

CHATTING ABOUT KHAT:  
THE IMPACT ON ETHIOPIA

Thesis Supervisor:

---

Catherine A. Hawkins, Ph.D.  
School of Social Work

Approved

---

Heather C. Galloway, Ph.D.  
Dean, Honors College

CHATTING ABOUT KHAT:  
THE IMPACT ON ETHIOPIA

HONORS THESIS

Presented to the Honors Committee of  
Texas State University-San Marcos  
in Partial Fulfillment  
of the Requirements  
for Graduation in the Honors College

by

Kelsey Nicole Harmon

San Marcos, Texas  
March 2014

**COPYRIGHT**

by

Kelsey Harmon

2014

## **FAIR USE AND AUTHOR'S PERMISSION STATEMENT**

### **Fair Use**

This work is protected by the Copyright Laws of the United States (Public Law 94-553, section 107). Consistent with fair use as defined in the Copyright Laws, brief quotations from this material are allowed with proper acknowledgement. Use of this material for financial gain without the author's express written permission is not allowed.

### **Duplication Permission**

As the copyright holder of this work I, Kelsey Harmon, refuse permission to copy in excess of the "Fair Use" exemption without my written permission.



## **ACKNOWLEDGEMENT**

I dedicate my undergraduate thesis to many friends, mentors, my family and my fiancé, all of who have provided me with unwavering support and who have been steadfast and understanding throughout this lengthy process.

A special thanks to my many teachers and mentors including Dr. Heather Galloway, who was able to redirect me when I felt I had fallen off course. I am also very appreciative of Dr. Augustine Agwuele who was the first mentor of mine to push me to my limits and show me the potential I had only to utilize and who introduced me to the beautiful country of Ethiopia where I first encountered the subject of this thesis. To Dr. Catherine Hawkins, who has been my cheerleader throughout this entire process and who never stopped believing in my ability to accomplish this task, I wish to express how invaluable your guidance has been.

Last but not least, I wish to thank my fiancé, Alex Eychaner who has been my rock and my foundation. I could not have accomplished this task without him and for that I am eternally grateful.

## **ABSTRACT**

Khat is an evergreen perennial plant grown in the Horn of Africa and Arabian Peninsula for its natural stimulant properties. With estimated daily users between five and ten million daily, khat has an incredible impact in areas of cultivation and use. The plant is an important factor in Ethiopia, influencing politics, the economy, and social interactions. Regulation, domestically and internationally, represents a particular controversy surrounding the plant. This thesis explores khat cultivation and use in Ethiopia through scholarly literature review, personal experience, expert opinions, and media impressions in order to stimulate a more informed and holistic discourse on the plant and its cultivation and use.

## TABLE OF CONTENTS

	Page
INTRODUCTION .....	1
ETHIOPIA.....	3
SCHOLARLY LITERATURE REVIEW .....	10
PERSONAL NARRATIVE.....	31
EXPERT OPINIONS.....	54
MEDIA IMPRESSIONS .....	67
DISCUSSION .....	75
CONCLUSION.....	86
REFERENCES .....	88

## **INTRODUCTION**

I chose the topic of this thesis not only because of its importance, but also because of its complexity. Khat and its use represent a multifaceted area of study, but most portrayals of the plant present it in a very one-sided fashion. Further, it appears that the vast majority of people in the U.S. are unaware of the impact that its use and cultivation has on a large population of the world. Through this undergraduate thesis, I hope to shed light on the many areas of interest in regard to this important topic.

This thesis covers a plant that is perhaps one of the oldest and most widely used mood altering substances in the world, yet also one of the most misunderstood. Khat, a green leafy plant cultivated in the Horn of Africa and the Arabian Peninsula, represents an important part of the economy and culture in these areas. Its regulation and use have serious implications for the people in this part of the world, which is still struggling to develop economically. Estimates of khat use vary between five and ten million users daily, and millions of farmers in the area depend on the cultivation of the plant for their livelihood. While some advocates argue that banning the plant could undermine the developing economies in this area, others argue that to limit its cultivation and use undermines the region's productivity. Likewise, while many experts argue that the plant is a dangerous drug, others still advocate for its value due to its cultural importance and social significance.

The purpose of this thesis is to present a holistic view of the information available regarding this plant and its use mainly in Ethiopia and specifically to

discuss its role within the economy and culture of the nation. This will be achieved through an exploration of five topic areas pertaining to Ethiopia and khat: 1) introduction of the country, 2) review of the current scholarly literature, 3) narrative of the author's personal experience, 4) an examination of expert opinions, and 5) perusal of media impressions. This multi-faceted approach will provide a wide range of sources and allow insights into this little understood yet important area of research. Each of the above mentioned sections contain a description of the methodology and findings. A discussion section integrates the findings of these areas, and is followed by a conclusion. It is hoped that, by providing the reader with a better understanding of the plant, a more informed and holistic discourse will emerge surrounding the many areas of importance and confusion regarding to its economic and cultural implications, globally and especially for Ethiopia.

## **ETHIOPIA**

### **METHODOLOGY**

This section contains a brief overview of Ethiopia. Information was gleaned from a search of reputable websites including government sites such as the CIA World Fact Book, non-governmental sites such as the United Nations, and references such as encyclopedias.

### **FINDINGS**

Ethiopia is a land locked country located in the Eastern part of Africa in an area called the Horn of Africa and is approximately twice the size of Texas (CIA: The World Factbook: Ethiopia, 2011; Country Profile: Ethiopia, 2005). Ethiopia is often referred to as the “Birth Place of Humanity” as it is the location of the discovery of several early hominids including the famous “Lucy” (Country Profile, Ethiopia, 2005; Background Note: Ethiopia, 2007). It is comprised of nine ethnically based states and two city administrations (U.S. Department of State, n.d.). It is the only African country to never have been colonized, though Ethiopia experienced a short Italian occupation from 1936 to 1941 (CIA: The World Factbook: Ethiopia, 2011). The country was well established before the age of the slave trade and colonialism (Getachew, 2009). Ethiopia has had conflict with neighboring countries over border delineation and large portions of its borders are disputed (Ethiopia, 2013). It is the oldest independent country in Africa and also one of the oldest countries in the world with a continuous history dating as far back as 2000 years ago (CIA: The World Factbook: Ethiopia, 2011; Ethiopia, 2013). Tradition holds that the kingdom of Ethiopia was founded in the tenth

century BCE by Menelik 1, Solomon's first son (Ethiopia, 2013). Because of this, the country's citizens have a deep sense of national pride and patriotism.

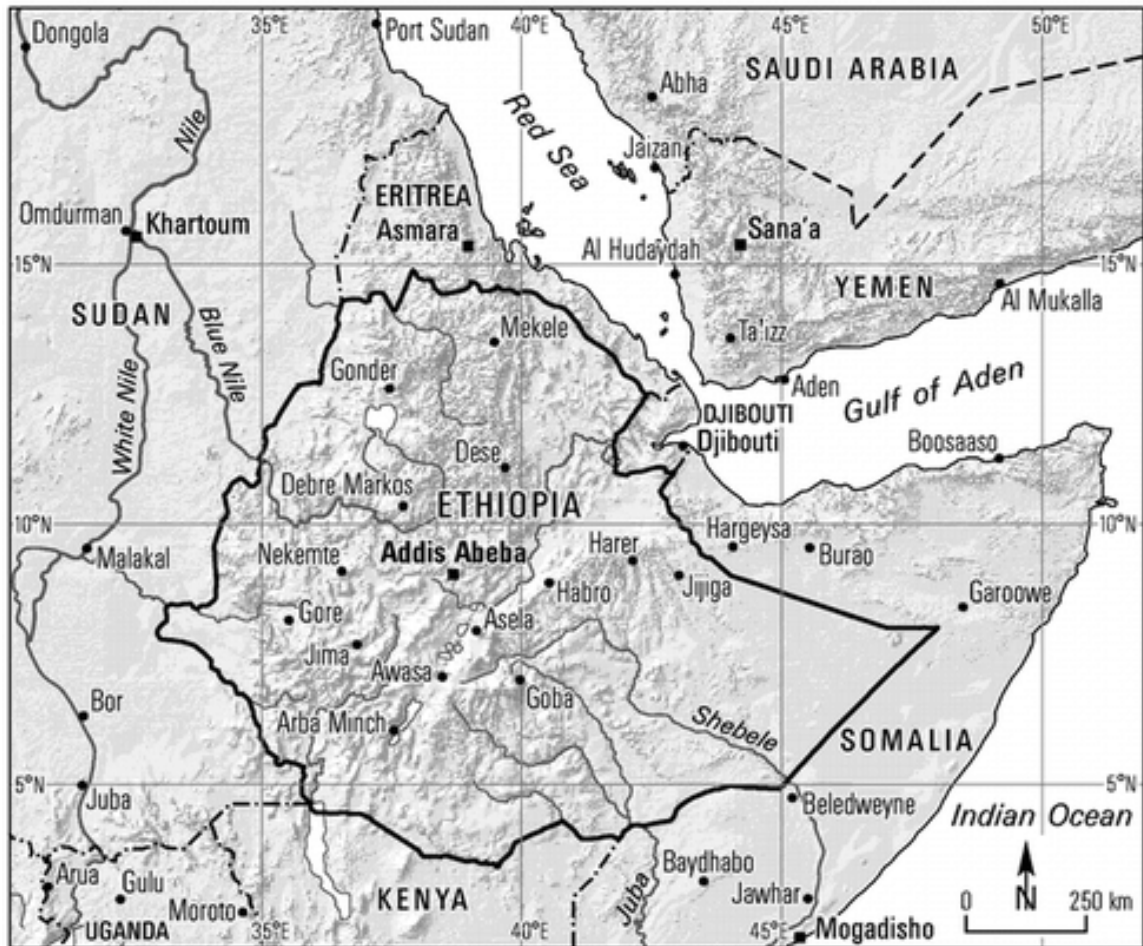


Figure 1. A map of Ethiopia and the surrounding region.

Ethiopia covers the majority of the Horn of Africa and borders with Eritrea, Sudan, Somalia, Djibouti, and Kenya. The majority of Ethiopia is rural, with Addis Ababa, the capital being the largest center of urbanization (Country Profile, Ethiopia, 2005). A large portion of Ethiopia consists of large plateaus and mountain ranges, which are split by the Great Rift Valley (Country Profile, Ethiopia, 2005; Background Note: Ethiopia, 2007). Because of the variation in topography, the climate also varies a great deal. Much of the rural population depends on agriculture for livelihood, and agriculture is the most important sector

of the Ethiopian economy (Country Profile: Ethiopia, 2005). Ethiopia is greatly affected by deforestation, soil erosion, frequent droughts, high population density, underdeveloped and limited water resources, and poor transportation infrastructure among other challenges (CIA: The World Factbook: Ethiopia, 2011; Background Note: Ethiopia, 2007).

Ethiopia has the second highest population in Sub-Saharan Africa, consisting of about 92 million people (The World Bank, 2013). The population is comprised of over one hundred different ethnicities, including Oromo, Amhara, Somali, Tigray, Sidama, Gurage, Welaita, Hadiya, Afar, Gamo and Gedeo among others (CIA: The World Factbook: Ethiopia, 2011). Oromo and Amhara constitute the highest proportion of Ethiopian residents, consisting of 34.5% and 26.9% respectively (CIA: The World Factbook: Ethiopia, 2011). Because of this ethnic diversity, Ethiopia has over seventy different spoken languages including English, Arabic, and Amharic as official languages throughout the country (Country Profile, Ethiopia, 2005).

