a coefficient of variation (CV) of 10% is targeted, design effect of 2 and a non-response adjustment of 5%. Based on above assumptions a uniform sample of 500 households per district was expected resulting into an overall sample of 3,500. Given that the Kenyan population distribution is 80% rural and 20% urban, the number of households to be selected from the various districts as in Table 2.

Table 1: Sample Allocation

Dist Code	District	1999 Census HH	Estimated Sample (HH)	Estimated EAs	Rural EAs	Urban EAs	Total EAs	Final Adjusted Sample (HH)
1	Kiambu	186,955	500	33	31	2	33	495
2	Kirinyaga	113,423	500	33	30	3	33	495
3	Muranga	84,465	500	33	31	2	33	495
4	Nyandarua	103,115	500	33	30	3	33	495
5	Nyeri	166,745	500	33	29	4	33	495
6	Thika	168,828	500	33	23	11	34	510
7	Maragua	88,983	500	33	32	2	34	510
	Total	912,514	3,500	233	206	27	233	3,495

Table 2: Selection of Households

Dist Code	District	Rural Number of households	Urban number of households	Total
1	Kiambu	396	99	495
2	Kirinyaga	396	99	495
3	Muranga	396	99	495
4	Nyandarua	396	99	495
5	Nyeri	396	99	495
6	Thika	408	102	510
7	Maragua	408	102	510
	Total	2,796	699	3,495

2.1.5. Sampling of Eligible Respondents

Upon entry into a household the head of that household or in event of his/her absence any responsible member of that household (i.e., aged between 18 – 64 years and mentally aware) was selected to provide general household information. Such information included the identity of household members in terms of age, gender, occupation etc. and the general socioeconomic indicators such as property/assets owned, types of income generating activities, expenditure etc.

Out of all the members of the household, one of them aged 15 - 64 years was selected randomly to provide information on their own alcohol use or abstinence and related risk and/or preventive and impacts. The only exclusion criteria were mental or physical illness that would render such respondent unreliable or distressed from the interview.

2.1.6. Data Collection Methods

Face to face interviews with the aid of questionnaires was conducted among the household level respondents to identify the prevalence of alcohol use and abuse and quantifiable impacts (e.g., deaths) and identify perceptions on risk and protective factors.

2.1.7. Methods of Data Analysis

Quantitative data were summarized, organized and presented through graphics including pie-charts, histograms and frequency tables through SPSS.

2.1.8. Expected Outputs, Outcomes and Impact

The major output of the study is a report detailing:

1. Key evidence in terms of findings, conclusions, recommendations and other relevant information emerging,
2. A review on how alcohol abuse has been mainstreamed in the public policy and make proposals for further mainstreaming,
3. Specific recommendations feasible interventions relevant for internal and external mainstreaming of alcohol abuse which may be translated into programmes.

The major expected outcome is improved policy formulation, planning and programming towards evidence-based alcohol abuse interventions in Central Province and in Kenya. A related outcome is improved networking among various actors involved.

The major expected impact is ensuring that alcohol abuse does not compromise developmental objectives. This will be achieved by ensuring that abuse is mitigated among all but particularly among the youth.

CHAPTER THREE: COMMUNITY VIEWS ON ALCOHOL USE

3.1. MAGNITUDE OF ALCOHOL USAGE

The magnitude of alcohol use was examined using four items – level of use, trend availability, affordability and accessibility. The results of the survey indicated a very strong consensus in the community that alcohol use is a major problem in the Province owing to its high level of usage, increasing trend and ease of availability, affordability and accessibility.

3.1.1. Level of Alcohol Usage

The level of usage was examined with the question: *How would you describe alcohol consumption in this area?* The suggested responses were “very high”, “high”, “moderate”, “low”, “very low” and “don’t know”. About two-thirds (exact, 65.4%) of community members reported that alcohol consumption in their areas was high or very high (Table 3). Across the districts the level of usage, based on the response “high” and “very high”, ranged from a low of 51.5% for Nyandarua to a high of 75.4% for Kirinyaga. The perceived high level of usage vindicates the current public and policy makers’ concern of high alcohol use in the province. Only a paltry 0.3% of the population did not know the level of alcohol use in their areas reflecting both awareness of, and exposure to, the behavior. This implies that some people will be attracted to alcohol through the need for experimentation or peer pressure while others will be dissuaded from it by observing the harmful effects it may have on some people. This presents an opportunity for agencies interested in prevention of alcohol abuse as there are enough cases to learn from.

Table 3: Community Perception of level of Alcohol usage by Districts

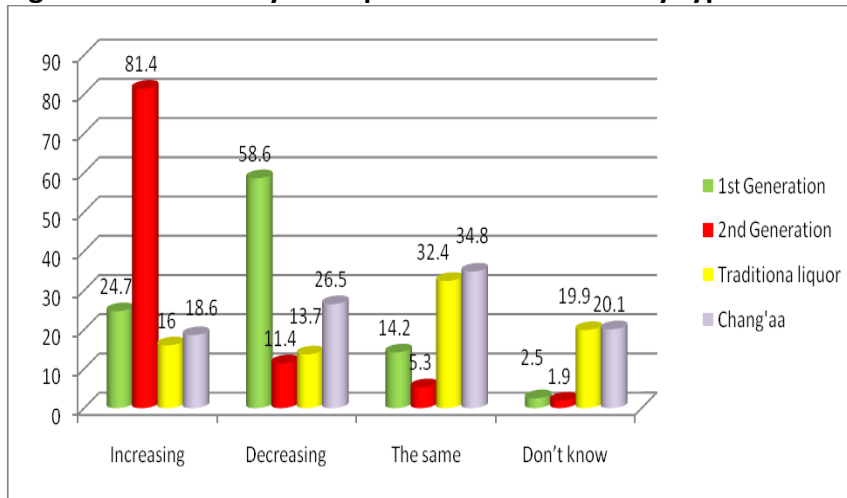
District	Very high	High	Moderate	Low	Very low	Don't know
Province	40.0%	25.4%	21.6%	8.2%	4.5%	0.3%
Kirinyaga	50.4%	25.0%	12.7%	4.1%	7.8%	0.0%
Murang'a	32.8%	41.4%	17.6%	4.2%	3.9%	0.0%
Nyeri	47.9%	24.3%	22.0%	5.2%	0.6%	0.0%
Kiambu	44.7%	21.8%	22.3%	8.3%	2.9%	0.0%
Maragua	38.9%	22.0%	22.5%	14.4%	2.0%	0.2%
Thika	38.0%	15.8%	22.7%	14.5%	8.4%	0.5%
Nyandarua	23.8%	27.7%	32.8%	8.1%	6.4%	1.2%

3.1.2. Trend of Alcohol Usage

The trend of alcohol usage was examined by asking respondents their views on whether the alcohol usage, disaggregating for the first generation, second generation, traditional liquor and chang’aa, was increasing, decreasing or constant in their own areas. A significant majority of 81.4% felt that the second generation was increasing compared to 11.4% and 5.3% who felt it was decreasing or constant (Figure 1). Over half (58.6%) of the respondents felt that the first generation alcohol was decreasing. More people felt that traditional liquor and chang’aa usage was more of constant than increasing or decreasing. This indicates that the main competition is between the first and second generation types of alcohol, with the newly introduced second generation eating into the market of the traditional first generation alcohol.

The results also showed that more people did not know about the trend of traditional liquor and chang’aa compared to the first and second generation types reflecting, partly, their actual infrequency or lack of knowledge which is possible because their illegality means they are processed, marketed and consumed with some secrecy.

Figure 1: Community Perception on alcohol use by type



Tables 24 – 27 (in appendix) show the community perceived trend of different types of alcohol across the seven districts⁴. In all the districts the population agreed that the second generation alcohol was increasing in their areas, ranging from a low of 55.4% for Thika to a high of 92.8%

⁴ Whereas many findings can be derived from the tables in this section, we only report those that we deem most significant.

for Muranga. Thika had the highest proportion of people (33.9%) who felt that the use of *chang'aa* was increasing, which seems to imply that where the second generation alcohol has not taken stronghold then the equally potent *chang'aa* will take its place. Across the districts, another important finding is the large number of people in Nyandarua who didn't know the trend in the usage of traditional liquor (73.7%) and *chang'aa* (70.6%). Nyandarua also had the highest of those who didn't know the trend of first generation alcohol use. This raises the question whether the lack of knowledge is true – meaning that, for instance *chang'aa* and traditional liquor are infrequent, or whether it is fear of law.

3.1.3. Availability, Affordability and Accessibility of Alcohol

The survey showed that the second generation alcohol was the most available, affordable and accessible type of alcohol in the province (Figures 2, 3 and 4). Nearly 90% of the respondents reported that this type of alcohol was available (both easily available and moderately available), 91.2% felt it was affordable (both very affordable and affordable) and two-thirds felt that it was accessible (both very many and many selling places). Only a paltry 2.8% reported lack of knowledge of its availability. On the other hand, *chang'aa* and traditional liquor were reported to be the least available and accessible types of alcohol. Nonetheless, it is an important note that one-quarter of the respondents reported knowledge of *chang'aa* selling places, despite its illegal status at the time of the survey. This in part reflects ineffective legal enforcement against the brew.

Figure 2: Alcohol availability by type

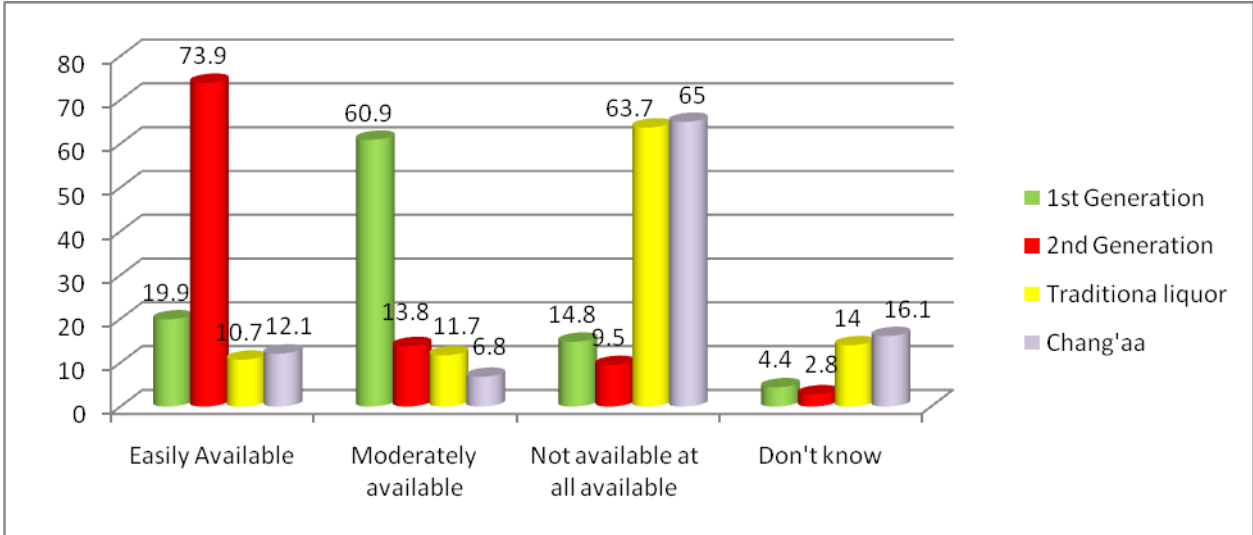


Figure 3: Alcohol affordability by type

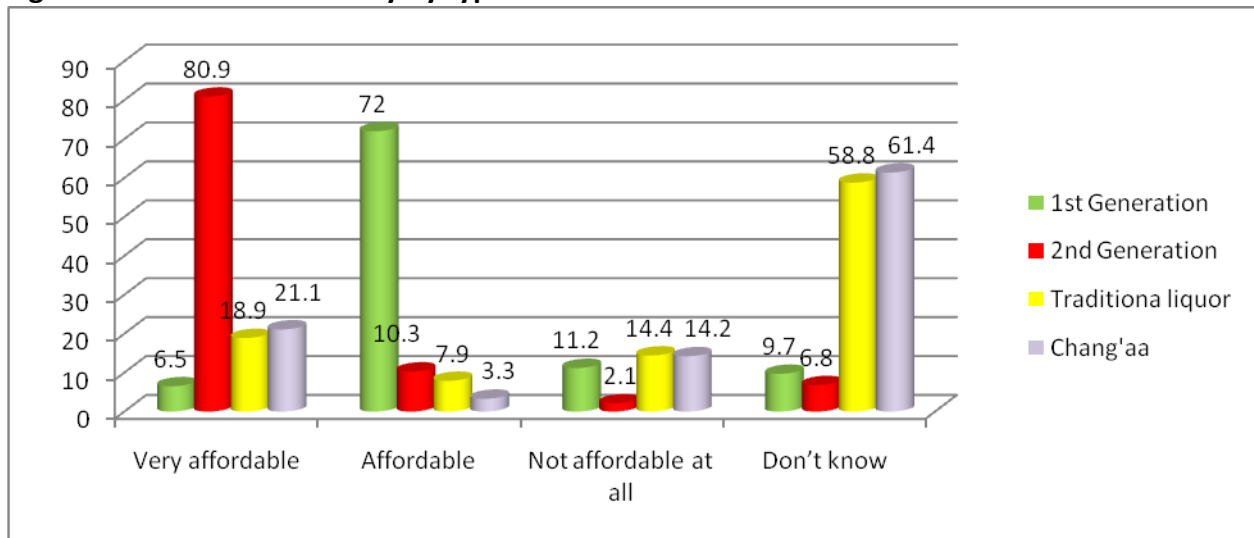
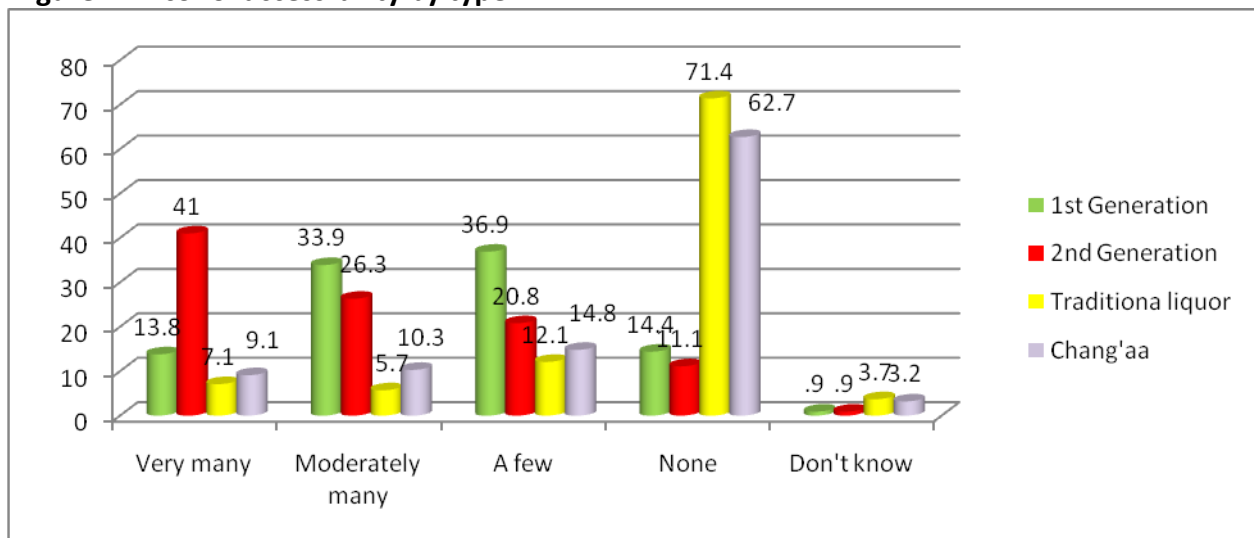


Figure 4: Alcohol accessibility by type



Tables 28 – 39 (see Appendix 3) show community perceptions about alcohol availability, affordability and accessibility across the districts. The survey showed that it was only in Thika⁵ and Kirinyaga where the first and the second generation types of alcohol were perceived to be less available, affordable and accessible. On the other hand, these two districts were reported to have high availability, affordability and accessibility of traditional liquor (mainly in Kirinyaga)

⁵ Note that although Thika district holds Thika town where the first generation alcohol would be readily available and affordable, the district has some very remote and sparsely areas (hence very few shopping centers) especially Kakuzi where there are large agricultural plantations.

and chang'aa (mainly in Thika). The higher rate of chang'aa in Thika is to a large extent explained by the fact that the area is home to large slum areas (i.e., *Kiandutu* and *Kiangombe*)⁶ which always represent a challenge for law enforcement.