Similar to Ethiopia's ethnic diversity, Ethiopia has many prominent religions as well. The Ethiopian Orthodox, Muslim, and Protestant religions constitute the largest portion of the population consisting of 43.5%, 33.9%, and 18.6% respectively (CIA: The World Factbook: Ethiopia, 2011). The Ethiopian Orthodox Christian Church is one of the oldest Christian bodies in the world and occupies a longstanding influential role in Ethiopian society (Ethiopia, 2014; World Trade Press, 2010). Ethiopia has had various periods of religious conflict between Christians and Muslims throughout its history although contemporary



religious tolerance is generally regarded as strong (Ethiopia, 2014; World Trade Press, 2010).

Marriages in Ethiopia are as diverse as the many cultures that make up the country's population. Same sex marriage is illegal. Arranged marriages are still fairly common, but young people in cities often get to choose their spouses (World Trade Press, 2010). The legal marrying age is eighteen, but the practice of marrying girls before that age still exists (World Trade Press, 2010). A large proportion of Ethiopian women are between the ages of 15-49 and in their reproductive years (Country Profile, Ethiopia, 2005). Most Ethiopian families are large and the average number of children per woman is estimated at over six during 2000-2005 (World Trade Press, 2010; Country Profile, Ethiopia, 2005). The literacy rate for women is significantly lower than that of men (Ethiopia, 2014). Traditional gender roles are still prevalent throughout the country.

Ethiopia is one of the poorest countries in the world with a per capita income of roughly \$410 annually, which is significantly lower than the average in the region. In 2009, almost 30% of Ethiopians lived in extreme poverty (The World Bank, 2013). Ethiopia has a literacy rate of 39% and a school life expectancy of nine years (CIA: The World Factbook: Ethiopia, 2011). Education is free through the university level although it is only required up to the age of 13. After that point, secondary schools are usually only available in urbanized areas, and very few citizens continue their education past primary school (Country Profile, Ethiopia, 2005). The unemployment rate of youth aged 15-24 years of age is 24.9% (CIA: The World Factbook: Ethiopia, 2011) and the urban

unemployment rate in 2012 was 17.5% (United Nations Development Programme). Ethiopia was 174<sup>th</sup> in the Human Development Index at 0.363 (United Nations Development Programme).

The Ethiopian government is a Federal Republic and the Ethiopian People's Revolutionary Democratic Front (EPRDF) is currently the majority party (Background Note: Ethiopia, 2007; The World Bank, 2013). The Ethiopian Constitution was ratified in 1994 after decades of political unrest (Background Note: Ethiopia, 2007; Ethiopia, 2013). Although the Ethiopian government has transitioned to less centralized systems over its recent history, the EPRDF currently maintains almost a monopoly on power and is virtually uncontested in elections (The World Bank, 2013). Many sources believe that the Ethiopian government is corrupted and susceptible to bribes and other influences. The Ethiopian government's human rights record is poor and has a history of restricting the freedom of the press as well as unlawfully detaining and torturing citizens (Country Profile, Ethiopia, 2005).

Ethiopia uses a solar calendar that includes thirteen months (twelve months of 30 days in length and one shorter month of five or six days) and the New Year falls on September 11<sup>th</sup> in the Gregorian calendar. The calendar also runs eight years behind the Gregorian calendar (Country Profile, Ethiopia, 2005). The Ethiopian work day usually runs from between seven and eight in the morning to around twelve or one in the afternoon, followed by an afternoon break that can last until three or four, with work resuming until seven or eight in the evening (World Trade Press, 2010).

Ethiopian food is world-renowned and is traditionally served with injera, a flat, soft, sourdough bread (Ethiopia, 2014). Food is typically served on a common plate from which everyone eats (Coleman, 2013). One eats with their right hand, using injera to scoop the food up and sometimes one diner may feed another, which is called “gursha” (Ethiopia, 2014; Coleman, 2013). Eating with the left hand is considered rude because the left hand is only used for “dirty” tasks (World Trade Press, 2010). Hospitality is considered the ultimate desirable quality in Ethiopia and hosts should be persistent when offering their guests food and refreshments (Coleman, 2013; Ethiopia, 2014).



Figure 2. A coffee ceremony in Addis Ababa, Ethiopia.

A highly symbolic cultural ritual is the coffee ceremony. In Ethiopia, it is not only a traditional custom; it is also viewed as sacred (Coleman, 2013; World Trade Press, 2010). The ceremony involves the roasting the coffee beans and the burning of frankincense (World Trade Press, 2010). Ethiopian coffee is not filtered, but brewed in black pots with long spouts used to keep the grounds

inside the pot. The coffee is much stronger than typically preferred in the United States and is served in smaller cups, akin to what Americans call espresso. A guest is expected to drink at least three cups before leaving, complimenting the flavor of the coffee served (Coleman, 2013; World Trade Press, 2010). Popcorn often accompanies coffee due to its popularity as a snack (Coleman, 2013).

In the sports arena, Ethiopia is most famous for its athletes, especially long distance runners (Ethiopia, 2014; World Trade Press, 2010). Ethiopians, both male and female, frequently win gold medals in world competitions, such as the Olympics (Ethiopia, 2014; World Trade Press, 2010). Soccer is the most popular sport in the country and Ethiopia was a key player in founding post-colonial soccer in Africa (Ethiopia, 2014; World Trade Press, 2010). Despite soccer's popularity as a spectator sport, the Ethiopian soccer team is not among the continents top performers (World Trade Press, 2010).

## **SCHOLARLY LITERATURE REVIEW**

Although the aim of this paper is to explore khat holistically as a social and economic function within Ethiopia, the plant's significance is difficult to understand without sufficient historical and international context. The plant is surrounded by controversy, especially regarding its medical effects and subsequent attempts at regulation. This section will provide an overview of the scholarly literature pertaining to khat's origins, chemical action, medical effects, economic impact, cultural context, international status, and regulatory debates.

## **METHODOLOGY**

A search of scholarly databases through the Texas State University library was conducted. Search terms such as “khat, *Catha edulis*, chat, and khat Ethiopia” were used. Search terms such as “miraa” and “qat” were excluded due to this review's focus on khat use in Ethiopia and these terms are names for the plant in other countries. As initial articles were found, additional articles populated by the system were followed until the point of saturation (i.e, the same articles began appearing consistently regardless of different search terms). An extensive Internet search of international and government websites such as the United Nations, the Central Intelligence Agency, the National Institute on Health, and the World Health Organization was also conducted. Sources that did not pertain to Ethiopia, or that offered less useful information were removed. In general, sources that were more than six years old were also removed unless they represented specific information relevant to the subject. Over 90 sources were compiled and approximately one half of these are included in this review.

## FINDINGS

**Origins.** Khat, or *Catha edulis*, is a flowering evergreen shrub or tree grown in the Horn of Africa and the Arabian Peninsula (Colzato, Ruiz, van den Wildenberg, & Hommel, 2011a). The plant has many names including khat, qat, miraa, and kat (ECDD, 2006). It is an important cash crop in Ethiopia grown for its natural stimulant effects. The young shoots are chewed and the plant tastes sweet, bitter, or anywhere in between depending on the type of khat (Lemessa, 2007). The use of Khat can be traced back to the 6<sup>th</sup> century (Armstrong, 2008). One of the earliest historical references available pertains to khat made by an Arabian



Figure 3. A khat plant.

doctor who used the plant to treat depression and gastrointestinal symptoms (Manghi et al., 2009). The earliest documented record of khat use in Ethiopia occurred in the 14<sup>th</sup> century in a chronicle of the medieval Ethiopian Emperor Amde Zion (Gebissa, 2008). The earliest scientific report of khat is made by the botanist Peter Forskal, who named the plant *Catha edulis* in the 18<sup>th</sup> century (Lamina, 2010). The common belief is that khat originated in Ethiopia and then

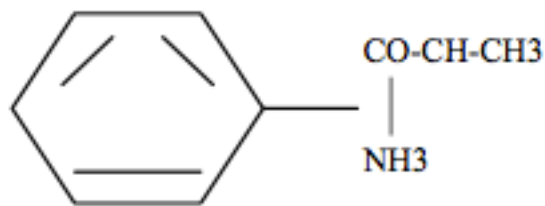
spread through the Horn of Africa and the Arabian Peninsula (Lamina, 2010; Lemessa, 2007). Khat is pronounced, “chat” or /tʃæt/ in Ethiopia although it is consistently referred to as khat in the scholarly literature (Mohammed & Engidawork, 2011).

There are multiple origin stories surrounding khat, but the most popular and well known is almost identical to the origin story of coffee. This story tells of a goat herder who notices that one of his goats had become very energetic and lively and discovers khat while investigating the cause of his goat’s behavior. The herder tried some of the plant himself and experienced energy, new strength and wakefulness. From there, the use of khat expanded through the area (Beckerleg, 2008; Getahun & Krikorian, 1973). Another story tells of two saints who often prayed through the night, but who would have trouble staying awake and doze off. They prayed to God to provide them with something to help them stay awake, and an angel appeared showing them the khat plant (Getahun & Krikorian, 1973).

**Chemical action.** Khat is comprised of several varieties of chemical components and properties (Armstrong, 2008). Khat varieties contains three main alkaloids: cathinone, cathine, and norephedrine (Suwaidi, Ali, & Aleryani, 2013). Cathinone is seven - ten times more potent than cathine and degrades to cathine within 48 hours after harvesting (ECDD, 2006; Armstrong, 2008). This degradation has shaped the way that khat is sold and cultivated, mostly limiting its use to the areas in the Horn of Africa and the Arabian Peninsula.

## Chemical structures

Cathinone



Cathine and norephedrine

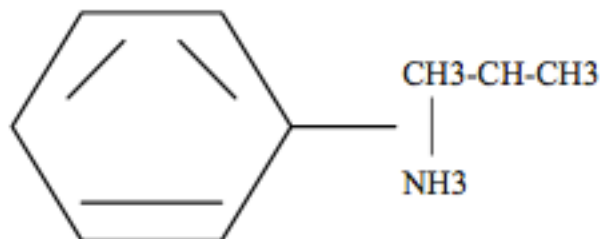


Figure 4. Chemical structures of cathinone and cathine

The potency of the plant is often debated. Some sources claim it is equivalent to amphetamines or other hard drugs such as cocaine and heroin. The ECDD (2006) states, “problems with khat and with the amphetamines should be considered in the same light because of the similarity of their medical effects” (p. 1). Many sources argue that khat causes similar effects to cocaine and morphine and has methamphetamine like properties (Armstrong, 2008). Kassay et al. (1999) note that Khat is an illicit drug similar to cocaine, heroine, amphetamines, and LSD. In the United States, cathinone, a main component of khat, is categorized as a schedule 1 drug, placing it in the same category as heroine and cocaine. Cathine is a schedule 4 drug, in the same category as Xanax or Ambien. The actual plant (khat) itself is unlisted (Feyisa & Aune, 2003).