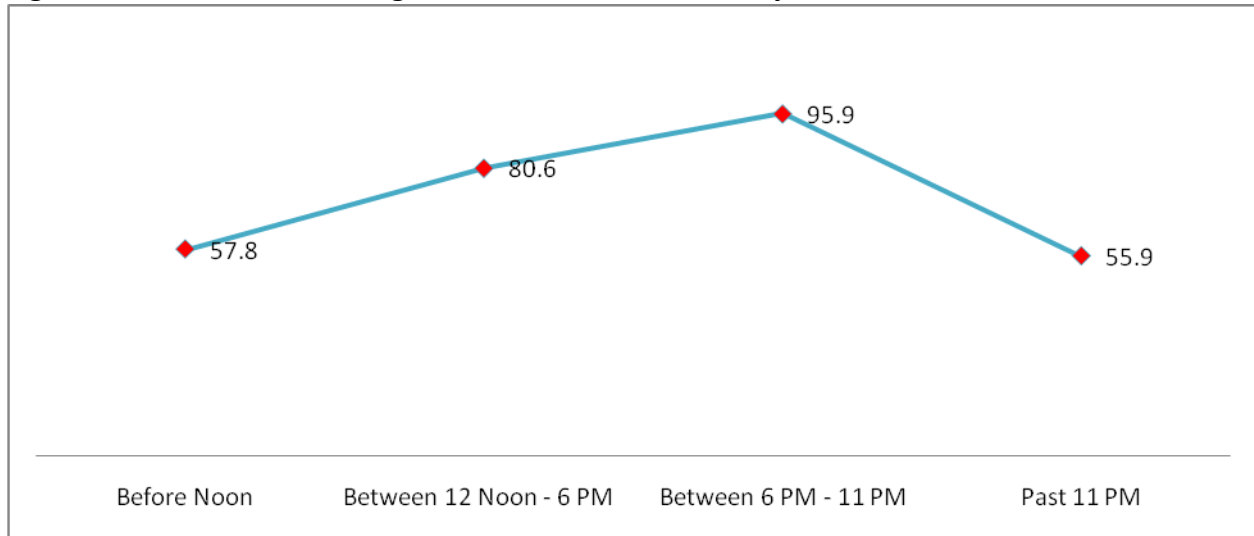
3.1.4. Alcohol Drinking Times

The survey also examined community views on alcohol drinking periods of the day in their own areas using the question: *Are you like to see people drinking in this area in the following hours: "before noon", "12.00 noon to 12.00 pm", "12.00 pm – 11.00 pm" and "Past 11.00 pm"*. The expected responses were "yes", "no" and "don't know". Alcohol drinking times is an important indicator of the alcohol problem since usage during day time/working hours would generally occur at the expense of engaging in social and/or economic productive activity. Likewise, late night drinking compromises sleep or rest time meaning that the individual may not be very productive in the following day.

It is therefore a serious indictment of the Province that nearly 60% of the respondents reported that in their areas there is alcohol consumption before noon, apparently the most productive hours of the day (Figure 5). A significant majority also reported occurrence of alcohol consumption between 12.00 noon and 6.00 pm (80.6%) and past 11 pm (55.9%). These results while showing the magnitude of the problem are also an indictment of law enforcement since bars – where most of the drinking occurs – are generally and especially in rural areas prohibited from operating before noon, 2.00 pm to 5.00 pm and past 11.00 pm.

⁶ Although the two slum areas were selected as part of the Enumeration Areas for the survey, the data collectors were unable to access them for security reasons. Certainly an investigation touching on the illicit chang'aa would not go well with its marketers and consumers.

Figure 5: Incidence of drinking at different times of the day



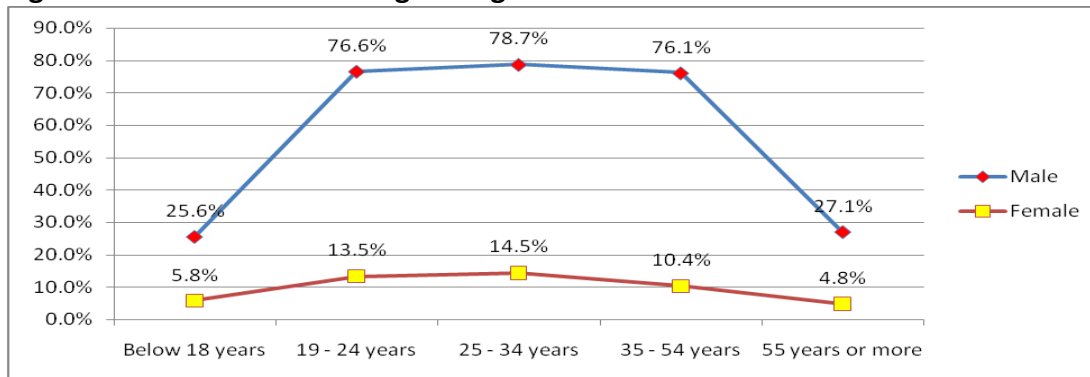
Across the districts, alcohol consumption in the morning hours was reported by over half of the respondents in all districts except Nyandarua with a low of 42.6% (Tables 41 -44 in Appendix 3). In all the districts, over 70% of the respondents agreed that alcohol was consumed in the afternoon hours while over 90% agreed it was consumed in the evening hours. Alcohol consumption in the late hours of the night was reported by over half of the respondents in all districts except Nyandarua and Maragua.

3.1.5. Alcohol Consumption by Age and Gender Groups

The community view of the prevalence of alcohol consumption among age and gender groups was measured using the question, “how would you describe alcohol consumption among... (Males/females of various age groups) The expected responses were “very high”, “high”, “low”, and “very low”. Alcohol problem among any age and gender group would be of great concern but it is the consumption among children and the youth – the group with the greatest potential from socioeconomic productivity – that raises the most concern. The survey revealed that while there is variability in which age and gender group is affected by alcohol, each group has an issue which ultimately needs to be addressed. To begin with, a number of respondents reported “high” (combining very high and high) existence of alcohol consumption among under age – those aged under 18 years which is the minimum legal age for alcohol consumption – males (25.6%) and females (5.8%) (Figure 6). The survey revealed consensus that the most affected

are the youth of both genders. The “very high” usage was reported for ages 25-34 years (males, 78.7%, females, 14.5%) and 19 – 24 years (male, 76.6%, female, 13.5%). Equally significant usage was reported for ages 35-54 years (male, 76.1%, female, 10.4%) and 55 years and above (male, 27.1%, female, 4.8%).

Figure 6: Alcohol use across age and gender



Tables 44 – 53 (see Appendix 4) show the alcohol consumption across age and gender groups and across the districts. Considering the underage (under 18 years), the “very high” use was reported for males in Maragua (15.3%) and Kirinyaga (13.3%) and for females in Kirinyaga (6.8%). Generally the regional distribution indicated exceptionally higher usage among males in Nyeri, Kirinyaga and Muranga and among females in Kirinyaga and Thika. To a large extent only Nyeri indicated low usage among women.

3.2. EXPLANATORY FACTORS FOR ALCOHOL USE

3.2.1. Risk Factors for Alcohol Use

Alcohol consumption – including problem drinking – is generally contributed by factors in the social environment which may include situational as well as interpersonal factors. The risk factors were examined through the question: *Thinking about alcohol consumption in this area, what are the main factors that make people use alcohol?* Several alternatives were provided to select from. Respondents generally reported higher rates of risk mainly for situational than interpersonal factors with idleness being the highly rated factor (76.4%) (Figure 7). The high rating of idleness is consistent with the general view in the province that the youth usually spend much time idling in shopping centers. Other high risk factors were peer pressure (64.8%), unemployment (61.2%) and work related stress (56.3%). Poverty, however, was cited as a risk factor by less than half (49.2%) of the respondents despite a general view that poverty has been increasing in recent years as alcohol consumption also increased. Relatively lower rates of risk were reported for interpersonal factors like marital problems (49.3%) and problems with parents (28.6%).

Figure 7: Risk Factors for alcohol use

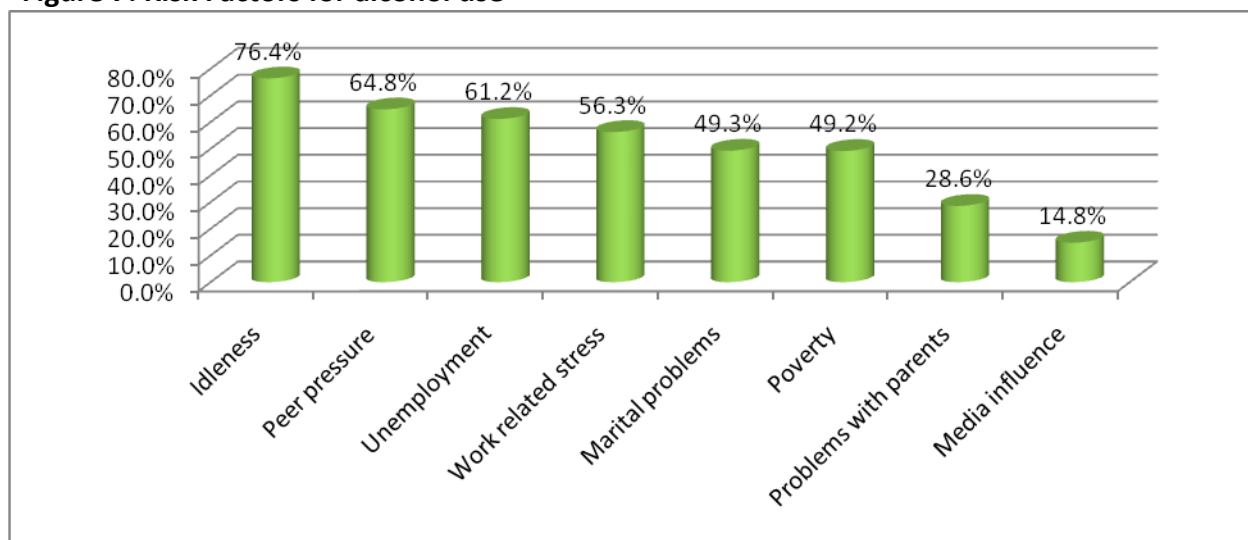


Table 4 shows the distribution of the risk factors across the districts with idleness, unemployment and work related stress reported by over half of the respondents in all the districts, which was also the case with peer pressure with the exception of Nyandarua. Arising from table 4, other important findings are the high reporting in Kiambu of marital problems and problems with parents, in Kirinyaga of marital problems and poverty, and in Nyeri of poverty, marital problems and media influence.

Table 4: Alcohol Risk Factors across Districts

	Kiambu	Kirinyaga	Maragua	Muranga	Nyandarua	Nyeri	Thika
Idleness	83.3%	73.3%	73.9%	79.8%	67.6%	79.2%	71.9%
Peer pressure	79.3%	76.6%	55.3%	51.2%	48.8%	77.7%	60.6%
Unemployment	54.6%	66.4%	66.7%	67.3%	52.5%	58.5%	61.2%
Work related stress	69.2%	58.3%	45.3%	51.1%	55.4%	58.0%	56.8%
Marital problems	62.2%	68.2%	40.2%	41.4%	39.0%	49.2%	41.3%
Poverty	47.2%	59.5%	45.9%	46.9%	38.7%	55.2%	48.5%
Problems with parents	46.6%	41.5%	24.7%	18.0%	19.0%	29.7%	22.3%
Media influence	19.3%	18.9%	13.9%	10.0%	9.6%	22.0%	7.5%

3.2.2. Reasons for Alcohol Use

Alcohol consumption, like any other cultural practice, is surrounded by popular beliefs. Respondents largely confirmed these beliefs with significant number reporting that in their areas alcohol is believed to make people feel good/ have fun (85.4%), relax (77.9%), cope with

stress (77.5%), interact with others (74.6%), and “kill time” (66.6%). Fewer others reported that alcohol makes people relate easily with the opposite sex (48.7%), feel important (44.3%), think and/or “work smart” (19.8%), get business deals (16.9%) and has health benefits like helping in case of stomach problems (13.9%). Disaggregating for districts large numbers of people associated alcohol use with “having fun”, “relaxation”, “coping with stress”, “aiding interactions” and “killing time” (Table 5). Some of the area unique findings include the higher ranking of association between alcohol and “making of people relate easily with opposite sex” in Kiambu, Kirinyaga and Nyeri , “health benefits” in Nyeri and “business deals” in Muranga.

Table 5: Reasons for Alcohol use across the districts

	Province	Kiambu	Kirinyaga	Maragua	Muranga	Nyandarua	Nyeri	Thika
Makes people have fun	85.4%	91.7%	88.5%	82.7%	94.1%	79.6%	92.5%	66.3%
Makes people relax	77.9%	83.0%	83.9%	65.6%	86.5%	69.6%	86.8%	67.5%
Makes people cope with stress	77.5%	83.2%	78.3%	71.0%	82.4%	75.1%	82.7%	68.8%
Makes people interact	74.6%	87.1%	81.2%	66.8%	85.0%	65.8%	78.8%	54.1%
Helps kill time	66.6%	85.6%	85.2%	60.5%	79.7%	73.9%	86.3%	66.6%
Makes people relate with opposite sex	48.7%	61.3%	58.5%	34.4%	39.2%	49.0%	55.6%	40.1%
Makes people feel important	44.3%	53.4%	54.8%	34.8%	39.2%	31.3%	62.3%	29.1%
Makes people work and think smart	19.8%	29.5%	16.6%	18.6%	27.7%	9.2%	24.8%	11.6%
Helps people get business deals	16.9%	17.6%	12.4%	13.2%	32.7%	7.7%	24.7%	9.8%
Has health benefit	13.9%	18.1%	11.6%	11.2%	6.9%	17.4%	20.7%	10.9%

3.2.3. Attitudes about Alcohol Use, Abstinence, Work and Education

Attitudes about alcohol use, abstinence, work and education in the community were examined with the question: *To what extent to you agree or disagree with the statement that..... (e.g., men who use alcohol are considered morally weak in this area)? Respondents were expected to “strongly agree”, “agree”, “disagree” or “strongly disagree”* Based on the combined “strongly agree”, “agree” responses, the survey revealed significant disapproval of alcohol use in the community, meaning that those who abuse alcohol do so against the general community expectations. Over three-quarters of the respondents reported that men who use alcohol are considered morally weak while similar opinion was expressed for women who use alcohol by 81.3% (Table 6). Correspondingly, the number of community members who reported that in

their areas men and women who abstain from alcohol are considered to be of weak personality was relatively small (11.6% and 6.9% respectively).