Although many sources equate khat to amphetamines, there are significant differences. For example, “there are quantitative differences and



specific socio-economic features” of khat in comparison to amphetamines (ECDD, 2006). The effect of khat use is not similar in intensity to amphetamines (Bongard, al'Absi, Khalil, & Habori, 2011). It requires chewing about 650 pounds of khat in order to obtain one gram of cathinone, which is almost physically impossible (Gebissa, 2012). Khat is considered less potent than marijuana, a substance that is also regarded as physically impossible to consume to the point of overdose (Armstrong, 2008). Warfa et al. (2007) state that “while the analogy between amphetamine and khat is seductive, it may be misleading” since cathinone is half as potent and cathine is 7-10 times less potent than amphetamine (p. 310). It would take about 100 grams of fresh khat to produce similar effects to 5mg or less of amphetamine (Dhaifalah & Santavy, 2004). It should also be noted that khat use is not due to its chemical components exclusively, just as the effect of drinking coffee cannot solely be explained by the caffeine content (Armstrong, 2008).

On a similar note, khat is often considered to be closer to coffee, cigarettes, or alcohol in its effects. Gebissa (2012) states that khat is more akin to coffee than cocaine and likens its effects to those of caffeine. Odenwald et al. (2009) also argue that it makes more sense to compare khat to coffee than amphetamines or cocaine. Other sources contend that chewing khat is “like going to a pub and having a drink” (Lamina, 2010, p.2). To many advocates, khat use in Ethiopia is comparable to the use of alcohol in high-income countries around the world (Eckersley, Salmon, & Gebru, 2010). Many sources assert that khat is the least harmful of popularly used drugs including tobacco and alcohol

(Dessie, 2013b). Armstrong (2008) claims that khat chewing has much the same effect as drinking several beers or cups of coffee. Despite arguments to the contrary, a commonly held belief is that the khat plant has an excellent health record as a healthy and benign substance. In a recent study, it received a ranking of 9 in a harm assessment exercise in comparison to alcohol, which ranked 72 (Klein, 2011).

One of the most contentious debates surrounding khat is its level of dependence. Some studies find that, in its purest form, cathinone has a higher potential for dependence than amphetamines, and recent epidemiological reports have shown khat to cause dependence (Odenwald, Warfa, Bhui, & Elbert, 2010). According to Manghi et al. (2009) Pre-clinical and clinical observations confirm the addictive potential of the two main active chemicals in khat, cathinone and cathine. A study establishing a severity dependence scale found khat users to exhibit signs of dependence despite citing social interaction as their primary reason for use (Kassim, Islam, & Croucher, 2010; Kassim, Hawash, Johnston, & Croucher, 2012). The World Health Organization (WHO) classifies khat as a substance that can produce mild to moderate psychological dependence (Dessie, 2013a).

Alternatively, a significant number of scholars argue that khat is not addictive. The National Institute of Health (NIH) found no clear indication of dependence or withdrawal (National Institute on Drug Abuse, 2013). Numan (2012) argues that describing khat as addictive is an exaggeration based on the ignorance of cultures. Gebissa (2012) maintains that khat chewers get “hooked”

to the social aspect of khat rather than the chemical effects of the plant. Little evidence exists for khat dependence in humans, and no physical dependence or definite abstinence syndrome has been demonstrated with khat use (Armstrong, 2008; Gebissa, 2008). Therefore, khat use “cannot, technically, be described as addictive” (Gebissa, 2008, p. 796). In general, there is a lack of consensus in the scientific community on whether khat is addictive or not; further, all medical findings appear to be inconclusive and contradictory (Beckerleg, 2008).

**Medical effects.** Much of the literature agrees with the popular opinion that chewing khat results in better concentration, increased energy, and clearer thinking. According to the Expert Committee on Drug Dependence (2006), khat causes increased alertness; and, anecdotal reports indicate that khat use increases alertness (Manghi et al., 2009). College students report that use of the plant improves concentration, alertness, and creativity (Damena, Mossie, & Tesfaye, 2011). Dessie (2013b) found that khat use has been associated with increased problem solving skills. Similarly, studies of workers in Ethiopia report that khat is used to increase energy and vigor while working (Armstrong, 2008). A study conducted among students in Ethiopia cited concentration and facilitation of rote memory as the primary reason for khat use (Kassay, Sherief, Fissehay, & Teklu, 1999).

Khat use is often said to increase sexual desire and performance. In ancient times, khat was used as an aphrodisiac and to treat premature ejaculation (Mohammed & Engidawork, 2011). Studies cite effects of khat on the chewer to include increased libido (Reda, Moges, Biadgilign, & Wondmagegn,

2012). Mild doses were found to increase sexual motivation and testosterone levels in rats treated with khat extracts (Mohammed & Engidawork, 2011). Increased testosterone levels were also found in human khat users (Al-Ghamdi, 2012; Gebissa, 2010)

Just as often, khat use is said to have the opposite effect. Larger doses of khat extract also caused reduced motivation and performance as well as lower levels of testosterone and epididymal sperm counts in male rats (Mohammed & Engidawork, 2011). A decrease in libido has been reported by some male users and may even cause sexual impotence (Manghi et al., 2009). In one study, sperm count, volume, and mobility in khat users were significantly lower than in non-users (Manghi et al., 2009). Khat use has been associated with impotence and is generally thought to be adverse to reproductive health (Gebissa, 2008).

Other potential physical adverse effects of the plant are that it may be detrimental to cardiovascular health. Cathinone has been shown to increase the heart rate and blood pressure (Suwaidiet et al., 2013; Colzatoet et al., 2011a). Khat use has also been shown to increase respiratory rates in users (Gebissa, 2008). Regular khat use has been associated with an increased risk of acute myocardial infarction. A study conducted in Ethiopia found that the mean diastolic blood pressure, heart rate per minute, and levels of hypertension were higher in khat users (Getahun, Gedif, & Tesfaye, 2010).

Khat is widely thought to have appetite suppressant qualities. The ECDD (2006) found that khat chewing causes weight loss (2006). A study involving rats showed that the use of khat extracts enhanced the anti-obesity effect (Aziz, Peh,

& Tan, 2011). Khat chewing has also been associated with a loss of appetite (Dessie, 2013b). The use of khat is thought to cause anorexia in those that chew it (Gelaw & Haile-Amlak, 2004).

Not surprisingly, khat chewing often makes sleep illusive. Habitual users may suffer from insomnia (Aziz, Peh, & Tan, 2011; Manghi et al., 2009). Many drivers in Ethiopia use the plant to help them stay awake while driving through the night (Eckersley et al., 2010). Medicinal uses of the plant traditionally include treating fatigue (Kassim et al., 2010). Even general use may cause sleeplessness and/or nightmares (Gebissa, 2008).

Due to the act of chewing the plant, khat is believed to be harmful to oral health. The NIH found extended use to be associated with tooth decay and periodontal disease (National Institute on Drug Abuse, 2013). Extended use has also been associated with keratotic mouth lesions on the side of chewing (Colzato et al., 2011a). There is a high frequency of khat users among oral cancer patients, and khat use has also been associated with oral leukoplakia (Al-Motarreb, Al-Habori, & Broadley, 2010; Manghi et al., 2009). Paradoxically, there is evidence that chewing khat increases oral health. Khat use may have positive effects on the periodontium (Klein & Metaal, 2010). Manghi et al. (2009) reported that the oral hygiene status of khat chewers is generally found to be higher than in non-users.

Khat has a reputation for causing intestinal discomfort. Extended use has been associated with gastrointestinal problems (Colzato et al., 2011a). An adverse side effect includes constipation (Aziz et al., 2011). Khat use has also

been attributed as a contributing factor to certain duodenal ulcers and further accounts for many cases of gastritis, stomatitis, and esophagitis (Al-Ghamdi, 2012; Al-Motarreb et al., 2010)

One of the more concerning adverse effects attributed to khat pertains to cognitive and psychological functioning. The ECDD (2006) claims khat can induce paranoid psychosis and grandiose delusions. Colzato et al. (2011a) indicates that khat use may cause a decrease in cognitive control. Bongard et al. (2009) found that khat chewers were less efficient in regulating negative emotional responses and more likely to get angry. Khat users were also found to have impaired inhibitory controls (Colzato, et al., 2011b). Over a quarter of participants in a study conducted in Jimma City, located in Southwestern Ethiopia, showed signs of mental distress (Damena et al., 2011). Users were described as unrealistic, emotionally unstable, and subject to manic behavior (Feyisa & Aune, 2003). Habitual khat chewing has been associated with functional mood disorder and depression; and, it may worsen pre-existing psychological conditions, while exacerbating problems in vulnerable users (Gebissa, 2008). Multiple case studies have reported a link between heavy khat use and psychotic symptoms or psychoses (Warfa et al. 2007).

Conversely, others sources refute that khat use causes mental and psychological distress. Khat has been used in traditional medicine to treat depression and stress (Kassim et al., 2010). Between khat use and mental distress several studies have found weak or no evidence that a causal relationship exists (Colzato et al., 2011a; National Institute on Drug Abuse, 2013;

Numan, 2012). None of the quantitative studies used by Warfa et al.(2007) found a causal relationship between khat chewing and psychiatric symptoms. Many scholars agree that establishing a causal relationship between khat and mental illness is extremely difficult, if not impossible (Gebissa, 2012). Further, mental distress had a high association with smoking, caffeine and alcohol consumption during chewing, which are confounding factors to consider (Damena et al., 2011). The ECDD (2006) maintains that induced psychosis and mental distress are exceptional cases and associated with large amounts of khat. Khat use in moderation and traditional settings may actually have beneficial mental health effects (Odenwald et al., 2010). It has also been suggested that depression and negative feelings may motivate khat chewing rather than be caused by it (Mains, Hadley, & Tessema, 2012). There is no clear evidence for the effects of khat chewing and the development of mental illness (Warfa *et al.*, 2007). Research of khat's psychosomatic effects is controversial and contradictory (Numan, 2012).

Some sources relate khat to mortality. Beckerleg (2008) states that khat use has dangerous and even fatal results. Khat use among pregnant women is proposed to cause low birth rates, which in turn increase the risk for prenatal problems and infant mortality (Dhaifalah & Santavy, 2004). Suwaidi et al. (2013) present khat as a risk factor for in-hospital mortality. One case study attributed 13 deaths to the use of khat (Corkery, et al., 2011).

The claim that khat use can result in death is also highly contested. Klein (2011) contends that presenting khat as a “killer drug” can only be done by “redefining the term drug related deaths from one of causality to a loose

association” (p. 426). More precisely, information is often selected specifically to represent the plant as a drug that kills those who use it. Of a similar opinion, Singleton (2011) points out that the presence of a substance in the body does not mean it caused the death. In response to Corkery *et al.*, Singleton (2011) argues that, if khat can only be loosely associated to 13 deaths in a six year period, then that finding in itself significant makes the validity of the study’s conclusions suspect.

**Economic Impact.** A critical factor to consider regarding khat’s significance in Ethiopia is its economic importance. Khat has a large influence on local economies throughout Ethiopia (Dessie & Kinlund, 2008). The taxes earned on khat are a significant source of income for the Ethiopian government (Lamina, 2010). In 2010, khat tax revenue reached over half a billion birr (approximately 25 million U.S. dollars), and khat represented 10.5% of national exports (Dessie, 2013a; Dessie, 2013b). The country is dependent on khat sales for its livelihood and khat income in Ethiopia is greater than the total public expenses for health in the country (Odenwald *et al.*, 2010). As such, the Ethiopian economy has become dependent on the export earnings of a plant that is becoming a banned substance in many countries, which may present serious problems in the future (Feyisa & Aune, 2003). Khat production also provides employment and income for many people beyond simply the farmers that produce it (Dessie, 2013a). Yet, there is a great disparity. For example, those who earn money in the production and distribution of khat at a minimum earn 2.5 birr less than the lowest



government wage for an eight hour work day, and a maximum of twice the salary of a university professor for about three hours worth of work (Dessie, 2013a).