However, it should be noted that respondents who reported acceptance or tolerance of alcohol use were significant in number considering the havoc that alcohol abuse (especially of the second generation that was reported to be most widespread) could lead to. In other words, the 24.5 % who reported that men who use alcohol are not considered morally weak or deviants and the 18.9% who reported the same for women constitute a significant proportion that further indicates the problem of alcohol use in the province. Disaggregating by districts, an important observation is the higher “rejection” of both male and female abstainers in Muranga.

The survey further revealed extensive consensus in the province that hard work and education are still highly valued demonstrating that those who abuse alcohol at the expense of work and education, especially of their children, do so against the general community values. It is noteworthy that all the districts were comparable in their opinion about hard work and education.

Table 6: Attitudes towards alcohol users and abstainers, work and education

	Province	Kiambu	Kirinyaga	Maragua	Muranga	Nyandarua	Nyeri	Thika
Men who use alcohol are considered morally weak/deviants	75.5%	59.3%	74.4%	85.4%	82.7%	75.8%	80.3%	69.7%
Women who use alcohol are considered morally weak/deviants	81.3%	73.2%	86.1%	81.9%	90.2%	80.3%	82.9%	72.3%
Men who abstain from alcohol are considered weak in personality	11.6%	7.8%	9.6%	5.8%	20.6%	10.2%	15.1%	13.1%
Women who abstain from alcohol are considered weak in personality	6.9%	3.4%	4.5%	5.2%	19.8%	3.7%	4.4%	8.8%
Hard work is still highly valued in the community	94.2%	91.8%	90.5%	94.8%	98.7%	95.4%	95.6%	93.5%
Education is still highly valued in the community	92.5%	87.1%	88.0%	96.4%	99.5%	89.4%	94.9%	92.2%

3.3. EFFECTS OF ALCOHOL USE

3.3.1. Individual and Family Level Effects

The effects of alcohol were examined in the contexts of the individual, family and community. At the individual and family levels, the effects were examined using the question: *Kindly tell me whether you know an alcohol user who had the following experience... (e.g., died)? The expected*

responses were “yes” and “no”. Significant community members reported knowledge of alcohol users who died from alcohol related illnesses (70.0%), motor vehicle accidents (62.6%), drowning (41.6%) and suicide (46.8%) (Table 7). At the families from, violence against spouse, children, parents and grandparents were reported by large number of the respondents as was the illegal selling of property, divorce/separation and having multiple partners. Across the districts, some of the important findings are the reportage of deaths (both involuntary and suicide) in Muranga and to some extent Nyeri; and the lower reportage of having multiple sex partners in Maragua.

Table 7: Individual and family-level effects of alcohol use by districts

	Province	Kiambu	Kirinyaga	Maragua	Muranga	Nyandarua	Nyeri	Thika
<i>Death</i>								
Died due to alcohol related sickness	70.0%	75.1%	78.7%	60.2%	73.8%	70.0%	72.1%	58.9%
Died due to alcohol related motor vehicle accident	62.6%	63.0%	64.4	50.1%	76.7%	63.5%	58.8%	62.7%
Died due to alcohol related drowning	41.6%	45.4%	29.1%	33.8%	56.2%	43.1%	42.6%	44.0%
<i>Suicide</i>								
Committed suicide (under the influence of alcohol or not)	46.8%	44.7%	41.0%	40.6%	60.9%	44.7%	51.7%	45.0%
Attempted suicide	47.6%	41.2%	41.7%	38.0%	66.3%	48.0%	54.0%	45.1%
Threatened to commit suicide	49.0%	43.2%	46.0%	41.1%	59.4%	48.1%	57.0%	48.5%
<i>Domestic violence and other crimes</i>								
Batters spouse	82.0%	82.5%	86.8%	71.3%	88.9%	85.2%	88.1%	69.8%
Batters own children	72.1%	69.2%	79.3%	68.0%	80.2%	74.3%	69.7%	63.2%
Threatened to harm parents	56.9%	59.4%	55.8%	60.2%	63.6%	47.9%	57.9%	52.5%
Actually harmed parents	48.1%	50.4%	45.9%	46.7%	51.4%	42.3%	53.9%	45.9%
Batters grandparents or other relatives	42.2%	39.7%	44.7%	38.2%	48.9%	40.1%	44.0%	37.4%
Sold/sells family property without due consultation with family members	80.3%	79.6%	86.7%	75.1%	79.2%	80.0%	86.1%	73.2%
Raped or was alleged to have raped someone	31.3%	29.1%	39.5%	34.7%	32.2%	23.7%	26.2%	32.6%
<i>Marital problems</i>								
Separated or divorced	81.9%	82.9%	88.5%	76.8%	83.5%	81.1%	88.2%	70.0%
Has/had multiple partners	65.05%	77.9%	72.0%	46.3%	61.8%	63.8%	71.9%	60.1%

3.3.2. Community Levels Effects

Community level effects were examined with the question: *To what extent to you agree or disagree with the following statement about alcohol use in this area..... (e.g., alcohol use has led*

to low school enrolment)? Respondents were expected to “strongly agree”, “agree”, “disagree” or “strongly disagree” Based on the combined “strongly agree”, “agree” responses, the survey revealed considerable consensus that alcohol use had had major adverse effects on the community. In the education sector, significant numbers reported that alcohol consumption has contributed to low school enrolment (42.6%), high school dropout (44.6%) poor results in national examinations (44.0%) (Table 8). However, the greatest consensus was in alcohol effects in employability, attendance in places of worship, marital breakdown, reduced interest in sexual activity among married couples and infertility. An important emphasis is that nearly 80% of the respondents reported that alcohol consumption had made young people too weak to be employable or to engage in productive activities. The high proportions reporting on reduced sexual activity and infertility also need emphasis since they support the many demonstrations held in various parts of Central Province by women claiming that their spouses and children are no longer sexually functional. Across the districts, a unique phenomenon is the higher reportage in Nyeri on alcohol effects in the education sector.

Table 8: Community Level Effects of Alcohol Use by Districts

	Province	Kiambu	Kirinyaga	Maragua	Muranga	Nyandarua	Nyeri	Thika
<i>Effects on education</i>								
Low school enrolment	42.6%	41.7%	43.4%	44.1	35.9%	39.6%	51.2%	40.1%
High school dropout	44.6%	45.9%	48.5%	45.7%	36.7%	37.6%	53.9%	41.5%
Poor educational achievement (results)	44.0%	49.3%	51.9%	42.8%	39.7%	26.5%	51.4%	42.5%
<i>Effects on politics</i>								
Low interest in voting	31.9%	27.2%	39.6%	31.1%	30.3%	16.2%	40.0%	36.4%
Low interest discussing political issues affecting people	31.4%	25.9%	39.0%	29.0%	28.5%	17.1%	38.8%	36.3%
<i>Effects on attendance in places of worship</i>								
Low attendance in places of worship	75.5%	80.3%	72.7%	77.6%	80.8%	64.1%	81.6%	70.0%
<i>Effects on employability</i>								
Too weak to work or to be employable	79.1%	79.5%	79.7%	78.5%	87.7%	71.0%	86.6%	69.0%
<i>Effects on the family</i>								
Marital breakdown	86.6%	91.4%	87.9%	80.0%	90.8%	76.9%	94.5%	83.5%
Reduced interest in sexual activity among married couples	76.8%	69.6%	76.0%	71.4%	78.7%	63.9%	91.0%	73.1%
Infertility	67.4%	71.4%	66.3%	63.4%	80.6%	55.0%	69.7%	64.6%

3.4. PROTECTIVE FACTORS AGAINST ALCOHOL USE

Protective factors against alcohol use were examined at the individual, family and societal levels with the question: *What are the reasons that make some people not to use alcohol in this area? Respondents were given several variables for which they were to choose between “yes” and “no” on whether a given variable was a protective factor in their area.* Based on the affirmative response, the survey showed that individual level factors were the more significant in protecting against alcohol use (Table 9). The reportage of the individual-level protective factors ranged from a low of 38.5% for medical reasons/illness to a high of 93.6% for personal principles. Religious values and people’s own bad experience with alcohol were found to be important protective factors. At the family level, 30.8% reported parental restrictions as a protective factor which emphasis the positive role such restrictions can help, especially among young and parent-dependent persons. At the societal level, significant numbers reported positive peer pressure, work and school commitment, and fear of stigmatization as protective factors. This means that any preventive initiatives should take these factors as entry points.

Table 9: Protective Factors against Alcohol Use by Districts

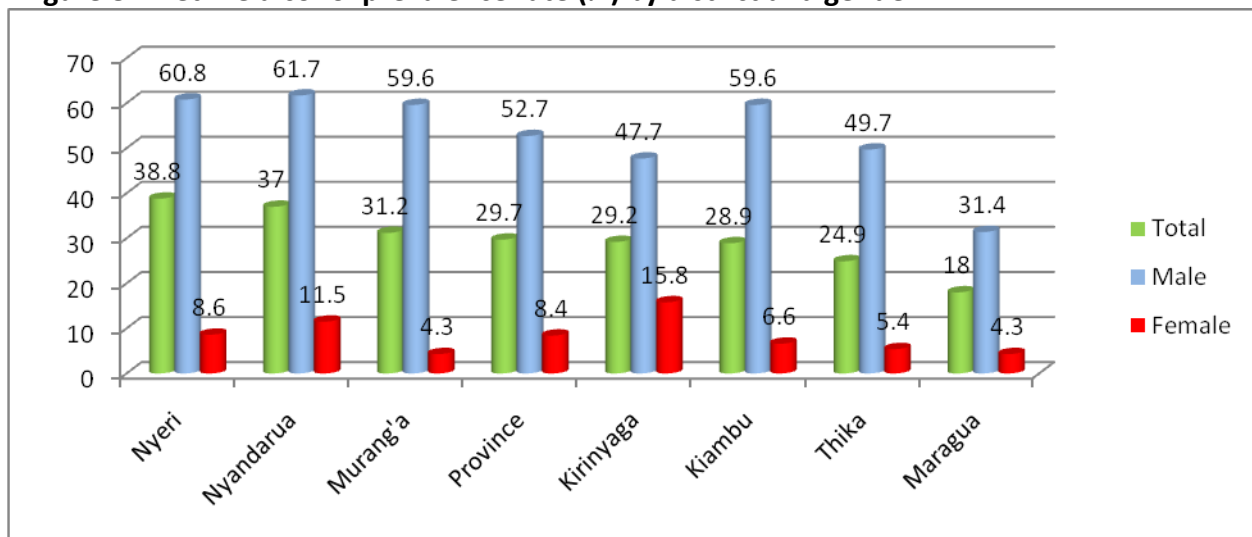
	Province	Kiambu	Kirinyaga	Maragua	Muranga	Nyandarua	Nyeri	Thika
Individual factors								
Personal principles	93.6%	95.4%	93.0%	92.0%	94.8%	93.4%	94.5%	91.7%
Personal decision to lead alcohol free life	91.5%	95.6%	93.6%	79.6%	92.6%	91.4%	94.3%	93.5%
Religious values	77.6%	81.0%	80.7%	68.6%	80.6%	80.5%	78.4%	72.9%
Awareness of health hazards	67.2%	74.2%	69.5%	52.2%	74.0%	73.3%	59.1%	70.3%
Peoples own past bad experience with alcohol	53.4%	72.7%	60.7%	35.8%	43.4%	54.1%	55.8%	50.3%
Medical reasons/illness	38.4%	49.2%	47.8%	35.8%	38.8%	21.2%	42.3%	30.5%
Societal factors								
Positive peer influence/friends who do not drink	42.4%	40.5%	53.6%	33.9%	34.8%	35.5%	53.1%	41.9%
Work or School commitment	36.7%	53.1%	39.7%	29.9%	36.3%	24.9%	42.7%	28.5%
Fear of stigmatization	23.3%	21.7%	28.6%	22.9%	19.7%	21.8%	29.2%	17.2%
Alcohol is expensive	13.3%	21.6%	8.3%	16.0%	7.4%	8.7%	18.1%	13.0%
Alcohol not available	6.3%	7.6%	3.1%	12.8%	5.2%	2.7%	7.4%	4.9%
Familiar factors								
Parental restrictions	30.8%	39.3%	36.3%	17.9%	30.8%	20.8%	40.5%	27.8%

CHAPTER FOUR: SELF-REPORTED ALCOHOL USE

4.1. LIFETIME PREVALENCE

Of the community members surveyed, 29.6% had used alcohol on at least one occasion in their lifetimes (Figure 8)⁷. The lifetime prevalence rate was 52.7% among males and 8.4% among females. Compared to the 2007 national alcohol use survey (NACADAA 2007), the above Central Province overall lifetime prevalence rate is lower than the national rate of 39% (i.e., among 15 – 65 year olds). In addition, while the Central Province lifetime prevalence rate among males is comparable to the national rate of 53.2%, the rate among females was considerably lower than the national rate of 25.8%.

Figure 8: Lifetime alcohol prevalence rate (%) by district and gender



Disaggregating for districts lifetime prevalence ranged from a low of 18.0% for Maragua to a high of 37.0% for Nyandarua and 38.8% for Nyeri. Among males the prevalence rate ranged from a low of 31.4% for Maragua and a high of 60.8% for Nyeri and 61.7% for Nyandarua. Among women it ranged from a low of 4.3% for each of Maragua and Murang'a and a high of 11.5% for Nyandarua and 15.8% for Kirinyaga. This data corresponds partially to the community perceptions on alcohol usage in this survey which indicated high usage of alcohol in

⁷ The lifetime prevalence rate is based on responses from 2,781 respondents out of the total sample size of 3,237 – a response rate of 85.9% to the particular question.

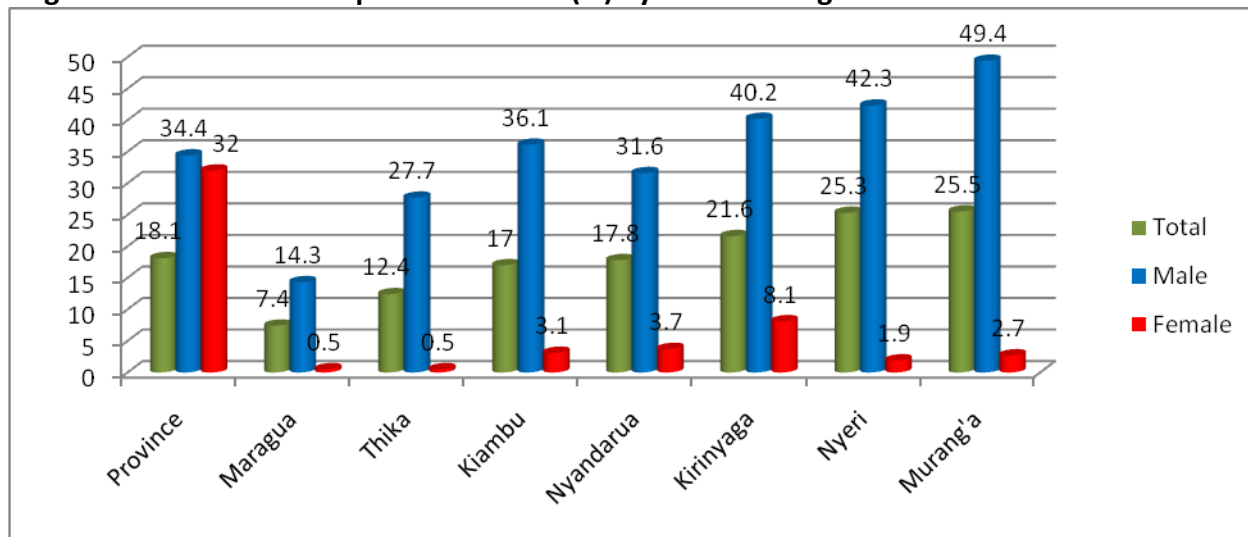
Nyeri for males and Kirinyaga for females. However, the self-reported lifetime prevalence for Nyandarua was far much higher for both males and females than the community perceptions which actually indicated that Nyandarua had the lowest usage. Furthermore, as it is shown in the next section, Nyandarua had high current prevalence of alcohol usage especially among females which indicate that the community perceptions about low usage in this district to some extent reflect a collective denial.

4.2. CURRENT USAGE

4.2.1. The Prevalence Rate (Past-30- Days)

The survey revealed that the current prevalence rate of alcohol use – measured by use in the past 30 days – was 18.1%, with male rate of 34.4% and female rate of 3.2% (Figure 9).⁸ The overall rate is comparable with the 2007 Central Province rate of 17.7% but higher than the national average rate of 14.2% (among ages 15-65 years) (NACADDA, 2007). It is noteworthy that the Central Province rate for males is much higher than the 2007 national male rate of 22.9% while the female rate is lower than the national average rate of 5.9%. This goes on to say that the Central Province’s alcohol problem is primarily a problem among males.

Figure 9: Current alcohol prevalence rate (%) by district and gender



⁸ These rates are based on the number of respondents who responded to the question of lifetime use – 2,781 (1,330 male and 1,451).

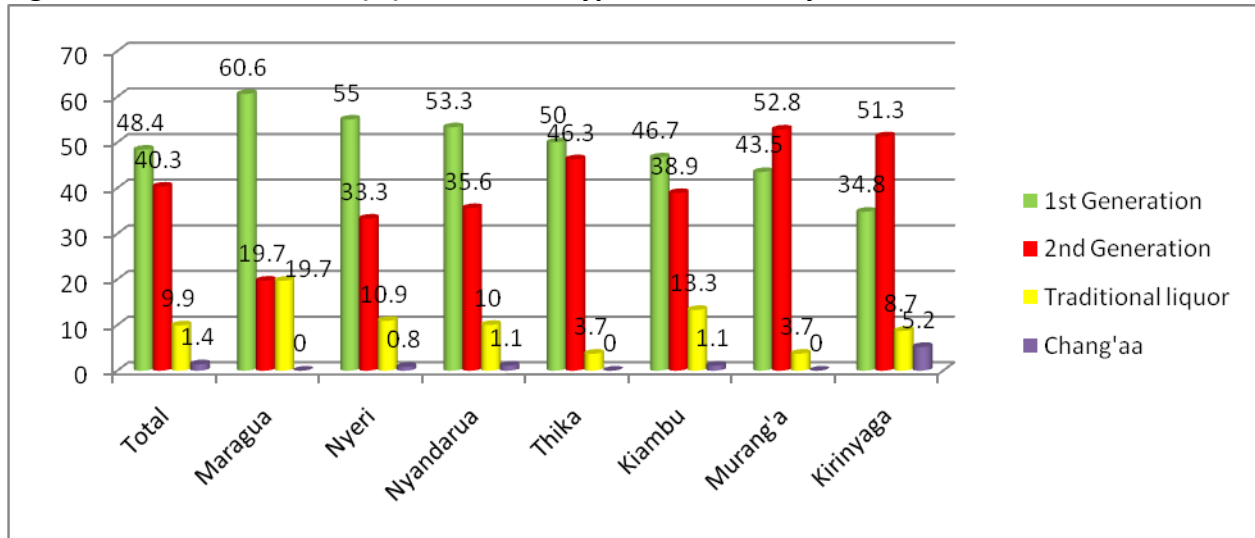
Across the districts the prevalence ranged from a low of 7.4% for Maragua and a high of 25.3% for Nyeri and 25.5% for Muranga. Among males, the prevalence rate ranged from a low of 14.3% for Maragua and a high of 49.4% for Muranga. Among women the prevalence rate ranged from a low of 0.5% for each of Maragua and Thika and a high of 3.7% for Nyandarua and 8.1% for Kirinyaga. Of significant emphasis is the higher rate for males in Muranga and for females in Nyandarua and Kirinyaga.

4.2.2. *Types of Alcohol Used*

The type of alcohol used is significant in understanding alcohol problem since there are different implications for lethality or negative effects depending on the type of alcohol consumed. In Kenya today, the second generation alcohol and chang'aa are the most lethal because of high potency and adulteration with dangerous and unhygienic substances. The high potency and adulteration of these two types is motivated by their commercialization (unlike traditional liquor that is often consumed in social functions like weddings) and little or no government regulation or self-regulation on the part of the marketers (as opposed to the first generation alcohol).

Given that only the first generation alcohol can be assumed to be of hygienic standard and moderate potency, it is a significant finding that out of the total current alcohol users (within the past 30 days) less than half (exact, 48.4%) were using the first generation alcohol as their regular drink. In contrast, a large number of the respondents were regularly consuming the second generation (40.3%) and a few others the traditional liquor (9.9%) and chang'aa (1.4%) (Figure 10).

Figure 10: Prevalence rate (%) of different types of alcohol by district



Across the districts, the usage of the first generation alcohol ranged from a low of 34.8% for Kirinyaga to a high of 60.6% for Maragua. The use of second generation alcohol ranged from a low of 19.7% for Maragua to a high of 51.3% for Kirinyaga and 52.8% for Muranga. These data indicate that areas with low prevalence of first generation will have high prevalence of the other types of alcohol.

Disaggregating for gender, the survey revealed that among men the prevalence of the first and second generations of alcohol was comparable at 45% and 43% respectively (Figure 11). Among women, majority of them (67%) consume the first generation but a significant number (25%, n = 17) also consume the second generation (Figure 12).

Figure 11: Male alcohol Prevalence by type

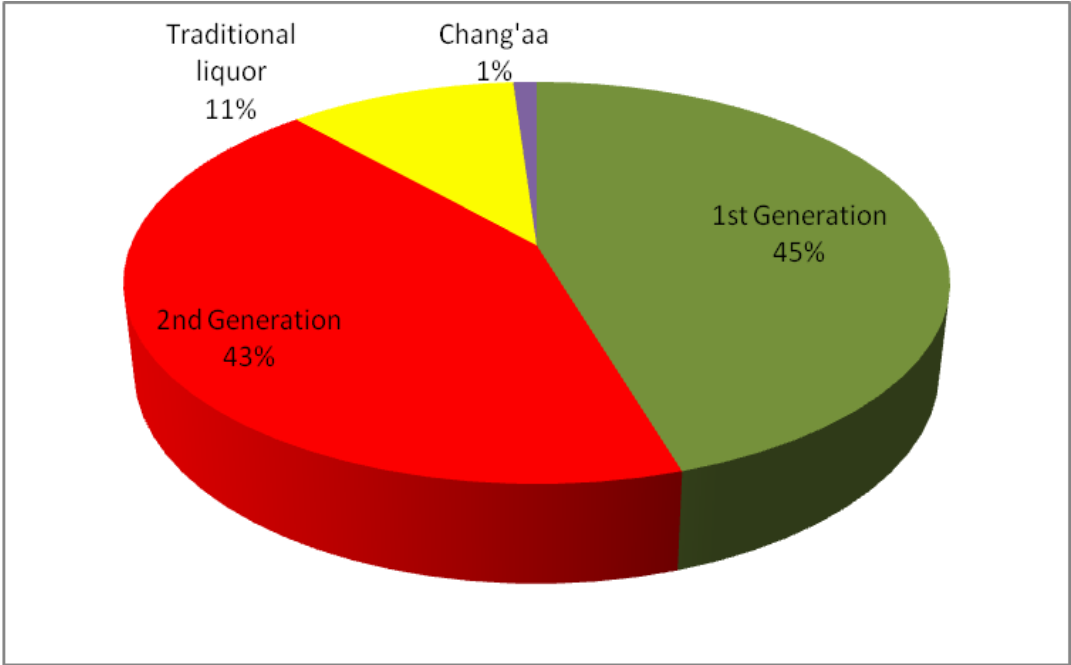
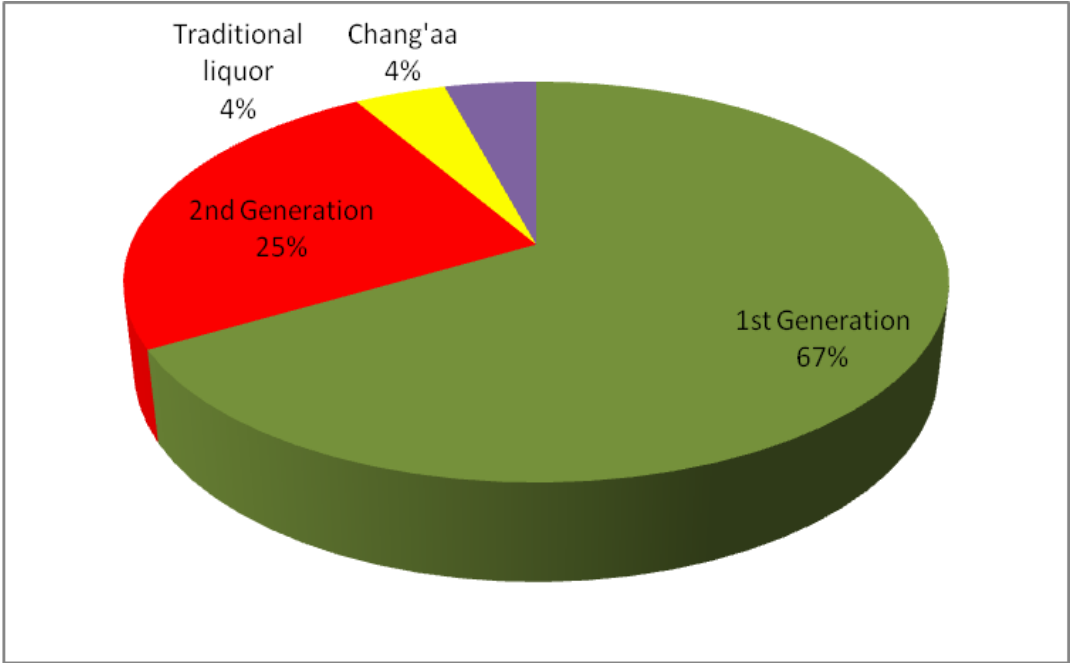


Figure 12: Female alcohol prevalence by type



Disaggregating by gender and districts, the survey revealed that men from Muranga and Kirinyaga had the highest usage of second generation alcohol (22.4% and 20.4% respectively) with those in Kirinyaga having the highest usage of chang'aa (50%) (Figure 13). Women from Kirinyaga had the highest usage of any type of alcohol including all the users of chang'aa, two-thirds of second generation users and nearly 60% of the traditional liquor users (Figure 14). An important emphasis is the Nyandarua women's usage of the second generation alcohol which was relatively higher than in the other districts except Kirinyaga.

Figure 13: Male usage of different types of alcohol

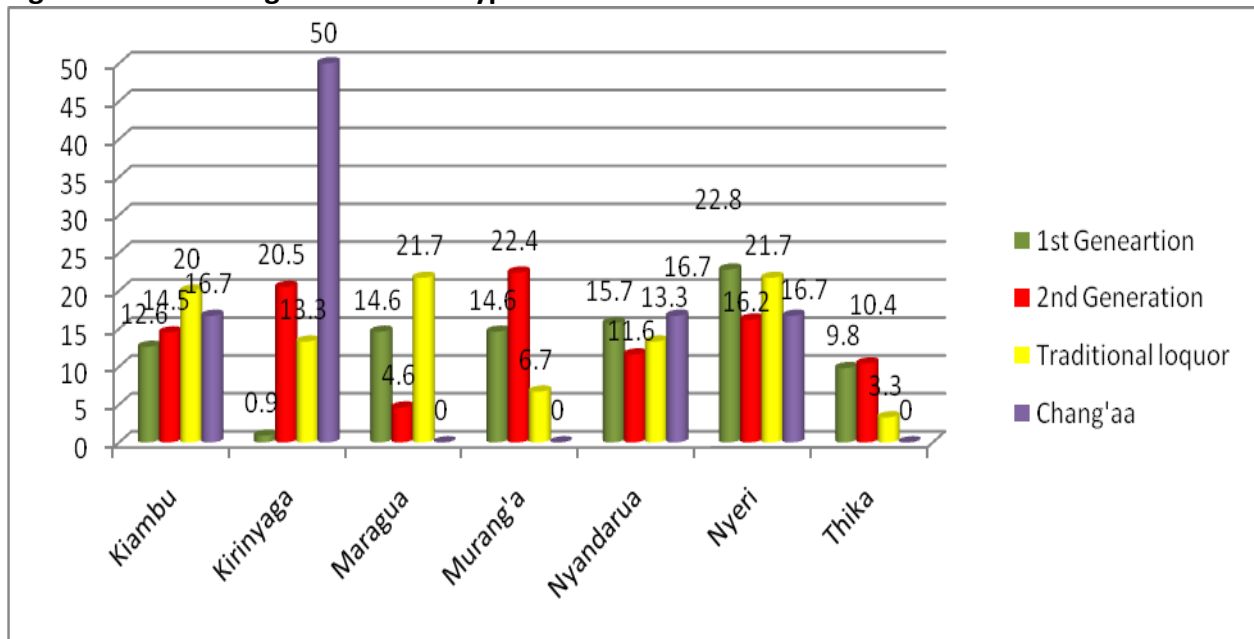
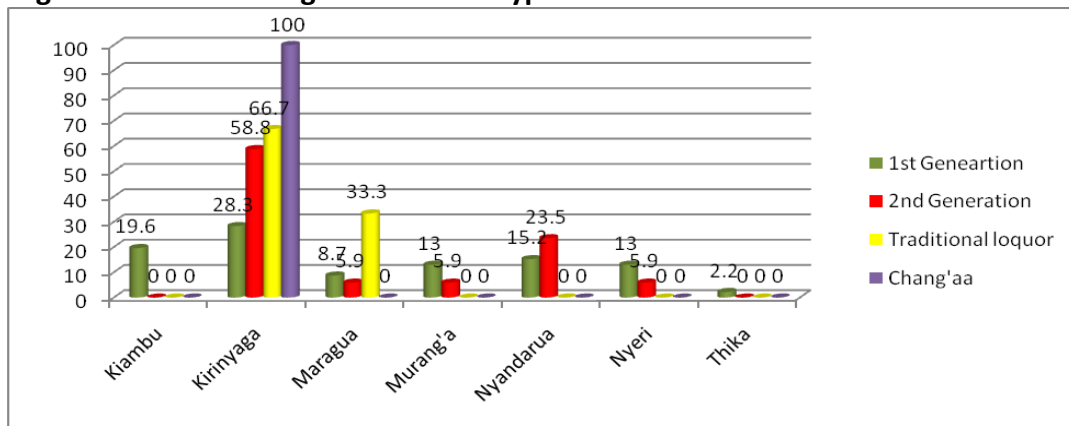


Figure 14: Female usage of different types of alcohol



4.2.3. The Prevalence Rate (Past 14 and 7 Days)

The survey also investigated the current usage in the past 14 and 7 days. This more recent timeframe, compared to past 30 days, is in this report not intended to show the prevalence rate but more so to show an element of abuse. The assumption is that the use of alcohol in the very recent times is partly an indicator of a habitual use and therefore an element of abuse. The results showed that of the people who had used alcohol in the last 14 and 7 days, about half of them had consumed the second generation alcohol (Figures 15 and 16).