Sources who oppose khat often argue that khat growth is increasing and displacing food crops such as maize and sorghum (Tefera, 2009). Khat production may undermine food security in Ethiopia (Dessie, 2013b). Coffee was previously the crop of choice, but this has shifted to khat due to its higher earning potential, lack of government subsidy for coffee cultivation, and the increased risk of coffee berry disease (Tefera, 2009). Khat also requires less water to cultivate than sorghum and coffee, and it can often withstand drought where other crops fail (Lamina, 2010; Manghi *et al.*, 2009). As a result, crops with a high cash return often become favored, requiring farmers to depend on the cash earned to purchase food. However, food crop deficiencies elsewhere can cause the extra cash income to be useless (Dessie, 2013a). Food displacement is a concern because, if khat production failed or the market collapsed, there is a risk of widespread famine in khat producing areas (Feyisa & Aune, 2003).



Figure 5. Khat field in Ethiopia.

Although much of the literature expresses concern in regards to khat production replacing food crops, farmers who produce khat earn more money. For example, even though coffee and khat use less land than food crops, they bring in a significantly higher income (Tefera, 2009). In addition to using less land, khat cultivation is possible on previously unusable lands, such as steep slopes (Dessie, 2013a). Nevertheless, farmers often do not eliminate food crops but pursue intercropping, which is growing different crops in close proximity. Khat maize intercropping is 2.7 times more profitable than maize cropping alone (Tefera, 2009). Intercropping khat with food crops suggests that producing both is an economic strategy rather than the effect of khat replacing food crops (Dessie, 2013a). Khat growing communities are better off than their non-growing neighbors and experience a higher quality of life (Gebissa, 2008; Odenwald *et al.*, 2010). Khat cultivation significantly contributes to the producers' livelihoods (Dessie, 2013a). The majority of respondents in an Ethiopian study reported that khat farmers are better off than cereal crop farmers (Dessie, 2013b). Increases in khat cultivation lead to significant decreases in malnutrition of preschoolers (Tefera, 2009). A study comparing the nutritional status of households found that khat producing families earned an average of three times more than families that produced other crops and that the children had higher nutritional levels. (Seyoum, Kidane, Gebru, & Sevenhuysen, 1986).

Controversy surrounding the cultivation of khat extends to its environmental impact. There is actually some evidence that khat benefits the environment. For example, Tefera (2009) states that khat cultivation prevents

erosion. If not for khat cultivation, soil erosion would have been severe in many areas of Ethiopia (Lemessa, 2007). The permanency of the khat plants also has positive effects on soil conservation (Dessie, 2013a). The majority of respondents in a study conducted in Ethiopia agreed that khat production lands were not susceptible to degradation (Dessie, 2013b).

On the other hand, some experts contend that khat can cause harm to the environment. The continuous growth of khat can be nutritionally taxing on the soil (Dessie, 2013a). Increasing khat cultivation can cause greater stress on finite water resources (Gebissa, 2008). Khat expansion is also influential in the reduction of forest areas in Ethiopia (Dessie & Kinlund, 2008). Khat requires at least a five-year time commitment for crop planning, which makes timely change and adaptation difficult for farmers (Tefera, 2009).

**Socio-cultural context.** Khat plays a crucial note in the cultural context and social life of Ethiopia. Khat use is a deeply rooted religious and socio-cultural tradition (Lamina, 2010). For centuries, khat has been integral to social life in the areas in which it is chewed (Eckersley et al., 2010). Khat use is deeply anchored to regional customs and traditions, and the practice of khat use is usually governed by long-standing traditions that place strict limits on its misuse (Damena et al., 2011; Gebissa, 2010). Social interaction was the main reason given for chewing in a study on self-validated chewing (Kassim, Hawash, Johnston, & Croucher, 2012). Khat use provides a social context for constructive and peaceful interactions, to seal contracts such as marriage, or to practice religious ceremonies (Gebissa, 2012). More than two thirds of respondents in a

study conducted by Dessie (2013) disagreed with the statement “khat chewing has no social, cultural and spiritual values” (p. 19).

There is some evidence that khat use diverts household income (Reda et al., 2012). Frequent regular users spend a huge proportion of their income on khat (Feyisa & Aune, 2003). It is alleged that users divert income from important family and personal needs, including food, in order to chew khat; and, some people spend half of their income or more on the plant (Gebissa, 2008; Kassim et al., 2010). Family life suffers as a result of this dissipated income (Colzato et al., 2011a). Spouses of khat users often complain that khat use causes excessive and unnecessary strain on the family budget (Beckerleg, 2008).

A seldom-discussed issue is the possible underlying social causes of khat use. For example, khat has been found to be more extensively used by Somali combatants than other citizens. Further, it has been argued that Somalis use khat in order to cope with traumas caused by the political instability in their home country (Bongard et al., 2011). Poverty, dislocation, frustration, political instability, social unrest, and refugee problems can cause a population to be more susceptible to khat use (Dessie, 2013b). Factors including unemployment, social and economic exclusion, and lack of recreational facilities can also contribute to khat use (Kassay et al., 1999; Singleton, 2011). A study by Mains et al. (2012) found a dramatic gap between expectations among youth and the reality of limited opportunities for their future. Combined with unemployment lasting up to three or four years, these bleak prospects may cause them to turn to khat use as a coping mechanism. Kassay et al. (1999) found that health workers

identified social problems as the primary reason for khat use in Ethiopia. The increasing use of khat in Ethiopia may be a result of rampant poverty, which leads urban unemployed youth to use khat as a method of escaping the depressive effects of unemployment (Gebissa, 2008).

Much of the literature argues that khat use causes reduced productivity (Reda et al., 2012). Khat use is linked to absenteeism; Lamina (2010) observed “khat sucks the life out of the workday” (as quoted in Armstrong, 2008). In a study conducted at Jimma University, over one-half of the khat users missed work in order to chew the plant (Gelaw & Haile-Amlak, 2004). Khat use negatively impacts working capacity, causing users to be paid 7 birr per day while non-users are paid 10 birr per day (Feyisa & Aune, 2003). Ten percent more of the respondents in a study conducted by Dessie (2013b) believe that khat chewing is a “non-productive activity” and a “waste of time,” and the majority of respondents agreed that khat use suppresses work motivation. Feyisa and Aune (2003) report that khat users are more likely to be tardy for work, take frequent breaks to chew, and appear careless. Kassay *et al.* (1999) argues that “when a substantial percentage of any generation engages in ‘drug’ use, that generation will become a crippling social burden” (p. 142).

The plant has also been accused of causing users to engage in high-risk activities. Khat use has been implicated in relation to sexually risky behavior and as a gateway to cigarettes and alcohol (Reda *et al.*, 2012). The majority of respondents in a survey conducted in Ethiopia also believe that khat use leads to alcohol use, which leads to unprotected sex and possible HIV infection (Dessie,

2013b). The majority of khat users in a study conducted in Jimma University use alcohol after chewing khat in an attempt to avoid insomnia (Gelaw & Haile-Amlak, 2004). Kebede *et al.* (2005) found khat use to be associated with unprotected sex and initiation of sexual activity.

In contrast, many sources contend that users of khat are not users of other commonly abused drugs (Armstrong, 2008). Gebissa (2008) states that “the khat-HIV connection is tenuous at best and the projection of khat opponents outlandish” (p.789). Lamina (2010) also states that there is no evidence that khat use is a gateway to other drugs. In a study aimed at proving khat to be a gateway drug, none of the students surveyed reported hard drug use such as cocaine or heroin, and the majority of them reported that alcohol, not khat, was their first encounter with a drug (Gebissa, 2008).

**International status.** One of the most frequently articulated concerns of khat proponents is the existence of cultural and political biases in regards to khat. Many sources contend that the issue of khat use is not approached from a neutral or holistic perspective (Odenwald et al., 2010). For example, the United States seemed to view khat with indifference prior to its military involvement in Somalia in the early 1990s. The U.S. government apparently held that the taste and time necessary to feel the plant’s effects would make it undesirable to Americans. After the violence in Somalia, the American media portrayed khat as the root of the political unrest, associating it with raiding parties and gunmen. This stereo-type, combined with fear of the negative effect of immigration among certain segments of the U.S. led to the classification of cathinone and cathine as

controlled substances (Gebissa, 2012). International issues such as the war on drugs and fear of Islamic terrorism influence the debate on khat use in the U.S. (Dessie, 2013b). The American government asserts that khat helps fund terrorist movements such as Al-Qaeda, while some sources point out that using, selling, or transporting khat to be a direct violation of the Qur'an (Armstrong, 2008; Gebissa, 2012). Some advocates argue that khat is being set up as a scapegoat for social and economic problems worldwide (Dessie, 2013b). The United Nation's stance on khat use may represent a clash of cultures between the industrialized and non-industrialized worlds. By targeting khat, not only the plant but members of communities that chew it as a central part of their lives have come under adverse scrutiny (Armstrong, 2008).

**Regulatory debate.** Although much of the literature does not specifically call for regulation, there are many proponents who believe khat should be treated as a controlled substance. The majority of respondents in one study replied that khat should be banned in Ethiopia (Dessie, 2013b). Other studies conclude that prevention and control programs should be implemented to limit the use of khat (Kebede , et al., 2005; Corkery, et al., 2011).

Most of the literature addressing this debate seems to recommend against regulation. The representation of the plant as a “drug issue” leads to its regulation without proper discourse (Klein & Metaal, 2010). Many policy makers have very limited knowledge of khat and its impacts, and those with the highest stake in khat and who would be most affected by any new policy, are left out of the debate (Gebissa, 2008; Thickett, 2011). The eradication of khat in the Horn of

Africa could have disastrous consequences, and governments in the area would not have the resources to handle the subsequent impoverishment of hundreds of thousands of people in some of the poorest nations in the world (Beckerleg, 2008; Gebissa, 2010). Perhaps because of this, prior attempts to regulate khat in the Horn of Africa have failed (Armstrong, 2008). Both the WHO and the Advisory Council on the Misuse of Drugs (ACMD) are against the scheduling of khat as an illicit substance (Klein & Metaal, 2010).

There is no definite link between khat and organized crime, and khat users demonstrate a low rate of violent offenses (Armstrong, 2008). Khat busts are often blown out of proportion. For example, a recent bust in Spain of about 24.5 kilograms was estimated to have a value of 15,000 U.S. dollars. In reality that would equate to about 100 bundles of khat and would sell for between 3 and 7 British pounds each in the UK, which comes out to a maximum of 700 pounds or about 1400 U.S. dollars (Klein et al., 2009). Another argument proposed against regulation is that chewing coca leaves and using cocaine are inherently different as reflected in the legal code yet, there is no differentiation for khat leaves (Colzato et al., 2011a; Gebissa, 2012). It is difficult to gage the actual proportion of people in khat chewing communities who are in favor of prohibition. It is worth noting women are much more likely to voice concerns than men (Thickett, 2011). As in any debate, those who are opposed are often the loudest, but they may not represent the actual views of the opposition.

**Summary.** The only reasonable conclusion that can be drawn from that the vast majority of the literature is that more research on khat is desperately



needed. In general, the literature on the precise effects of *Catha edulis* is scarce, and studies exploring the long-term cognitive effects of chronic khat use are wholly lacking (Colzato et al., 2011b). Scientific evidence regarding khat's effects is tentative and perhaps much more ambiguous than proponents of prohibition claim (Gebissa, 2012). Empirical evidence on khat use is inconclusive (Dessie, 2013b). Due to confounding factors such as poverty, famine, war, and use of other substances, causal relationships are difficult to determine, and the available data fails to differentiate between moderate or excessive users or to identify co-morbidities (Numan, 2012; Odenwald et al., 2010). More research on khat's influence on the environmental landscape is necessary, and the focus of this research needs to be expanded (Dessie & Kinlund, 2008). Lamina (2010) advocates that "further qualitative and quantitative research is required and a positive international approach to khat use" is urgently needed (3).

## **PERSONAL NARRATIVE**

### **METHODOLOGY**

The following section is a narrative of and reflection on my own personal experiences during and after studying abroad in Ethiopia for four weeks during the summer of 2012. My group stayed primarily in Addis Ababa and travelled by bus to Bahir Dar, Gondar, Lalibela and Harar. While abroad, I participated in two anthropology classes. One was entitled “Peoples and Cultures of Africa.” The other was a directed independent study (DIS) for which I completed a research paper on khat and its place within Ethiopian society. For both courses, I maintained an ongoing journal of my impressions. Throughout Ethiopia, I observed many different aspects of khat and inquired about its use. This section details what I observed, thought, and felt during my visit to Ethiopia and it addresses how that experience informed my khat research.

### **FINDINGS**

The word “chat” had only one meaning before I left for Ethiopia and that was the act of speaking in a friendly way with someone informally. If someone had told me that I would write a paper about something called “chat” for my directed study term paper, I would have told him or her they were crazy. Yet here I am more than two years later writing about it. When I got off the plane in Ethiopia, I had no idea what I wanted to write about for my term paper. I knew I had to find something quickly, seeing as I had four weeks to complete it while taking another class and participating in the planned activities for the study abroad. I had already attempted two unsuccessful project proposals and tend to

overthink my way into a funk when it comes to larger projects. This was not an exception. Little did I know how easy finding my topic would be since, I observed it from my first day in Ethiopia.

**Addis Ababa - Arrival.** Only several hours after arriving, my professor took my roommate and me to find some food. We had both arrived a day earlier than any of our classmates and, therefore, we had a day to fill before the study abroad officially began. While on our dining excursion, we passed people sitting in the street chewing on a plant, but at the time I paid little attention. Over our spaghetti, my professor told us of an experience he had shortly after arriving in which two Ethiopian young adult males offered to show him around and take him to a cultural party involving the “green cake.” Being interested in the area and culture, my professor agreed and followed the two men. He was made to pay for the taxi and food, which he didn’t mind considering they were showing him around and the exchange rate was hugely in his favor. Upon arriving at their destination, the men ordered and received a bundle of leaves. Realizing what was occurring; my professor asked if the leaves were the “green cake”. When the men responded that they were, he quickly excused himself despite many protests from his newfound friends. He was sure he was being conned to pay for the men’s leaf fix.

I didn’t know it at the time, but this was my first encounter with the subject of khat, and I thought nothing of it. As the study abroad continued and I explored a little further from the hotel while familiarizing myself with the immediate area, I began to notice that men chewing this leafy plant was very common in the back

alleyways of the city. The stems and waste from the plant were clearly visible strewn along the streets. One day, I saw what appeared to be a homeless man pick up one of these stems and pull tiny bits of leftover leaves to chew. This was when the plant first piqued my interest. What could the plant possibly be that a man would pick it up off the ground to consume it?

The day after my roommate and I arrived, the students who had already arrived in Ethiopia joined our professor for a quick tour of Addis Ababa. We explored a park area nearby and stopped to order a cup of coffee. The coffee in Ethiopia is brewed without a filter and is extremely strong. I usually add a minimum of two or three spoons of sugar in order to enjoy a cup, yet this coffee still didn't taste the slightest bit sweet after five or six spoons. Keep in mind, these cups are about the same size as used in a Japanese tea set. After one cup, I became jittery and couldn't stop moving. The group proclaimed that I was more talkative than usual and the speed with which I spoke had increased significantly as well. That was the strongest cup of coffee I had while abroad, and I wish I had brought some home with me for those long nights of studying. It took several hours for the effects of the caffeine to abate. I still struggled to sleep that night, and I was cautious with coffee for several days after.

There was a very friendly man who owned the Internet café next door to the hotel who often helped us and was very friendly. I decided to ask him about the plant that I had observed being chewed around town. He explained that it was called "khat" and described it as a "bad plant" that men often got addicted to but was common and popular everywhere in Ethiopia. As I prodded him for more

information, the plant continued to fascinate me, so I began to toy with the idea of using it as my topic for my DIS.

When I approached my professor with the idea, he laughed and teased me that I was losing my academic drive and using the DIS as an excuse to try new drugs while abroad. I laughed him off, not thinking twice that he called it a drug. Now I realize that by simply identifying the plant as a drug, I had already formed an initial opinion about it. While settling into our routine of taking classes and exploring the city, my experiences unintentionally reinforced the idea that khat was a drug. Everyone I encountered and formed relationships with, such as the internet café owner, during this time were usually college graduates who viewed khat as a negative influence in Ethiopia. They reported that the plant was addictive and pulled income away from family necessities. None of them liked it and it was easy to find scholarly articles supporting their claims from a quick search online. This further reinforced my definition of the substance as a drug.

**Bahir Dar.** The first excursion our group took was to Bahir Dar and then Gondar on the way to Lalibela. We travelled in a bus that was intended to hold about 30 people but our group of 13 barely fit. It was a good indicator of the differences in acceptable personal space between the American culture and that of Ethiopia. Due to the quality of the roads and the winding nature of their path, the trip took the entire day. We arrived in Bahir Dar after it was already dark and had to stop at several different hotels before we could find one with availability and within our budget.

The next day we got up early to do a tour on the lake to see some of the centuries-old churches on a few of the islands. We hired a tour guide who had spoken to our professor the night before and he showed us through several of the islands and old Orthodox Ethiopian churches. Each island was accustomed to visitors and had merchants set up near the docks where the boats unloaded. The priests also showed us small museum-like rooms at each church that included old manuscripts written in Geez and many paintings. They also included artifacts owned by previous holy men of the church. Each location typically depicted the same stories of St. George slaying the dragon or other common biblical stories commonly told in the orthodox Christian faith. The men presenting these artifacts were often very strict and disliked talking during their presentations. They also expressly forbid flash photography. Unlike many locations similar to these in the United States, we were forced to pay admission to each location.



Figure 6. A museum in one of the churches my group toured while in Bahir Dar, Ethiopia

While touring the islands we were able to see some coffee plants and even witnessed some boys at school. They were all gathered around a hut near the church complex listening to an older man speak. One thing I didn't notice on the islands was any khat chewing. This may have been due to their orthodox Christian faith. I had heard reports that the faith was not favorable towards khat chewing. Our tour guide, however, chewed the plant frequently.

After our tour on the lake, we left for Gondar in order to make it before nightfall. Our tour guide was joining us until Gondar and I asked him to speak to me about khat and to point out plantations along the way. He was very adamant that khat was a great gift and even made the bus driver stop so that he could buy a bundle for the road. He chewed nonstop while we drove and would point out a khat plantation here and there. His teeth were stained green and you could see the green mixture of juices and saliva when he talked. He explained that khat can be harvested several times a year, making it a nice cash crop for farmers and that the wood was often used in building as well. He touched on the fact that farmers often see little of the true profit made on khat, but he was more focused on chewing than holding a conversation with me and his demeanor did not make me trust him. Therefore, my interaction with him did nothing to dissuade me that khat was a drug that should be eradicated.

**Gondar.** When we got to Gondar, we immediately toured the 17<sup>th</sup> century castles there, and our tour guide quickly disappeared. The castles were beautiful but the sun was setting, so we had to move quickly. We were unable to experience the full tour through the historical site. After that we travelled to the

hotel that was already arranged for the evening. It was owned by an acquaintance of my professor and was by far the nicest place we had stayed so far. I honestly think that it was outside our price range to stay within budget, but the owner gave us a great discount, allowing us to stay. The food was fantastic, the bathrooms were clean and new, and everyone was in high spirits. I forgot all about khat while there and saw nothing of it while at the hotel.



Figure 7. The castles my group toured in Gondar, Ethiopia.

**Lalibela.** We were all sad to leave the next day but we needed to continue our journey to Lalibela. There we saw many of the ancient churches carved out of the stone and got to crawl through several long tunnels that were pitch black without any sort of flashlight. Lalibela was cleaner than many cities. Although I did see khat waste, there was not nearly as much as I had seen in Addis Ababa or the small towns on the way. However, since Lalibela was a popular tourist destination in Ethiopia, I was conned into buying a dictionary for two boys on the



street. They bought a cross necklace for me in return as a sign of their gratitude for the dictionary. However, having since been asked for money via email under the pretense that one was dying from some sort of disease, I now doubt their sincerity. Especially since once I declined sending any money, the emails went back to being light hearted and no mention of the disease was made again.



Figure 8. A stone church in Lalibela, Ethiopia.

I didn't interact with khat much while in Lalibela, but I did try tej, commonly known as honey beer or wine. There were three distinct levels of potency and I stuck with the lowest. It was the sweetest and I didn't want to get intoxicated in front of my peers. We had a good time and we all attempted to learn traditional Ethiopian dances, though I failed miserably. We left the following morning and I again noticed many khat fields on the way back to Addis Ababa. They were usually intermingled with other crops and I would learn why later. I also noticed donkeys that travelled with huge bundles of leaves, which I learned were khat on their back. No matter when we travelled, there were always drivers weaving in and out of traffic like crazy, obviously in a huge rush. At the time, I didn't know why they were in such a hurry, but I would later learn that they were delivering freshly harvested khat.

**Addis Ababa – Khat House.** Upon returning to Addis Ababa, I began to electronically search for scholarly articles regarding the khat plant. I encountered many difficulties due to our university system not recognizing our access codes since we were abroad. After getting frustrated, another friend we had made over the last few weeks mentioned places called khat houses where people go to chill, have a good time, and chew khat. I considered going to one of them but initially my own inhibitions got in the way. I was afraid of what people would think of me, and I didn't want anyone to assume I was writing about khat as an excuse to get high on it. Several of my peers expressed interest in joining me and, having the comfort of a support group, I decided to go.

Our friend took us to a khat house not far from our hotel. It was not an incredibly nice khat house, but one that was often used by young men in the area. I don't know how anyone knew it existed, considering it was tucked away down the narrowest crevice between two houses that I had seen thus far. I was skeptical when our guide turned into the walkway but, sure enough, there was a man and woman waiting to help us at the end. The man did all the talking, asking us how we were and then he had a conversation with our guide in Amharic, the native language in Ethiopia. The whole khat house couldn't have been bigger than my living room in my one bedroom apartment back home. After the conversation, the woman fetched what our guide had ordered, a bundle of leaves wrapped in plastic, and showed us into a small room filled with men.

There were benches lining both walls of the long rectangular room and a television going on the far end. There were two refrigerators filled with drinks, including water, sodas, and beer. There were hookah water pipes for smoking shisha (vaporized tobacco) set up between every three or four men and the room was fairly packed. Crates turned upside down were used as tables and every man had a bunch of leaves he was picking apart and chewing.