Figure 15: Last 14 days prevalence rate (%) of alcohol by type

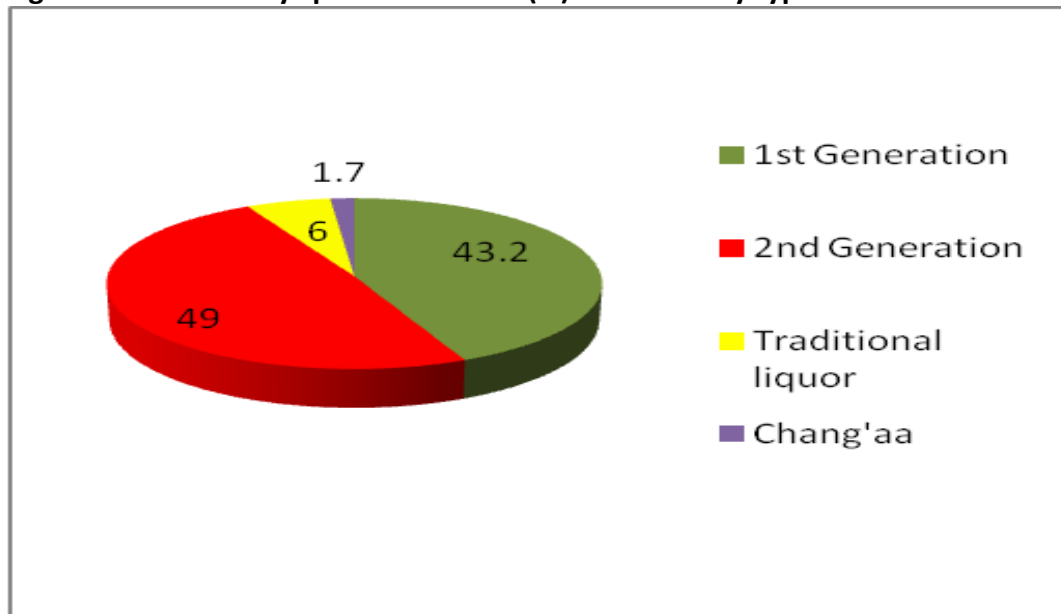
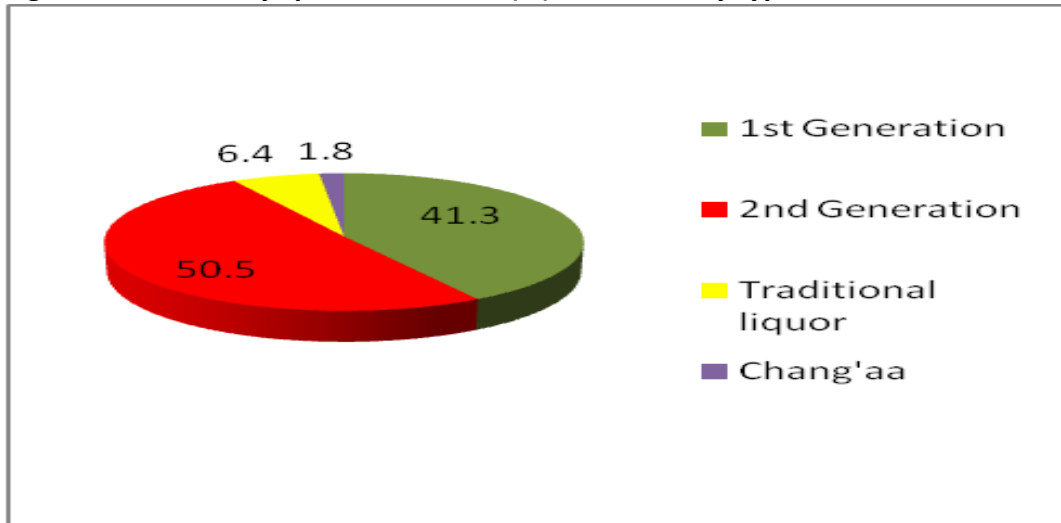


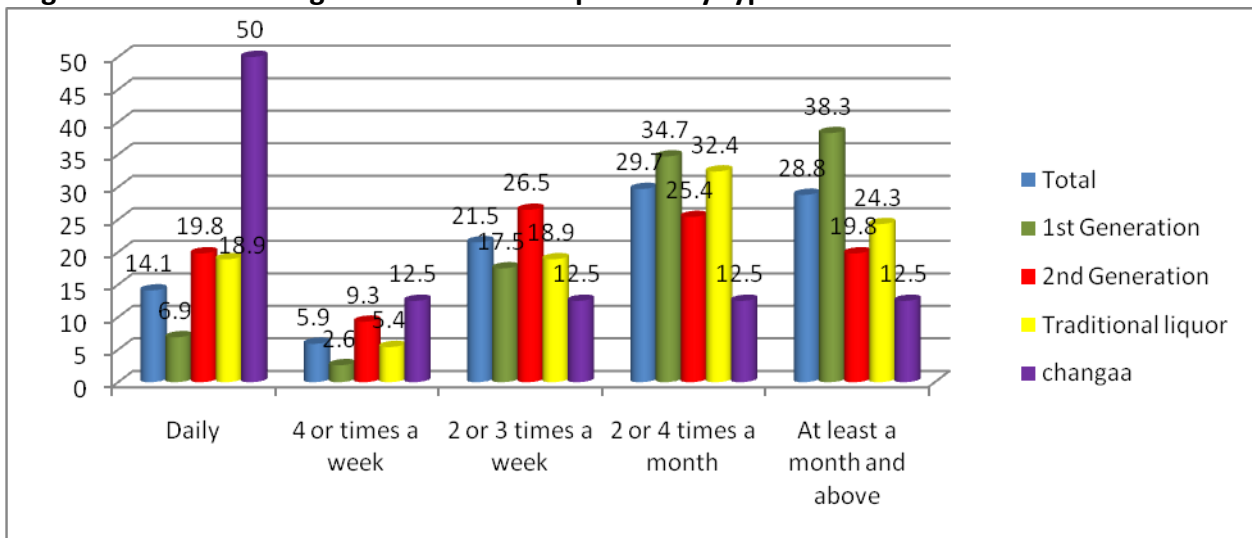
Figure 16: Last 7 days prevalence rate (%) of alcohol by type



4.2.4. Frequency of Alcohol Use

The survey revealed that out of the total of those who consume the second generation alcohol, more than half (55.6%) use it daily or up to four times a week while the remainder (44.4%) uses it between once and four times a month. Equally abused was traditional liquor with 43.2% using it daily or four times a week and chang’aa (with 6 out of 8 users consuming it daily or four times a week) (Figure 17).

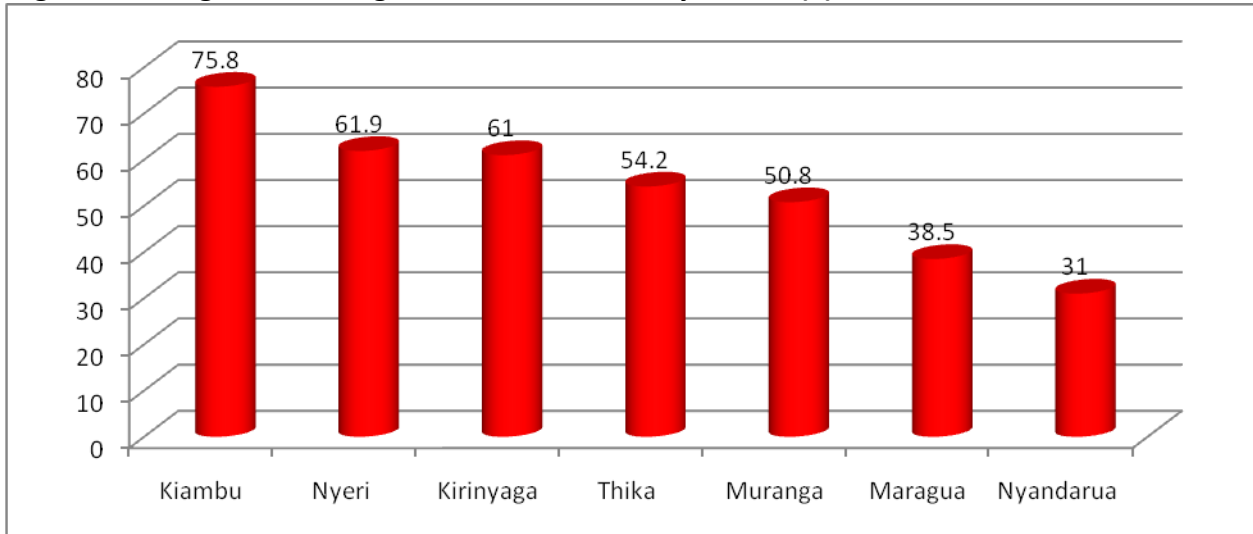
Figure 17: Alcohol usage at different time periods by type



Disaggregating by districts, the rate of abuse – measured daily use or four times in a week – for the second generation alcohol ranged from a low of 31.0% for Nyandarua and a high of 75.7%

for Kiambu (Figure 18).

Figure 18: Usage of second generation alcohol daily or four (4) times in a week



Frequency of use was also investigated by looking at the time periods of the day when alcohol was consumed. The survey revealed that a significant number of people were using alcohol before 12 noon (14.9%) and between 12 noon – 6 pm, which shows the extent of alcohol use in the Province (Figure 19). Disaggregating for type of alcohol, the usage before noon and between 12 noon – 6 pm was highest for chang’aa and second generation compared with first generation and traditional liquor (Figures 20 and 21).

Figure 19: Alcohol usage rate (%) at different periods of the day

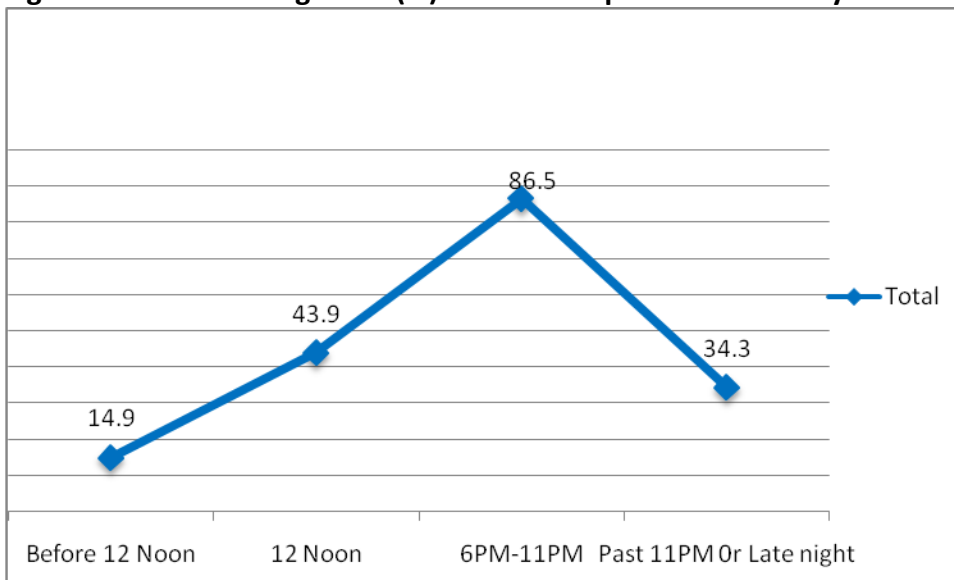


Figure 20: Alcohol usage rate (%) of 1st Generation and 2nd Generation alcohol at different periods of the day