The woman handed our guide the bundle he had ordered and he opened it, asking if we knew what to do with the leaves inside. After confirming that we were completely clueless in regards to this, he walked us through how to chew khat. He showed us that only the tender leaves are for chewing and that we should pick them close to the stem. He showed us how you lightly chew them to get the juices flowing and then stuff them in one cheek to soak while sucking the

juices out of them. He handed each of us a few leaves to try and immediately laughed at our faces when we put the leaves in our mouths.

I have never tasted anything so bitter in my life; this bitterness was akin to the coffee that made me shake at the beginning of the trip. I could not imagine why anyone would voluntarily chew such a plant. Even so, I dutifully continued to take the leaves that our guide offered me. Seeing my disgust, he asked how I liked it. I told him point blank that it tasted nasty and then he explained that this is one reason that the refrigerators exist. People use the soda, beer, and water to chase the bitter taste of khat, and he asked if I wanted anything. The khat was making my mouth dry, or perhaps that was due to user error, but either way, I asked for a bottle of water. He refused, saying that it wasn't sealed, but open bottles that had been refilled, and that he didn't want us drinking unpurified water. I opted for a Sprite instead.

The Sprite helped with the taste, but indicative of my ineptitude, I kept accidentally swallowing the leaves in the process of drinking the soda. This is when our guide offered us peanuts or sugar. He explained that peanuts and sugar were also used to help with the bitter taste and I readily agreed to try them both. I had the same problem with peanuts that I did with the Sprite, but I finally found my savior with the sugar. I have a major sweet tooth and loved the sugar in Ethiopia; I swear it tastes sweeter than the refined sugar we have here in the United States. I settled into a routine of taking the leaves our guide offered me and licking sugar off of my hand. By the end of the session, I believe I had eaten more sugar than I had chewed khat. We had to pay for each new thing we used.

The khat had an initial price, and then the drinks cost money, as did the peanuts, sugar, and shisha. I was beginning to see how this added up quickly and could cost a pretty penny.



Figure 9. The khat house our guide took us to in Addis Ababa, Ethiopia.

My peers were also using the hookah in front of us, and I would take a drag as it came around. I didn't taste anything and didn't like the smoke, so I took it less and less frequently. At the beginning of our chewing session, my peers and I continued to ask our guide when the effects would kick in, and he kept telling us to be patient and suck out the juices. If I remember correctly, every couple of minutes we kept telling him that we couldn't feel anything and asking how long it took until we got tired of asking. Perhaps because of the taste and the lack of results, many of my peers began to exclusively use the hookah rather than chew khat. While they entertained themselves this way, I began to ask questions of the men sitting around us who were chewing.

They were eager to interact with our group as they found our predicament amusing. I didn't think much of it at the time, but other than being obviously foreign and our failed attempts at using the plant, all of my peers and I were women. I had not seen a female in Ethiopia chew khat, so I am sure this had an effect on their interest as well. The men were friendly and when I explained that I was trying to learn about khat, they opened up immediately.

My first question was an attempt to find out how chewing the plants made them feel. I was feeling nothing and had reached the conclusion that I could not force myself to chew it long enough to feel any effects. At this point, I needed some personal insight from users to augment the few articles I had found so far. They all agreed that it made them feel more awake and energized, helping them feel like they could accomplish anything. They also mentioned it made them want to talk with friends and made them less sad. They all spoke of thinking more clearly and having better ideas while chewing than when not and they encouraged me to give it another try, advocating for its usefulness.

The answer to my next question stuck with me and is the primary reason I am continuing this line of inquiry even now. I asked why they chew the plant, not believing that anyone could stand something so bitter without good reason. Rather than referencing the many effects they stated earlier, they overwhelmingly replied that they chewed because they were lonely and khat helped to fix that. They stated that when they chewed, they were happier and khat brought everyone together and made everyone friends regardless of social class or background. Their answer shocked me and made me second-guess where I was

going with this research. What they said was contradictory with most of what I had read and heard from others about the plant, all of which it had been cast in a negative light.

After recovering from the surprising response to my previous question, I asked if they thought that khat was addictive. Not so surprisingly, they said yes, they thought khat was addictive. When asked how they could tell, they stated that many men chewed almost every day and spent more money on khat than anything else. I asked the men how often they chewed and got answers ranging from once a month to four or five times a week, but most said that they chewed more days out of the week than not.

The khat house owner said a khat addict might spend 1000-1500 birr per month (about \$50-\$75 US at the time) on khat to chew. Our guide said that a good monthly salary consisted of about 2000-2500 birr for young men just starting families, meaning that half or more of the family income was being spent on khat. He also stated that this could cause problems within the family if the husband was spending most of his money on chewing the plant rather than providing for his household.

Despite the fact that many of the men fit their own description of an addict, they were adamant that they could stop at any time and that chewing the plant was just a hobby. None of them felt it affected their work ethic, arguing that if khat made them feel energetic, then how could it possibly be detrimental to their work? While these users felt that they were not addicts, they had nothing good to say about people they thought were addicted to the plant. They said that addicts

were daily users who were useless, had bad teeth, and always smelled. They said that addicts waste all their time and money on khat instead of working or being with the family, which causes many problems. One chewer even said that people who don't chew khat get paid more because addicts make everyone think chewers are flaky and lazy.

I then asked if they thought that khat should be legal. They all agreed that it should be legal, one stating that even the prime minister chews. The overwhelming majority of the reasons for its legality were that it makes people friendlier and it makes them come together. They said that everyone uses it anyway with both friends and strangers alike, and when you are chewing, nobody is a stranger. They also argued that the plant was good for the country and its people. The sale of khat produces tax income for the government and income for farmers, merchants, and distributors. Besides, they said, chewing khat is good for the people's health.

Another piece of information that stuck with me was that the khat house owner and the users stated that the more expensive the khat, the lower the stimulating effects and the better it tasted. This was another answer that made me think. How could the primary motivation for its use be the stimulant properties, as many of the scholarly articles claimed, when it was more expensive to buy a product that was less potent? It also made me regret not going to a more expensive khat house considering how horrible the stuff I was chewing had tasted.



We left soon after this conversation, the five of us barely chewing a single packet together. In contrast, a normal khat user would chew, at the very least, one packet alone and it wasn't uncommon to chew two or three. That might explain why we didn't ever feel any of the effects. Personally, I felt a much stronger buzz from the crazy cup of coffee at the beginning of the trip that I ever did from chewing khat. Not a single one of us expressed a desire to chew the plant again, but everyone had a good time. Therefore, khat was not the reason for the enjoyment, since none of us like it anyway. This encounter planted a seed in my mind and convinced me to consider khat through my own experience, rather than solely through the literature I was reviewing or the opinions of those around me.

**Addis Ababa – Literature search.** The next couple of weeks consisted mostly of buckling down with our classes. We were beginning to realize our time in Ethiopia wasn't going to last forever. Being the master procrastinator that I am, I hadn't written a single page, so I finally forced myself to get serious. This last week consisted of long nights in the Internet café and many an hour reading about khat.

I tracked down as many articles as I could get my hands on via electronic resources available through the University library. I was getting more and more disappointed, as the vast majority of the articles were wholly focused on the medical effects and only on negative aspects. Very few considered the social and economic impact of the plant on the culture and people who primarily used it. Being a sophomore and never having written a term paper of this magnitude, my

findings were both confusing and frustrating. How could what I found in the scholarly literature be so different from what I had experienced, and how do I portray this in my paper? I felt that my own experiences or opinions wouldn't matter since I was only 20 years old and a sophomore in college with no real credibility in the area.

**Addis Ababa – Coffee ceremony.** Around this time, my professor invited one of my classmates and I to attend a coffee ceremony hosted by one of his friends. His friend was working and about to present his thesis in order to obtain his graduate degree. He was a scientist and so I saw a prime opportunity to do further digging regarding khat. We arrived, everyone was introduced, and our host invited us to eat from a buffet he had prepared. The food was delicious and we were able to witness a full coffee ceremony as well. The coffee was also great and I could tell our host had gone above and beyond to make us feel welcome. We each discussed our school endeavors, our host included, and we wished him well on his upcoming presentation and defense. My professor then provided the segue that I needed in order to bring up the topic of khat by making a joke that I was using my DIS as an excuse to scout for drugs.

We all laughed, and then I explained to our host what I had experienced so far and asked for his opinion on the matter. Like many of the educated acquaintances I had met, he was not an advocate for the plant. He argued that it produced lazy workers who often skipped shifts and spent all their earnings on the plant. He admitted, somewhat unwillingly, that the economy was too

dependent on it and that Ethiopia would never be rid of the problem, adding that it did nothing but harm to the people using it.

While talking about the economy, he got distracted on a tangent regarding the current prime minister. As a result, I never had an opportunity to politely turn the conversation back to my topic of inquiry. Nevertheless, it was a beautiful ceremony with delicious food and coffee and I had a wonderful time. I was still baffled by the two extremes that I was encountering in regard to the use of the plant by the Ethiopian people.

**Addis Ababa – House party.** Yet another instance of these extremely divergent opinions about khat emerged during my first real night of exploration with people my own age. Another friend of our professor who had helped us on numerous occasions had a daughter about our age. His daughter and her best friend offered to show us around town one evening and our group accepted. Little did we know this would involve a house party at one of their schoolmate's home. Because the girls were from well-off families, many of their schoolmates were from abroad. The host of the party was from France and made a point of expressing his disinterest in us Americans. There was alcohol being passed around and there were multiple mentions of marijuana, but no one ever suggested khat. When I asked the Ethiopian girls how they felt about the plant, they said it was nasty and they disliked it so they never used it. This was interesting to me seeing as khat was perfectly legal, but I was told marijuana was outlawed in Ethiopia. This struck me as another instance in which those who were well educated and perhaps in a better economic situation than the average

population did not approve of the plant. It also showed me that, just as I had suspected, the long time it takes for the effects to kick in makes the plant unappealing to people that have easy access to more potent and quicker acting psychoactive substances.

**Harar.** The next day, our group was headed for Harar bright and early in the morning. We had to travel the entire day, and we were all a little worse for wear because we had stayed up so late the night before. Harar was an exciting trip for me because it is an area in which khat use is very prominent. You could see that khat farms were more common as we got closer to our destination. Once in Harar, we hired a guide to show us the city. Our guide was an avid khat chewer and was more than willing to talk to me about the plant. His perspective on it was much more economic, since Harar served as a sort of hub. Harar historically has a large Muslim population that utilized the plant to stay awake for prayer. All sorts of different ethnicities and religions use the plant today, and the city has huge marketplaces for the sale of the plant, especially along the outskirts. The marketplaces have huge platforms on which the plant is sold, so even selling the plant puts it physically higher above the ground than the sale of other goods in the region.

I had never seen so many people chewing, selling, or carrying the plant as I saw on the outskirts of Harar. That was the first thing that I asked our guide about, and he said that many farmers and merchants bring their khat here to sell. He explained that the farmers use the plant as a cash crop, but see only a fraction of what the plant sells for, especially if it is exported. Larger merchants

normally come to Harar to buy khat from many different farmers and then export it out of the country. He pointed to a truck driving carelessly and recklessly through the crowds and told me that these trucks were used to transport khat to their destinations far from where it is grown. They drive like crazy because they are in a rush to get the khat to its destination before it goes bad, and they want to get to the market first in order to have the first pick of the khat crops available. The local nickname for these drivers is “Al Qaida” because they drive like crazy terrorists.

The task of guiding us through the marketplace and inner city quickly distracted our guide, and I didn’t have a chance to speak with him again until we were heading to a restaurant for lunch. I looked for him, but couldn’t find him anywhere. My professor said that the last time he had seen him he was leaving the restaurant. I quickly pursued him, and asked if he was staying so I could speak to him further. He said he was leaving to go chew some khat with some friends and suggested I join them. I declined saying I couldn’t leave the group but he was adamant that, if I wanted to continue talking, I should come chew khat with him. He was walking away from the restaurant throughout this entire conversation. Not only did I not want to leave the group, I was uncomfortable going by myself, so I again declined and resigned myself to the fact that I wasn’t going to get any more information from him. We finished our lunch and walked through the city a little more, but I had no opportunity to actually talk to anyone about khat. I did notice that the plant was more present here than anywhere I had yet visited, and even children were running around with the plant and chewing it.

Perhaps the thing that amused me the most about Harar was that khat was so plentiful, stems and leaves littered the streets everywhere. Therefore, goats had easy access to the plant, and much like the origin myths I had been told during the trip, we encountered many goats that were acting rather strange. I even saw one chewing on the stems of the plant. The guide said that they were “drunk” off of khat and that herders and owners had to be careful that the goats didn’t do anything stupid under the influence of the plant.



Figure 10. A goat chewing khat in the street of Harar, Ethiopia.

**Addis Ababa - Departure.** Once we returned to our hotel in Addis Ababa, we had less than a week before our trip came to an end. My interaction with khat other than library research ceased due to my being stuck at a computer working on my paper the majority of the time each day. The paper I produced only brushed the surface of what I had truly experienced with this fascinating plant and all its complexity within Ethiopian society. I used the paper to introduce the plant’s role in Ethiopia from a cultural, economic, and medical perspective. Even

after leaving Ethiopia and finishing my research paper, I would still say that I was of the opinion that the plant was inherently bad for the country and its citizens. I had resigned myself to the fact that it would be impossible to eradicate its use without destroying the Ethiopian economy.

**Texas State.** Once I returned to the United States, my newfound fascination with the plant continued. In fall 2013, I took a sociology course entitled “Drugs and Society,” in order to gain new knowledge about this subject. I planned to continue my research through a future Honors College thesis or perhaps even as a research subject in graduate school. Taking the class opened my eyes to my inherent bias towards any substance labeled as a “drug.” Having grown up a member of a family torn apart by a substance-abusing parent, I was disapproving and unsympathetic to anyone who suffered from an addiction. I viewed people who used drugs or alcohol in excess as people who were irresponsible and uncaring about others.

Through my participation in the course and my exposure to speakers who had battled addiction themselves, I slowly began to let go of my resentment from my past experiences. I learned new things about how addiction works and how drug legislation is far from fair and unbiased, and I began to apply my new perspective to my knowledge of khat use. I began to understand that the contradictory opinions that I had experienced were perfectly normal and that I would need to understand the political perspective of the sources when I look for new information. This fueled my desire to research the plant further and, shortly thereafter, I enrolled in the Honors College thesis course. My research extended

another year and a half, culminating in this thesis. My fascination with khat is not finished, however, as I foresee much more research in my future, including graduate studies.



## **EXPERT OPINIONS**

This section presents information gathered from identified experts in the area of khat use. They are selected from various professional fields and academic backgrounds in order to provide a holistic view of khat based on their extensive knowledge and experience with the plant, and the people of Ethiopia. This section represents an applied component to the thesis that contributes to a more holistic view of the topic

## **METHODOLOGY**

In order to gain more insight as to the knowledge of various experts in the field of khat use in Ethiopia, a group of ten experts were consulted by phone or email. Fifteen experts were initially identified through personal connections of Dr. Hawkins and this author's, a search of Ethiopia study abroad programs, and authors of multiple articles or books regarding the subject. They were contacted via email to ask for their assistance as a consulting expert. Of the fifteen experts contacted, responses were received from ten either asking for more information, agreeing to participate, or declining. From the ten respondents, ten further experts were identified through referrals. Of the ten further referrals, responses were received from seven experts. Of the seventeen experts who responded to a request for an interview, a total of ten experts eventually participated in interviews.

These experts either provided information in the form of an email response, Skype connection, or telephone call. A structured questionnaire or survey was not utilized, as this was not a research study but a request to gain

insights from experts in the field. Therefore, information was gathered through informal conversations.

Based on the scholarly literature and my personal experiences, six major themes were identified, which were the focus of the conversations. These themes were:

1. The effect of khat on the Ethiopian economy
2. The political impact of khat
3. The effect of khat on Ethiopian social interactions
4. The effect of khat on the Ethiopian culture as a whole
5. The regulation of khat
6. The portrayal of khat in the media

Due to the informality of the individual conversations, however, some themes were discussed more thoroughly than others, while some were emitted entirely. Conversations lasted between 15 and 35 minutes, averaging 20 minutes in length. The conversations were conducted over a six-week period in the months of November and December 2013.

All experts verbally agreed that they could be identified in this thesis. However, in order to allow the experts consulted to be entirely honest, confidentiality was assured. Names are not attributed to specific responses and all references to the experts remain gender neutral. Many experts declined privacy, but it is provided regardless since others requested it. As a result, all responses are reported in aggregate format. There were six males and four

females. Three experts were from Ethiopia. The names and titles of the experts who provided their insights can be found below in alphabetical order.

1. Dr. Mulunesh Abebe Alebachew, Assistant Professor and Head of Social Work Department, Bahar Dar University, Bahir Dar, Ethiopia
2. Wondmagegne Daniel – Ethiopian International Graduate Student at Texas Tech University
3. Dr. Ezekial Gebissa – Professor at Kettering University and author of *Leaf of Allah: Khat and the Transformation of Agriculture in Harerge Ethiopia* and *Taking the Place of Food: Khat in Ethiopia*
4. Nikki Jackson – Senior Project Policy Director for the Texas Institute of Applied Environmental Research at Tarleton State University
5. Dr. John W. Johnson – Associate Professor Emeritus of Folklore at Indiana University
6. Laura Joseph – Assistant Director of the Center for African Studies at Ohio State University.
7. Dr. Axel Klein – Lecturer in the Anthropology of Conflict, Criminal Justice and Policy, School of Social Policy, Sociology, and Social research at the University of Kent
8. Dr. James McCann – Professor of History and Director for Development, African Studies Center at Boston University
9. Ambassador Tibor Nagy Jr. – Vice Provost for International Affairs at Texas Tech University and former U.S. Ambassador to Ethiopia

10. Dr. Gad Perry – Professor at Texas Tech University and Director of  
Ethiopia Natural Resource Management Study Abroad

## **FINDINGS**

Notes from the ten conversations were reviewed multiple times to identify major themes that emerged from the actual conversations. The original six themes were maintained. Due to the flexible format used, however, two themes were not distinct so they were combined (social and cultural). This resulted in five original themes to be discussed. In addition, three new themes emerged. Thus, eight themes are presented here: the original five in addition to the three new ones.

**Khat use has become ubiquitous.** Seven out of ten experts stated that khat use has grown significantly over time and it is now ubiquitous in Ethiopia. Two experts who travelled to Ethiopia in the 1970s and 1980s noted that it was mostly prevalent in Eastern Ethiopia. One elaborated that farmers usually “stuck their noses up at it,” only cultivating it because of the profits the plant offered. Another expert who grew up in Ethiopia noted that, several years ago in Addis Ababa, it was uncommon to see people chewing khat but now, everyday, there are people chewing khat everywhere. Yet another native Ethiopian expert mentioned that acceptance of the plant is rapidly expanding and explained, “it used to be an embarrassment to your family for you to chew.” Khat use, previously reserved to Muslim men, is now used by all genders and religions. It becomes clear that the plant is an important cultural influence because its use has grown so quickly and continues to grow.

**Khat affects the Ethiopian economy.** All but one expert was explicit in their belief that khat plays an integral role in the Ethiopian economy. Many experts cited that khat is the second or third largest export (after cattle and possibly coffee) and that it is displacing coffee due to its profitability. Many also contend that the economic dependence is continuing to deepen as more geographical regions in the country grow the plant, impacting the national, regional, and international economy. Experts pointed out that khat exports bring in enormous sums of foreign currency, and one mentioned the large shift of currency from Somalia to Ethiopia everyday due to khat exports to Somalia from Ethiopia. Several experts mentioned the millions of farmers who depend on the plant for their livelihood. Further, the price for khat is more stable than other crops due to the high regional demand, resulting in higher income stability for farmers who grow khat. One expert noted that areas in the Horn of Africa that produce khat are significantly more economically developed than other areas.

Some experts mentioned that khat could also have negative effects on the economy. One expert pointed out that the Ethiopian economy is paying an economic price because it is the only African country that was never colonized and that khat worsens this effect. Another stated that the Ethiopian economy is victimized since khat renders the most productive age group in the country to be non-productive. Even after mentioning these pitfalls, one expert believed that khat is still a net benefit to the Ethiopian economy given its large population and small number of exports. Whether the effect is negative or positive, it became

clear that khat plays an important role in both the Ethiopian economy and the economy of the region.

**Khat influences politics.** Since experts agreed that the plant is economically significant, it follows that half of the experts also found that khat use has profound political influences in Ethiopia. While khat is used in most countries in the Horn of Africa and Arabian Peninsula, it is only grown in certain countries because it grows best in highland areas. Therefore, Somalia and Djibouti produce very little of their own khat. One expert pointed out that the khat trade between these countries leads to political implications. Multiple experts referred to this connection and stated that it makes these countries “completely beholden to Ethiopia.” Two experts referenced the situation in Djibouti, whose only source of khat is Ethiopia. Djibouti, located on the Gulf of Aden, is Ethiopia’s only access to a port since Ethiopia is a land locked country. Therefore, when Ethiopia needs something from Djibouti, it is said that they withhold khat shipments. In turn, when Djibouti wants khat, violence intensifies against Ethiopians or the country withholds shipments from the port.

There are also internal political impacts. Several experts mentioned that the Ethiopian government likes the money khat brings but does not want to openly support its production and use. One expert attributed this to the fact that many high-ranking political officials are Christian and that the Orthodox Church in Ethiopia bans khat use. Another experts pointed out that khat use creates a dilemma for the government. By making khat illegal, the government would create an army of unemployed citizens. One expert summed the situation up

quite nicely by stating that anything with economic implications will have political implications. Yet another expert predicts “no change” in the political situation due to the “minefield” of khat’s significance. In short, many experts agreed that khat has substantial domestic and international political effects.

The Ethiopian government is tasked with responding to the complex situation that khat presents. Many experts agreed that the government responds to this task by ignoring the problem. One expert called this “benign neglect” and cited that there has been no attempt to implement policy regarding khat use by the government. Further, the government makes quite a bit of money off of khat, thus ignoring the problem and continuing to benefit from it. Another expert mentioned the lack of national discourse related to the issue. Another expert noted that khat is rarely discussed in the Ethiopian media, which is government controlled, and concluded that it will not be discussed via the media until the government chooses. One expert concisely stated that the Ethiopian government is “addicted” to khat and predicted no change in the current situation in the foreseeable future.