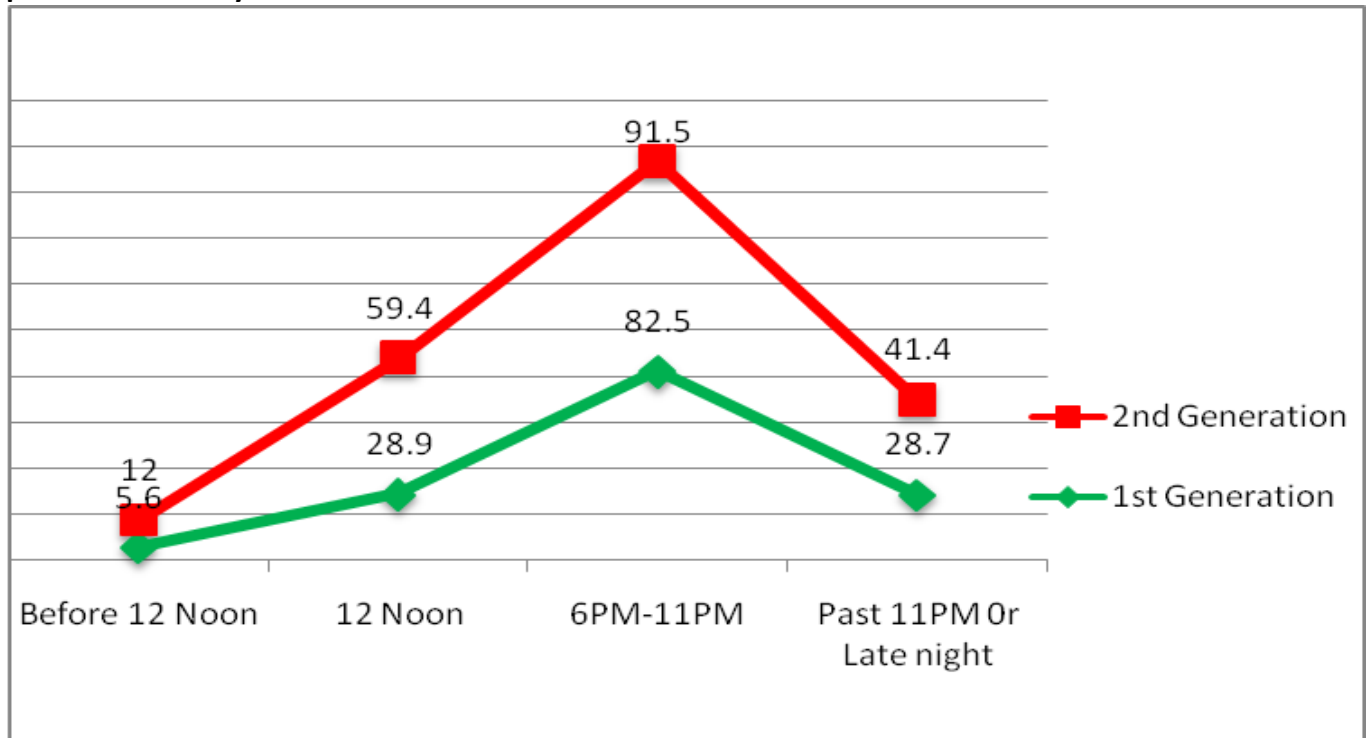
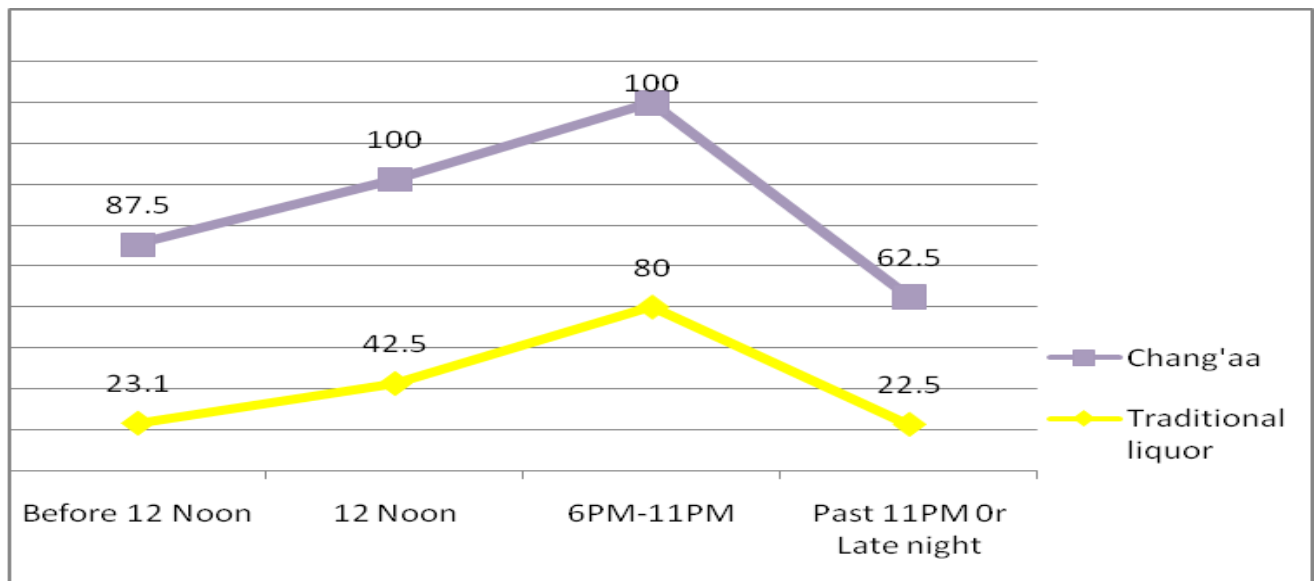


Figure 21: Alcohol usage rate (%) of Chang'aa and traditional liquor at different periods of the day



4.2.5. Alcohol Dependency Rates

Alcohol dependency was investigated using a set of questions from validated tools (i.e., CAGE and AUDIT) divided into three sets. The first set of questions looked into alcohol associated problems felt/experienced “daily or almost daily”, “weekly”, “monthly”, “less than monthly (i.e., felt beyond one month)” or “never”. Based on the results of the combined response categories of “daily or almost daily” and “weekly” the results showed that, for any type of alcohol, expressions of alcohol dependency ranged from a low of 10.4% for “failing to do what was expected due to drinking” to a high of 16.4% for “needing a drink in the morning to get started” (Table 10). Disaggregating for types of alcohol, dependency was much more reported for chang’aa, traditional liquor and second generation alcohol compared with the first generation alcohol. For example, 6 out of 8 (75%) of chang’aa users regularly felt that they needed it to remove hangover. Comparing across gender, alcohol dependency was reported more for male users expect for failing to do what one was expected to do due to drinking which was reported more for female users (Table 11).

Table 10: Expressions of Drinking Problem felt Daily or at Least Once a Week

Measurement Item	Total (i.e., for any type of alcohol)	1 st generation	2 nd generation	Traditional liquor	Chang’aa
Have needed a drink in the morning to get going after a heavy drinking session (“Removing hangover”)	16.4%	9.5% (27)	21.2% (55)	23.7% (9)	75.0% (6)
Had been unable to remember what happened the night before because they had been drinking	15.2%	9.5% (27)	19.7% (51)	18.5% (7)	50% (4)
Have felt remorseful or guilty after drinking	13.9%	8.1% (23)	20.1% (52)	15.8% (6)	12.5% (1)
Have been unable to stop drinking once they had started	12.4%	7.4% (21)	16.4% (42)	13.5% (5)	57.2% (4)
Failed to do what was expected because of drinking	10.4%	5.6% (16)	14.3% (37)	10.5% (4)	50.0% (4)

Table 11: Expressions of Drinking Problem felt Daily or at least once a week by Gender

Measurement Item	Male	Female
Have been unable to stop drinking once they had started	12.3%	9.6%
Failed to do what was expected because of drinking	10.6%	11.5%
Have needed a drink in the morning to get going after a heavy drinking session (“Removing hangover”)	16.8%	14.5%
Have felt remorseful or guilty after drinking	14.4%	4.9%
Had been unable to remember what happened the night before because they had been drinking	16.4%	8.0%

The second set of questions looked into alcohol associated problems felt/experienced “during the last one year”, “over the last one year”, or “never”. For those who reported alcohol associated problems felt/experienced in the last one year the results showed that, for any type of alcohol, one-third of the current users have had someone significant complaint about their

drinking and suggested they should cut down or stop while nearly one-quarter had either been injured or injured someone else because of drinking (Table 12). These problems were reported more often for chang'aa and second generation alcohol compared to the first generation and traditional liquor. Disaggregating by gender the problems were much more among men although a significant proportion of women also reported the same problems (Table 13).

Table 12: Expressions of Drinking Problem felt during the last one year

Measurement Item	Total (for any type of alcohol)	1 st generation	2 nd generation	Traditional liquor	Chang'aa
Have had a relative, friend, doctor or health worker complained about their drinking and suggested they should stop or cut down	33.3% (197)	25.6% (73)	41.5% (108)	31.6% (12)	50.0% (4)
Have been injured or injured someone else because of drinking	23.8% (139)	18.3% (51)	30.9% (80)	7.9% (3)	62.5% (5)

Table 13: Expressions of Drinking Problem felt during the last one year by gender

Measurement Item	Male	Female
Have had a relative, friend, doctor or health worker complained about their drinking and suggested they should stop or cut down	36.2%	16.4%
Have been injured or injured someone else because of drinking	24.9%	18.0%

The third set of questions examined alcohol associated problems felt/experienced in the lifetime with a “yes” or “no” response. For those who reported having ever felt/experienced alcohol associated problems the results showed that, for any type of alcohol, over half (56.4%) of the current users have ever felt the need to stop or cut down on their drinking while 45.7% had been annoyed by people complaining about their drinking habit (Table 14). Disaggregating for gender, more males reported the above feelings than females but the proportions of the females were also considerably high (Table 15).

Table 14: Expressions of Drinking Problem

Measurement Item	Total	1 st generation	2 nd generation	Traditional liquor	Chang'aa
Ever felt need to cut down on drinking	56.4%	54.4% (153)	60.1% (155)	52.6% (20)	25.0% (2)
Have been annoyed by people who complain about their drinking	45.7%	39.9% (112)	51.9% (135)	45.9% (17)	50.0% (4)

Table 15: Expressions of Drinking Problem by gender

Measurement Item	Male	Female
Ever felt need to cut down on drinking	56.8%	50.0%
Have been annoyed by people who complain about their (users) drinking	45.6%	41.9%

4.3. EXPLANATIONS FOR INDIVIDUAL ALCOHOL USE

4.3.1. Risk Factors for Alcohol Use

The risk factors for alcohol use were investigated by asking respondents to state what factors were leading to their current use. The question read: *Thinking about your life today what makes you use alcohol?* For each suggested factor the fixed responses were “yes” “no” “don’t know”. For those who responded affirmatively, the results showed that, for any type of alcohol, the affirmation of risk factors ranged from a low 5.7% for media influence to a high of work related stress (39.5%) and peer pressure (35.3%) (Table 16). An important emphasis is the significant number who cited idleness (28.4%) and the relatively fewer number (19.6%) who cited poverty, despite the popular association between poverty and social problems in the Province. Disaggregating for types of alcohol, the results showed that the risk factors were associated more with the use of second generation alcohol and chang’aa compared with first generation alcohol and traditional liquor. The risk factors also varied by gender, a significant finding being that while more of the males used alcohol due to occupational factors (i.e., work-related stress, idleness and unemployment), more of the females used it due to relational issues notably marital problems, problems with parents and peer pressure (Table 17).

Table 16: Risk factors for alcohol use by type of alcohol

Measurement Item	Total	1 st generation	2 nd generation	Traditional liquor	Chang’aa
Work related stress	39.5%	31.9%	50.6%	21.4%	50.0%
Peer pressure	35.3%	31.4%	41.5%	28.6%	12.5%
Idleness	28.4%	18.3%	39.9%	23.8%	50.0%
Unemployment	23.3%	14.1%	31.9%	28.6%	50.0%
Poverty	19.6%	10.1%	29.0%	16.7%	75.0%
Marital problems	14.6%	11.1%	19.5%	9.5%	12.5%
Problems with parents	6.7%	3.5%	10.1%	7.1%	12.5%
Media influence	5.7%	3.1%	7.8%	9.5%	12.5%

Table 17: Risk factors for alcohol use by gender

Measurement Item	Male	Female
Work related stress	41.2%	29.7%
Peer pressure	34.4%	39.1%
Idleness	30.0%	20.3%
Unemployment	24.3%	18.8%
Poverty	19.5%	25.0%
Marital problems	14.5%	15.6%
Problems with parents	6.0%	7.8%
Media influence	6.0%	4.7%

4.3.2. Reasons for Alcohol Use

The survey also examined reasons that people give for their alcohol use. In this case reasons are meanings – or ideas or goals – that underlie human behavior. The reasons behind alcohol use were examined by asking respondents to state what reasons were leading to their current use. The question read: *There are various reasons that people give to explain why they use alcohol. Does this – a suggested reason – apply to you?* For each suggested reason the fixed responses were “yes” and “no”. For those who responded affirmatively, the results showed that, for any type of alcohol, the affirmation of reasons ranged from a low of 9.6% for “health benefits” to a high of 89.1% for “fun” and 85.0% for “relaxation” (Table 18). With regard to gender, the reasons for alcohol use were more common among males with the surprising exception “feeling important” which was more common among females than among males (males, 31.5%; females 35.9%) (Table 19). Some significant differences were reported for “killing time”, “business deals” and “working and thinking smart” which were more common among males than among females.

Table 18: Reasons for alcohol use by type of alcohol

Measurement Item	Total	1 st generation	2 nd generation	Traditional liquor	Chang’aa
Makes me have fun	89.1%	86.8%	93.8%	74.4%	100%
Makes me relax	85.0%	80.0%	92.2%	72.1%	100%
Makes me interact/associate with others	77.6%	73.2%	84.9%	58.1%	100%
Helps kill time	66.7%	60.4%	76.4%	51.2%	62.5%
Helps me cope with stress	63.2%	51.9%	76.4%	51.2%	100%
Makes me feel important	31.2%	21.0%	43.1%	16.3%	87.5%
Helps me relate with opposite sex more Freely	28.7%	20.8%	35.7%	32.6%	62.5%
Enables me get business deals	20.1%	17.6%	23.3%	16.3%	25.0%
Makes me work and think smart	18.8%	14.0%	23.5%	20.9%	25.0%
Has health benefits like helping stomach problems	9.6%	5.3%	13.5%	14.0%	12.5%

Table 19: Reasons for alcohol use by gender

Measurement Item	Male	Female
Makes me have fun	89.4%	85.9%
Makes me relax	85.5%	82.3%
Makes me interact/associate with others	79.0%	73.4%
Helps me “kill” time	70.5%	40.6%
Helps me cope with stress	64.3%	62.5%
Makes me feel important	31.5%	35.9%

Measurement Item	Male	Female
Helps me relate with opposite sex more Freely	28.7%	28.1%
Enables me get business deals	22.2%	7.8%
Makes me work and think smart	20.5%	10.9%
Has health benefits like helping me with stomach problems	9.9%	4.8%

4.4. EFFECTS OF INDIVIDUAL ALCOHOL USE

The effects of alcohol use were examined by a question that read: *Does alcohol affects you in the following way – a suggested effect –?* For each suggested effect the fixed responses were “yes”, “no” and “don’t know”. For those who responded affirmatively, the results showed that, for any type of alcohol, the affirmation of effects that some of the commonest effects were episodes of loss of consciousness and inability to meet financial obligations (Table 20). Extreme effects such as having multiple sex partners, raping and being raped, threatened and attempted suicides were also reported. Disaggregating for gender, most of the effects were more amongst males than amongst females (Table 21). An important emphasis is that higher risk for males to be victims of criminal assault, illegal selling of household property and surprisingly being raped. On the other hand it is significant that females reported more of divorce and separation and battering their children.

Table 20: Effects of alcohol use by type of alcohol

Measurement Item	Total	1 st Generation	2 nd Generation	Traditional liquor	Chang’aa
Lost consciences or victim of blackout	37.4%	27.6%	48.2%	34.1%	62.5%
Makes you unable to meet your financial obligations	36.1%	27.7%	46.9%	25.6%	50.0%
Quarreled with parents	28.0%	21.9%	34.2%	27.9%	50.0%
Makes you unable to work effectively	27.3%	20.5%	36.3%	14.0%	62.5%
Contributes to problems with spouse	27.3%	22.9%	32.4%	23.3%	50.0%
Victim of criminal assault	23.0%	18.3%	27.0%	26.2%	50.0%
Fought with other family members e.g. brothers, sisters, uncles	19.8%	11.8%	27.2%	23.3%	50.0%
Has/had multiple partners	19.2%	11.8%	25.5%	23.3%	62.5%
Reduced interest in sexual activity	18.3%	11.2%	25.0%	18.6%	62.5%
sold/sells family property without due consultation with family members	16.2%	9.7%	22.4%	18.6%	37.5%
made you lose your job	15.3%	8.5%	23.0%	9.3%	50.0%
gambling	14.5%	12.1%	17.2%	14.3%	12.5%
batter spouse	13.0%	7.8%	17.9%	16.3%	25.0%
separated or divorced	11.4%	7.5%	14.5%	16.3%	25.0%
victim of drink spiking / kamucere	10.9%	12.5%	9.7%	7.1%	12.5%
drunk driving	9.3%	11.5%	7.5%	7.1%	.0%
battered own children	5.3%	2.7%	8.2%	2.3%	25.0%

Measurement Item	Total	1 st Generation	2 nd Generation	Traditional liquor	Chang'aa
threatened to commit suicide	4.8%	3.4%	6.6%	4.7%	.0%
attempted suicide	4.0%	2.4%	6.2%	2.3%	.0%
fought with parents	3.5%	3.1%	3.5%	4.7%	12.5%
Lead to impotence	2.5%	1.4%	3.1%	4.7%	12.5%
was raped	.7%	1.0%	.0%	2.3%	.0%
raped someone	.3%	.3%	.4%	.0%	.0%

Table 21: Effects of alcohol use by gender

Measurement Item	Male	Female
Lost consciousness/victim of blackout	30.4%	27.0%
Makes you unable to meet financial obligations	37.4%	30.8%
Quarreled with parents	28.3%	27.7%
Makes you unable to work effectively	27.7%	27.7%
Contributes to problems with spouse	28.1%	21.5%
Victim of criminal assault	24.6%	10.8%
Fought with other family members	20.7%	16.9%
Has/had multiple partners	20.2%	13.8%
Reduced interest in sexual activity	18.8%	16.9%
Sold/sells family property without due consultation with family members	17.9%	6.2%
Lost employment	15.2%	15.6%
Gambling	16.3%	1.5%
Battered spouse	13.1%	6.2%
Separated or divorced	11.4%	14.1%
Victim of spiking/ <i>kamucere</i>	11.0%	7.7%
Drunk driving	10.2%	3.1%
Battered own children	4.6%	6.2%
Threatened to commit suicide	4.8%	3.1%
Attempted suicide	4.0%	3.1%
Fought with parents	3.7%	3.1%
Led to impotence	2.5%	1.5%
Was raped	.8%	.0%
Raped someone	.4%	.0%

The survey further looked into alcohol effects in terms of their own alcohol expenditure compared with other money uses. The results showed that alcohol expenditure averaged (by median) one thousand shillings per month which was only half of their expenditure on food (median, 2000Ksh) and comparable to expenditure on savings and school fees but higher than expenditure on clothing or health (Table 22). This clearly shows that alcohol – which was being used mainly for fun and relaxation – was taking a significant portion of an individual's resources from basic necessities such as food, savings, health and children's education.

Table 22: Individual Monthly Expenditure on Selected Items

Items	Median	Mode	Mean
Food	2000.00	1000 ^a	2427.91
Savings	1000.00	0	3745.63
Alcohol	1000.00	1000	2251.72
School fees	1000.00	0	3444.92
Clothing	500.00	500	1083.71
Transport	500.00	0	1536.98
Health	100.00	0	641.28
house rent	0.00	0	1003.42

a. Multiple modes exist. The smallest value is shown

4.5. ALCOHOL USE INTERVENTIONS

The survey also examined a range of interventions that current alcohol users had utilized, either through their own or others initiative. The results showed that the most overwhelmingly utilized intervention (i.e., by 62.2%) was informal counseling by a family member, friend or religious leader (Table 23). Others significant interventions included police arrests initiated by family (13.9%) and church prayers (13.6%). Only few had utilized professional counseling or rehabilitation services. With respect to gender, males were more of the users of the interventions except for “taken to hospital” and “professional counseling” which were more common amongst women (Table 24). An important emphasis is the 13.6% of the women who were put under police custody as an intervention against alcohol use.

Table 23: Alcohol Use Interventions by types of Alcohol

Intervention	Total	1 st Generation	2 nd Generation	Traditional liquor	Chang’aa
Informal counseling e.g., from pastor, family, friend	62.2% (199)	51.1% (70)	69.7% (108)	77.3% (17)	66.7% (4)
Taken to police through family intervention	13.9% (30)	11.8% (11)	14.9% (15)	23.5% (4)	.0% (0)
Prayed for in church	13.6% (29)	13.8% (13)	14.0% (14)	13.3% (2)	.0% (0)
Chased away from home	11.4% (24)	14.6% (14)	9.4% (9)	7.1% (1)	.0% (0)
Taken to hospital	7.9% (16)	5.6% (5)	8.5% (8)	7.7% (1)	40.0% (2)
Professional counseling	5.4% (11)	6.5% (6)	4.3% (4)	.0% (0)	20.0% (1)
Rehabilitation centre	4.5% (9)	4.5% (4)	4.3% (4)	6.7% (1)	.0% (0)
Taken to a witch doctor	0.5% (1)	1.1% (1)	.0% (0)	.0% (0)	.0% (0)

Table 24: Alcohol Use Interventions by Gender

Intervention	Male	Female
Informal counseling e.g., from pastor, family, friend	64.0%	41.9%
Taken to police through family intervention	14.1%	13.6%
Prayed for in church	14.1%	10.0%
Chased away from home	11.3%	9.1%
Taken to hospital	7.3%	9.5%
Professional counseling	4.9%	5.0%
Rehabilitation centre	5.0%	0.0%
Taken to a witch doctor	0.6%	0.0%

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1. INTRODUCTION

Carried out in the Central Province of Kenya, this survey was broadly aimed at providing the raw material upon which prevention and control measures on alcohol can be anchored. Specifically, the survey aimed at:

- Ascertaining the magnitude of alcohol abuse with respect to types of alcohol, age, gender, and other socio-economic and demographic factors;
- Identifying social environmental risk and protective factors to alcohol abuse;
- Establishing the impact of alcohol abuse on health, security and socio-economic indicators in the community;
- Assessing the influence of existing alcohol regulations, related policies and other interventions;
- Making recommendations with regard to appropriate policies and interventions.

To achieve these objectives, the survey applied diverse data sourcing strategies. These included a comprehensive household survey; focus group discussions; key informant interviews; and observation. The household survey targeted all adults aged 15 – 64 years and covered all the seven districts in Central Province in Kenya (as based on the 1999 National Population and Housing Census). For the household survey, random sampling techniques were applied. A total of 500 households were targeted in each of the seven districts.

5.2. SUMMARY OF KEY FINDINGS

From the community views on alcohol use, the findings point at the following key findings:

- **Magnitude:** There is a very strong consensus in the community that alcohol use is a major problem in the province owing to the high level of usage, increasing trend and ease of availability, affordability and accessibility.
- **Level of alcohol consumption:** About two thirds of community members reported that alcohol consumption in their areas is high or very high. Across the districts, the level of usage ranged from a low of 51.5 per cent for Nyandarua to a high of 75.4 per cent for Kirinyaga.
- **Trends:** more than 80 per cent of the respondents felt that the second generation alcohol was increasing, while 58 per cent expressed the view that the first generation alcohol was decreasing. However, a significant proportion of the respondents held the view that traditional liquor and chang'aa usage was more of constant than increasing or decreasing.

- **Availability, affordability and accessibility:** The findings reveal that the second generation alcohol as the most available, affordable and accessible type of alcohol in the province. Chang’aa and traditional liquor were reported to be the least available and accessible types of alcohol.
- **Drinking time:** a significant proportion of the respondents (nearly 60%) reported that in their areas there is alcohol consumption before noon, apparently the most productive hours of the day. There was also a clustering of drinking activities between noon and 6 pm.
- **Alcohol usage by age and gender:** A significant proportion of the respondents rated the consumption of alcohol among people aged less than 18 years as “high”. Further, results point at the concentration of the drinking among the youth, gender notwithstanding. “very high” usage was reported for ages 25 – 34 years (males, 79%; and females, 15%); and 19 – 24 years (males, 77%; and females, 14%). Alcohol consumption among males aged 35 – 54 years was rated as “very high”. However, alcohol usage declined with reference to ages 55 years or above.

Besides the community perspective on alcohol use, this survey made an inquiry on individual experiences with alcohol. Some of the key highlights include:

- **Life time prevalence:** The findings show that 29.6 per cent of the community members surveyed had used alcohol on at least one occasion in their lifetimes. However, the lifetime prevalence rate was higher among males than for females with 53 per cent and 8 per cent respectively.
- **Current usage (last 30 days):** As measured by use in the past 30 days, current usage was estimated at 18 per cent with a male rate of 34 per cent while the female rate stood at 3 per cent.
- **Type of alcohol:** Less than 50 per cent of the respondents were using first generation alcohol, while consumption of the second generation alcohol stood at 40 per cent. The others accounted for 10 per cent.
- **Frequency of use:** As was the case with the community perception, a significant number of people reported using alcohol before noon. Further scrutiny reveals that most of those taking alcohol before noon were clustered around chang’aa and the second generation alcohol
- **Alcohol dependency rates:** The findings show that dependency was higher for chang’aa, traditional liquor and second generation alcohol compared with the first generation

brands. For instance, 75 per cent of chang'aa users regularly felt that they needed it to remove hangover. In addition, alcohol dependency was reported more for male users.

The design of effective interventions to address alcohol use calls for the documentation of risk and protective factors. These can provide essential entry points for interventions. The findings reveal that some of the risk factors include: idleness; peer pressure; unemployment; work related stress. The risk factors also varied by gender. For instance, while more males used alcohol due to occupational factors (e.g. work related stress, idleness, and unemployment) more of the females used it due to relational issues notably marital problems, problems with parents and peer pressure. Some of the reasons pointed out for taking alcohol include: to feel good or have fun; relaxation; cope with stress; interact with others; and kill time. These factors also vary with district. Religious values; parental restrictions; positive peer pressure; work and school commitment; fear of stigmatization and peoples bad experience with alcohol were found to be important protective factors.

The study further found out that alcohol abuse has several adverse effects to the individual, the household and the community. Such effects included: episodes of loss of consciousness; inability to meet financial obligations; having multiple sex partners; threatened and attempted suicides; motor vehicle accidents and domestic violence. Others include community level effects such as: low school enrollment; high school drop-out; poor results in national examinations; decreased employability; marital breakdown; and infertility.

5.3. CONCLUSION

These findings point to a relatively high level of usage of alcohol in Central Province of Kenya. This vindicates the current public and policy makers concern of high alcohol use in the province. However, a more worrying question is the increasing penetration of the second generation brands that are eating into the market of the first generation alcohol. Nevertheless, the fact that many people do not know about the trend of traditional liquor and chang'aa may partly be linked to their illegality. This is because, unlike the first and second generation brands, chang'aa and traditional liquor are processed, marketed and consumed with some secrecy.

From the community and individual perspective there is strong consensus on the adverse implications of alcohol use in the province in general. In fact the findings show an overwhelming disapproval of alcohol use in the community implying that those who abuse alcohol do so against the expectations of the community. Across the seven districts, hard work and education as still highly treasured values. Such solid community disapproval of alcohol abuse augurs very well for any interventions meant to address the challenge posed by the problem of alcohol use in the province.

5.4. RECOMMENDATIONS

In view of the study findings, the following recommendations are made:

- Increased community education on the adverse effects of alcohol at the individual, household and community level. This may include the provision of Information,

Education and Communication (IEC) materials, use of theater, mass media and especially the local FM radio stations; games and sports and increased targeting of the youth. The community education may be carried out by NACADAA – as is presently the case – but the partnership with other agents such as the Ministry of Public Health, Faith Based Organizations, Non-Governmental Organizations need to be mobilized and utilized.

- Enhanced enforcement of the new alcohol law, since it became evident that there was laxity in the enforcement of the old legal regime that governed the production and sale of alcohol in the country. In particular, the government should be overzealous in restricting the sale of the second generation alcohol, the sale of alcohol outside the approved times and in punishing offenders.
- Pro-actively engage the community leaders in leading the campaigns against alcohol use in Central Kenya.
- Working with relevant government departments to ensure that the youth are positively engaged into productive activities e.g. increased uptake of the devolved funds in a way that is beneficial to the youth.
- In view of the fact that the study found the police department to be used a source of help to addicts, it is imperative that the police are (re)trained on best practices for them to provide effective help. Similar training should also be given to other frontline professionals including the clergy, provincial administration, community health workers, and school teachers.

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APPENDIX 1: COMMUNITY PERCEPTION ON TRENDS OF ALCOHOL USE ACROSS THE DISTRICTS

Table 25: Community perception on 1st generation alcohol use trend by district

District	Increasing	Decreasing	The same	Don't know
Province	24.7%	58.6%	14.2%	2.5%
Kiambu	36.9%	37.2%	25.7%	.2%
Thika	29.7%	45.6%	19.2%	5.4%
Nyeri	27.2%	57.0%	15.4%	.4%
Maragua	22.3%	69.6%	5.6%	2.5%
Murang'a	21.6%	69.7%	6.9%	1.8%
Nyandarua	20.5%	64.6%	7.7%	7.2%
Kirinyaga	15.8%	65.1%	18.5%	.6%

Table 26: Community perception on 2nd generation alcohol use trend by district

District	Increasing	Decreasing	The same	Don't know
Province	81.4%	11.4%	5.3%	1.9%
Murang'a	92.8%	3.5%	3.0%	.7%
Nyeri	91.3%	5.2%	3.1%	.4%
Maragua	83.9%	10.9%	2.7%	2.5%
Kiambu	83.7%	7.6%	8.8%	.0%
Nyandarua	80.4%	12.6%	3.0%	4.0%
Kirinyaga	79.4%	16.9%	3.5%	.2%
Thika	55.4%	24.1%	14.4%	6.2%

Table 27: Community perception on traditional liquor use trend by district

District	Increasing	Decreasing	The same	Don't know
Province	16.0%	31.7%	32.4%	19.9%
Kirinyaga	31.1%	46.8%	21.7%	.4%
Thika	26.0%	19.2%	21.4%	33.4%
Kiambu	17.1%	9.2%	62.8%	10.9%
Maragua	15.2%	54.1%	29.6%	1.1%
Murang'a	8.7%	37.7%	46.1%	7.6%
Nyeri	5.1%	35.4%	34.6%	24.9%
Nyandarua	2.9%	13.3%	10.2%	73.7%

Table 28: Community perception on chang'aa use trend by district

District	Increasing	Decreasing	The same	Don't know
Province	18.6%	26.5%	34.8%	20.1%
Thika	33.9%	17.7%	17.5%	31.0%
Maragua	25.3%	46.4%	26.9%	1.4%
Kiambu	24.3%	8.6%	57.6%	9.5%
Murang'a	14.8%	17.2%	56.5%	11.5%
Kirinyaga	11.5%	41.3%	46.8%	.4%
Nyeri	11.0%	34.7%	28.0%	26.3%
Nyandarua	9.1%	13.8%	6.6%	70.6%

APPENDIX 2: ALCOHOL AVAILABILITY, AFFORDABILITY AND ACCESSIBILITY ACROSS DISTRICTS

Table 29: Availability of 1st generation alcohol by district

District	Easily available	Moderately available	Not at all available	Don't know
Province	19.9%	60.9%	14.8%	4.4%
Kiambu	33.0%	46.0%	15.9%	5.1%
Nyeri	32.9%	64.3%	2.3%	.6%
Thika	29.5%	38.4%	26.0%	6.1%
Maragua	16.2%	66.1%	14.6%	3.1%
Nyandarua	14.8%	69.6%	8.0%	7.5%
Kirinyaga	7.2%	61.5%	24.8%	6.6%
Murang'a	5.9%	79.1%	12.6%	2.5%

Table 30: Affordability of 1st generation alcohol by district

District	Very affordable	Moderately affordable	Not at all affordable	Don't know
Province	6.5%	72.0%	11.8%	9.7%
Kiambu	15.4%	66.3%	5.8%	12.5%
Thika	11.7%	56.4%	18.8%	13.1%
Maragua	8.6%	73.6%	10.5%	7.3%
Nyandarua	5.2%	75.6%	9.4%	9.9%
Nyeri	2.3%	91.6%	2.3%	3.8%
Murang'a	2.2%	77.4%	12.5%	7.9%
Kirinyaga	1.9%	60.9%	23.2%	14.1%

Table 31: Accessibility of 1st generation alcohol by district

District	Very many	Moderately many	A few	None	Don't know
Province	13.8%	33.9%	36.9%	14.4%	.9%
Kiambu	25.1%	27.3%	27.8%	18.8%	1.0%
Maragua	21.9%	28.2%	33.9%	15.8%	.2%
Nyeri	19.3%	43.6%	35.6%	1.5%	.0%
Thika	14.9%	20.8%	35.2%	26.6%	2.5%
Nyandarua	8.6%	43.3%	39.4%	5.7%	3.0%
Kirinyaga	3.9%	23.0%	50.2%	22.6%	.2%
Murang'a	3.0%	52.1%	34.4%	10.5%	.0%

Table 32: Availability of 2nd generation alcohol by district

District	Easily available	Moderately available	Not at all available	Don't know
Province	73.9%	13.8%	9.5%	2.8%
Nyeri	94.4%	4.3%	.8%	.4%
Murang'a	85.1%	8.3%	5.4%	1.2%
Nyandarua	82.0%	9.2%	4.6%	4.1%
Kiambu	74.2%	9.6%	12.5%	3.6%
Kirinyaga	74.4%	15.2%	8.4%	2.0%

District	Easily available	Moderately available	Not at all available	Don't know
Maragua	58.0%	26.5%	12.8%	2.7%
Thika	45.5%	24.5%	24.2%	5.8%

Table 33: Affordability of 2nd generation alcohol by district

District	very affordable	Moderately affordable	Not affordable at all	Don't know
Province	80.9%	10.3%	2.1%	6.8%
Nyeri	96.2%	1.0%	.2%	2.5%
Murang'a	87.8%	5.4%	1.5%	5.4%
Kiambu	87.7%	4.6%	.2%	7.5%
Nyandarua	85.5%	8.3%	.2%	5.9%
Kirinyaga	79.3%	11.3%	2.5%	7.0%
Maragua	68.2%	19.6%	6.1%	6.1%
Thika	58.4%	23.0%	3.9%	14.7%

Table 34: Accessibility of 2nd generation alcohol by district

District	Very many	Moderately many	A few	None	Don't know
Province	41.0%	26.3%	20.8%	11.1%	.9%
Murang'a	50.1%	31.6%	11.1%	7.2%	.0%
Nyandarua	49.6%	30.5%	13.5%	4.4%	2.0%
Kiambu	44.8%	23.8%	13.4%	17.3%	.7%
Nyeri	43.9%	28.7%	26.2%	1.3%	.0%
Kirinyaga	43.0%	26.3%	21.4%	9.1%	.2%
Maragua	32.4%	24.9%	28.8%	13.7%	.2%
Thika	22.8%	17.5%	29.6%	26.8%	3.3%

Table 35: Availability of traditional liquor by district

District	Easily available	Moderately available	Not at all available	Don't know
Province	10.7%	11.7%	63.7%	14.0%
Kirinyaga	26.1%	10.9%	47.2%	15.8%
Thika	19.0%	14.1%	50.5%	16.4%
Maragua	8.6%	11.5%	74.9%	5.0%
Kiambu	7.7%	12.3%	59.2%	20.8%
Murang'a	5.0%	19.1%	68.3%	7.7%
Nyandarua	4.6%	7.5%	67.1%	20.8%
Nyeri	2.1%	7.1%	78.2%	12.6%

Table 36: Affordability of traditional liquor by district

District	Very affordable	Moderately affordable	Not at all affordable	Don't know
Province	18.9%	7.9%	14.4%	58.8%
Kirinyaga	31.1%	7.0%	8.1%	53.8%
Thika	30.8%	12.8%	4.9%	51.5%
Kiambu	22.4%	4.6%	1.7%	71.3%
Maragua	17.1%	7.2%	30.8%	44.9%
Murang'a	12.4%	14.2%	21.6%	51.8%
Nyandarua	9.9%	5.1%	13.3%	71.8%
Nyeri	5.0%	4.7%	19.5%	70.8%

Table 37: Accessibility of traditional liquor by district

District	Very many	Moderately many	A few	None	Don't know
Province	7.1%	5.7%	12.1%	71.4%	3.7%
Kirinyaga	19.5%	7.9%	11.4%	61.1%	.2%
Maragua	9.6%	3.7%	14.0%	72.5%	.2%
Thika	8.2%	5.9%	17.3%	62.2%	6.4%
Nyandarua	3.2%	2.4%	6.9%	72.3%	15.2%
Kiambu	2.5%	9.1%	9.6%	75.3%	3.5%
Murang'a	2.3%	8.4%	17.8%	71.5%	.0%
Nyeri	1.6%	2.6%	8.1%	85.3%	2.3%

Table 38: Availability of chang'aa by district

District	Easily available	Moderately available	Not at all available	Don't know
Province	12.1%	6.8%	65.0%	16.1%
Thika	32.4%	7.9%	50.3%	9.4%
Maragua	15.6%	10.4%	67.3%	6.8%
Kiambu	11.8%	11.1%	54.3%	22.7%
Kirinyaga	9.6%	2.1%	61.3%	27.0%
Nyandarua	6.9%	7.2%	60.1%	25.8%
Murang'a	5.9%	3.0%	84.5%	6.7%
Nyeri	4.3%	6.4%	75.4%	13.9%

Table 39: Affordability of chang'aa by district

District	Very affordable	Moderately affordable	Not at all affordable	Don't know
Province	21.1%	3.3%	14.2%	61.4%
Thika	51.7%	3.7%	3.7%	40.8%
Kiambu	28.4%	1.9%	1.9%	67.7%
Maragua	25.7%	5.7%	28.0%	40.6%
Nyandarua	14.2%	3.1%	9.8%	72.9%
Kirinyaga	11.2%	.6%	11.0%	77.2%
Nyeri	10.2%	3.4%	15.9%	70.6%
Murang'a	9.9%	5.4%	26.8%	58.0%

Table 40: Accessibility of chang'aa by district

District	Very many	Moderately many	A few	None	Don't know
Province	9.1%	4.3%	8.0%	75.1%	3.5%
Thika	21.8%	7.6%	9.1%	57.1%	4.3%
Maragua	12.4%	6.8%	12.6%	67.9%	.2%
Kirinyaga	8.8%	1.5%	3.1%	86.0%	.6%
Kiambu	7.2%	5.7%	11.0%	72.8%	3.2%
Murang'a	5.9%	1.8%	5.4%	86.7%	.3%
Nyandarua	4.5%	3.4%	9.3%	67.1%	15.6%
Nyeri	3.0%	3.5%	6.2%	85.6%	1.6%

APPENDIX 3: ALCOHOL CONSUMPTION PERIODS OF THE DAY ACROSS THE DISTRICTS

Table 41: Alcohol Consumption before 12.00 Noon by District

District	Yes	No	Don't know
Province	57.8%	40.2%	2.0%
Kirinyaga	66.5%	31.9%	1.6%
Kiambu	65.3%	31.1%	3.6%
Murang'a	63.6%	35.9%	.5%
Maragua	56.8%	41.2%	2.0%
Nyeri	54.4%	44.3%	1.3%
Thika	54.0%	43.2%	2.8%
Nyandarua	42.6%	54.9%	2.5%

Table 42: Alcohol Consumption between 12 Noon – 6 Pm by District

District	Yes	No	Don't know
Province	80.6%	17.6%	1.8%
Murang'a	92.2%	6.6%	1.2%
Kiambu	83.3%	14.8%	1.9%
Kirinyaga	82.9%	16.3%	.8%
Nyeri	80.9%	18.1%	1.1%
Nyandarua	78.5%	19.8%	1.7%
Maragua	73.9%	23.2%	2.9%
Thika	72.4%	24.6%	3.0%

Table 43: Alcohol Consumption between 6 PM – 11 PM by District

District	Yes	No	Don't know
Province	95.9%	2.7%	1.4%
Kiambu	97.8%	1.2%	1.0%
Nyeri	97.3%	2.1%	.6%
Kirinyaga	96.7%	2.3%	1.0%
Murang'a	96.6%	2.7%	.7%
Maragua	95.5%	2.3%	2.3%
Nyandarua	94.6%	3.7%	1.7%
Thika	92.7%	5.1%	2.3%

Table 44: Alcohol Consumption between past 11 PM by district

District	Yes	No	Don't know
Province	55.9%	35.0%	9.1%
Murang'a	67.8%	28.4%	3.7%
Kiambu	59.5%	28.9%	11.7%
Kirinyaga	58.8%	29.6%	11.6%
Nyeri	57.7%	36.2%	6.1%
Thika	56.3%	31.1%	12.6%
Maragua	48.8%	47.0%	4.3%
Nyandarua	42.1%	43.4%	14.5%

APPENDIX 5: ALCOHOL USE ACROSS AGE AND GENDER

Table 45: Alcohol usage among males under 18 years

District	Very high	High	Low	Very low
Province	7.6%	18.0%	27.9%	46.4%
Maragua	15.3%	25.7%	28.2%	30.7%
Kirinyaga	13.3%	36.6%	21.4%	28.7%
Thika	9.0%	9.7%	22.1%	59.2%
Murang'a	4.0%	15.3%	33.4%	47.3%
Nyandarua	3.8%	13.5%	27.1%	55.6%
Kiambu	3.6%	9.0%	20.6%	66.7%
Nyeri	3.2%	12.7%	41.6%	42.6%

Table 46: Alcohol usage among females under 18 years

District	Very high	High	Low	Very low
Province	2.3%	3.5%	11.0%	83.2%
Kirinyaga	6.8%	11.3%	28.5%	53.4%
Kiambu	2.9%	1.7%	6.3%	89.1%
Thika	2.1%	1.8%	7.8%	88.3%
Murang'a	1.5%	1.0%	4.2%	93.3%
Nyandarua	1.4%	1.9%	6.5%	90.2%
Maragua	1.1%	3.9%	12.0%	83.0%
Nyeri	.0%	1.6%	7.5%	90.9%

Table 47: Alcohol usage among males 19 - 24 years

District	Very high	High	Low	Very low
Province	38.8%	37.8%	16.2%	7.2%
Murang'a	53.2%	26.7%	14.0%	6.1%
Kiambu	44.2%	28.2%	18.0%	9.7%
Kirinyaga	42.1%	42.1%	7.4%	8.3%
Nyeri	34.5%	40.7%	17.4%	7.4%
Thika	33.2%	32.9%	22.3%	11.7%
Nyandarua	33.2%	45.5%	16.8%	4.5%
Maragua	31.6%	46.5%	18.7%	3.2%

Table 48: Alcohol usage among females 19 - 24 years

District	Very high	High	Low	Very low
Province	4.6%	8.9%	15.1%	71.3%
Kirinyaga	7.8%	20.5%	28.5%	43.2%
Thika	7.8%	9.8%	14.2%	68.1%
Kiambu	6.3%	10.4%	14.8%	68.5%
Nyandarua	4.3%	5.9%	15.9%	73.9%
Murang'a	3.2%	2.5%	6.4%	87.9%
Maragua	2.0%	7.0%	12.2%	78.7%
Nyeri	.9%	4.6%	11.9%	82.6%

Table 49: Alcohol usage among males aged 25 - 34 years

District	Very high	High	Low	Very low
Province	54.6%	34.1%	8.8%	2.4%
Murang'a	71.4%	22.5%	4.0%	2.2%
Nyeri	58.3%	36.6%	3.9%	1.2%
Nyandarua	57.5%	33.0%	7.1%	2.4%
Kiambu	57.3%	30.8%	10.2%	1.7%
Kirinyaga	52.3%	37.0%	5.8%	4.9%
Maragua	44.5%	40.6%	13.8%	1.1%
Thika	41.3%	36.9%	18.7%	3.1%

Table 50: Alcohol usage among females aged 25 - 34 years

District	Very high	High	Low	Very low
Province	4.5%	11.0%	16.9%	67.6%
Kirinyaga	9.6%	25.4%	25.8%	39.1%
Thika	7.2%	11.1%	17.3%	64.3%
Kiambu	6.1%	8.3%	20.9%	64.8%
Nyandarua	3.4%	11.9%	22.2%	62.5%
Murang'a	2.5%	5.9%	8.6%	83.0%
Maragua	1.8%	7.7%	9.0%	81.4%
Nyeri	.9%	5.2%	13.9%	80.0%

Table 51: Alcohol usage among males aged 35 - 54 years

District	Very high	High	Low	Very low
Province	38.8%	37.3%	18.9%	5.0%
Murang'a	60.8%	27.7%	7.4%	4.2%
Nyeri	54.4%	38.4%	6.2%	1.0%
Kirinyaga	45.5%	32.4%	16.4%	5.7%
Nyandarua	31.0%	42.0%	20.1%	6.9%
Kiambu	31.0%	42.4%	20.8%	5.8%
Thika	25.2%	38.3%	30.1%	6.4%
Maragua	20.7%	40.5%	33.6%	5.2%

Table 52: Alcohol usage among females aged 35 - 54 years

District	Very high	High	Low	Very low
Province	3.4%	7.0%	13.8%	75.8%
Kirinyaga	10.7%	22.1%	26.8%	40.4%
Thika	3.6%	5.2%	14.2%	76.9%
Kiambu	2.7%	3.2%	10.9%	83.3%
Murang'a	2.2%	3.4%	9.1%	85.2%
Maragua	1.8%	4.5%	6.5%	87.1%
Nyandarua	1.1%	4.0%	14.4%	80.5%
Nyeri	.9%	3.7%	12.7%	82.7%

Table 53: Alcohol usage among males 55 years and above

District	Very high	High	Low	Very low
Province	12.0%	15.1%	32.3%	40.6%
Nyeri	18.5%	26.0%	36.9%	18.5%
Murang'a	17.9%	24.8%	30.2%	27.0%
Kirinyaga	16.6%	17.9%	41.9%	23.6%
Maragua	8.4%	10.5%	39.5%	41.6%
Thika	8.0%	10.8%	28.9%	52.3%
Kiambu	7.5%	6.8%	17.5%	68.2%
Nyandarua	5.2%	6.7%	27.9%	60.2%

Table 54: Alcohol usage among females 55 years and above

District	Very high	High	Low	Very low
Province	2.3%	2.5%	8.1%	87.1%
Kirinyaga	7.8%	9.7%	25.1%	57.4%
Murang'a	2.5%	1.7%	5.7%	90.1%
Thika	2.3%	.0%	4.7%	93.0%
Maragua	1.6%	1.8%	5.0%	91.6%
Nyandarua	.8%	1.1%	3.5%	94.6%
Nyeri	.4%	1.3%	7.5%	90.7%
Kiambu	.0%	.2%	1.5%	98.3%