**Khat effects social interactions and cultural patterns.** Seven of the experts saw khat as socially significant. Many experts cited its use as a way to relax and socialize with acquaintances. One expert argued that khat use is “not just about killing time” as some people think. Several experts identified khat as a means for people of different age groups or status to interact. Khat is used as a means of gathering, chatting with one another, and celebrating together. On a broader scale, several experts mentioned that khat plays an integral role in

promoting diverse interactions in Ethiopia, connecting people from different cultures, sexes, ages, and ethnicities through the action of chewing khat. In the view of one expert, the social significance of khat has evolved very quickly and khat is now a cultural symbol, embedded and sanctioned in many parts of Ethiopia. For many people, khat use goes beyond a means of killing time or a form of recreation by playing an important role in social interactions.

Eight experts argued that khat use causes societal problems in Ethiopia. One expert mentioned that Ethiopia is facing more social problems due to increased domestic khat use and cited the diversion of almost forty percent of chewers' income to khat use. Another expert believed that khat has an overall negative impact on the country, citing colleagues and professionals deeply addicted to the plant and the "nasty effect" the plant can have on the teeth of chewers. Still others stated that khat is not a "healthy positive contributor to society." Those who grew up in Ethiopia agreed that chewers are unable to control their emotions and behavior. They are less reliable, trusted, and respected than non-chewers and they engage more frequently in high-risk activities drug use and sexual activity. The concern appeared to be that the younger generation is becoming addicted and cannot function normally without it. Several experts pointed out that in the context of the United States, khat is equivalent to cigarettes or alcohol but it in the context of an extremely poverty stricken country, khat can cause a multitude of problems because the population has less disposable income. To an American, the extra money spent on cigarettes or alcohol may not be a concern; but in Ethiopia, a khat habit can cost



close to half of one's income. This is a serious problem since most Ethiopians do not earn enough to adequately provide for their families.

Most of the experts believed that social problems might be the cause of increased khat use. One expert stated that khat is a question of causality, asking, "Does khat cause piracy or unemployment?" The expert believed the answer to be "no, since unemployment is the issue and khat use is simply a way to manage it." Along the same line, one expert believed that unemployment causes khat to be used as a distraction. Another expert argued that khat tends to be a product that very poor people use to forget their problems. These views were consistent with one expert's opinion that khat is socially addictive rather than physically addictive: "People use khat to fill social holes."

A similar pattern may exist for immigrants to the United States. One expert explained that khat use helps immigrants with a sense of identity and belonging and recreates the homeland in a strange place. Khat helps immigrants to cope with a strange new place and to find allies and friends.

Another social factor pertains to addiction. One expert believed that the lack of help offered to those who have addictive personalities is a major root problem. As such, there is no Ethiopian government support for addicts, and addiction is by far the social problem most often encountered in regard to khat. Thus, as noted previously, underlying social issues may cause the increased use of khat and increased khat use may contribute to social problems.

**Khat regulation is controversial.** Most of the experts opposed regulation. One expert cited the more than eight hundred years of historical use

in the area without regulation. Multiple experts stated that the plant simply was not harmful enough to warrant regulation, proposing that the regulation of cigarettes, alcohol, or marijuana are more pressing issues. Several experts also advocated for education rather than regulation. One expert stated that “there are bigger fish to fry,” and another stated that khat is simply “not that addictive.” Several experts believed that khat is just not very harmful. Another explained that every society has their mind-altering substances. For example, alcohol is the substance most frequently used in the United States, and adults should have the right to use those substances if they so choose. On a similar note, in reference to the United Nations’ inquiries on khat, one expert opposed international regulation of any substance, including khat, and believed that countries should each have the right to make that decision autonomously. Another expert cited the fact that the World Health Organization and expert committees in the United Kingdom, the Netherlands, and Canada all recommended against regulation, although many countries chose to ignore these reports and to regulate anyways.

Khat’s association with terrorism and fundamentalist Islam was mentioned by multiple experts as, who argued that, by sheer association, the plant’s reputation suffers. Two experts clearly referenced this negative association as a means to attack certain ethnicities. One expert called this tendency the “ethnocentric imperative” and another mentioned the attempt to make Somalis “look bad” when speaking about khat use in the movie *Captain Phillips*.

Only one expert strongly believed in control and regulation. Of those who were unsure of how to handle regulation, all mentioned that they do not think that

it will be regulated in Ethiopia in the near future due to its importance in the economic and social structures of the country. One expert said that the Ethiopian government would like to regulate khat use, but it would be impossible to implement successfully, noting previous failed attempts by the Djibouti, Ethiopian, and Somali governments. Another expert separated the questions into micro and macro views. When looking at the effects of khat on the individual, this expert believed that khat should be regulated but, when considering khat in the wider terms of the country as a whole, the economic importance of the plant does not make regulation feasible. Yet another expert debated if regulation or control is the only answer, but strongly asserted that khat needs to get out of the “legal grey zone” both in Ethiopia and internationally.

**Khat’s portrayal in the media is biased.** Although only about half of the experts specifically referred to how khat is portrayed in the media, the remainder were generally in agreement that the portrayal is largely negative. Several experts mentioned that the media, especially in the United States, tends to have a “flavor of the month” and “fads” tend to drop off after a time. One expert pointed out that the negativity towards khat is generally due to a misunderstanding of what chewing khat means to the user and leads to a mistaken interpretation. Several experts also stated that khat use is negatively portrayed because of its association with terrorism and fundamentalist Islam as well as its depiction as a drug rather than as a luxury. Examples which exemplified this point, were the United States conflict with Somalia in the 1990s, the portrayal of Somali pirates in *Captain Phillips*, and the attempt to link khat with Al Qaeda. Regardless of why

the media portrays the plant negatively, all the experts who encountered khat in the media agreed that it is most often displayed in a critical light.

**Khat's status as a drug is not clear.** Six of the experts agreed that khat is addictive although they varied on the level of addiction or root causes. One expert disagreed with anyone who says khat is not addictive, cautioned that there is a difference between social/behavioral and physical addiction, and stated that khat would fall into the former category. Still others believed that khat is addictive on the same level as cigarettes or coffee. One expert separated substances into “very addictive” and “not very addictive,” placing khat into the latter category, but proposed that anyone with an addictive personality will still fall prey to substances that are not very addictive. On a more extreme note, a few experts believed that khat is highly addictive and that users cannot function normally without it, causing them to miss work and other obligations. While the degree and danger of addiction is not universally agreed upon, it appears that most experts contend khat is addictive on some level.

An overwhelmingly common theme while speaking with the experts consulted was the comparison of khat to common mind-altering substances such as coffee, cigarettes, alcohol and marijuana as opposed to “hard drugs” such as methamphetamines, cocaine, or heroine. One expert blatantly stated that khat is not a narcotic or hallucinogen. Several experts compared the plant to alcohol, equal to several glasses of wine for example, and placed the plant in regular social interactions similar to alcohol use in the United States. More commonly, the plant was compared to cigarettes or coffee, especially in terms of

addictiveness. One expert stated that khat is “more along the lines of nicotine or coffee than cocaine or methamphetamines.” Several experts also compared the plant to marijuana; particularly in terms of the cultural aspect. As such, the use of the khat plant or marijuana draws a person into a culture or daily habit of use that contributes to a “social addiction.” Another expert stated that khat is a luxury and not a drug, as it is popularly portrayed. In comparing khat to alcohol, cigarettes and marijuana, one expert pointed out that excessive use of most of these substances will “make people zombies,” but that general use is a “social norm.” In sum, not a single expert consulted equated the plant to hard drug such as cocaine, heroine, or methamphetamines.

**More khat research is needed.** A final theme, previously identified in the scholarly literature, was confirmed by the experts. Several experts pointed out the necessity of more research in the area of khat use. One expert stated that many of the studies done thus far were “not impressive” and that almost all of the relevant information lies with people who would not want to talk about it openly. Another, who has produced much research on this topic, admitted that there is still much work to be done and cautioned that new avenues must be explored. This expert encouraged new research to move away from the traditional areas of use and focus instead on questions such as “How and why is khat use expanding?” Several experts advised that further interdisciplinary international study is needed on psychosocial, medical and economic effects of the plant before questions of regulation or control should even be discussed.

## **MEDIA IMPRESSIONS**

As the primary method through which the general public is exposed to the subject of khat, the popular media plays an important role in the dissemination of information regarding the plant. The popular media can have a powerful influence on all previously mentioned themes. Therefore, this section provides an overview of the various media impressions of khat use and production.

## **METHODOLOGY**

Several types of media were examined, including dictionaries, news articles, movies, YouTube videos, blogs and various internet sites. First, the terms “drug,” “narcotic,” and “khat” were each defined using the Merriam-Webster online dictionary, the Cambridge Online Dictionaries, the Oxford Dictionary online, and Dictionary.com. Second, the following phrases were used in an internet search: khat, khat Ethiopia, khat media, khat videos, and khat YouTube. This led to an examination of various media outlets including blogs, news articles, and online videos. Third, the movies *Black Hawk Down* and *Captain Phillips* were viewed and various media reactions to the movies were reviewed. Fourth, other media sites originating from those already obtained were followed. Fifth, three of the experts consulted also provided media articles and identified videos on the use of khat in Ethiopia.

## **FINDINGS**

Of note, the definition of “khat” in many popular dictionary sources referred to it as a drug or narcotic. Dictionary.com (n.d.) defined khat as a shrub “whose leaves have narcotic properties.” The Merriam-Webster online dictionary (n.d.)

identified khat as an East African tree, called it a “habituation stimulant,” and stated that the “drug is central to social life in some countries.” To better understand the significance of labeling khat as a “drug” or “narcotic,” the definition of these terms was explored. The Merriam-Webster online dictionary (n.d.) defined a drug as “an illegal and often harmful substance (such as heroin, cocaine, LSD, or marijuana) that people take for pleasure” and a narcotic as “a drug (such as cocaine, heroin, or marijuana) that affects the brain and that is usually dangerous and illegal.” Dictionary.com (n.d.) defined a drug as “a habit-forming medicinal or illicit substance, especially a narcotic,” and a narcotic as “a class of substances that blunt the senses...that can cause habituation or addiction.” The Oxford Dictionaries (n.d.) defined a drug as “a substance taken for its narcotic or stimulant effects, often illegally,” and a narcotic as “a drug or other substance affecting mood or behavior and sold for non-medical purposes, especially an illegal one.” The Cambridge Dictionaries Online (n.d.) defined a drug as “a chemical or other substance that is illegally used, sometimes to improve performance in an activity or because a person cannot stop using it,” and a narcotic as “a type of drug that causes sleep and ...in some forms is also used illegally.” Based on these dictionary entries, it is clear that terms “drug” and “narcotic” hold an inherently negative connotation.

Numerous media outlets referred to khat as an illegal drug and/or narcotic without further clarification. The title of many news articles followed the same pattern. For example, a Fox News (2012) article was entitled “5 sentenced in khat drug smuggling case” and referenced the “men and women convicted of

smuggling millions of dollars' worth of the illegal African drug khat into the U.S.” This article as well as others referred to the plant as a drug or narcotic. A CNN article stated that “khat, a narcotic plant,” is the favored product pirates buy with their profits (Karimi, 2013). An article from Voices of America by van der Wolf (2013) as well as an article from *The Washington Post* by Husarska (2007) both described khat as a “mild narcotic” on the rise in Ethiopia. Habtamu (2009), in Ezega News, labels an entire section of an article on khat as “drug dependenc.” ABC News entitled an article by Esposito and Cuomo (2006) as “Dozens indicated in massive drug ring” and reported on the investigation of the “sales of a dangerous drug called khat.” Hedemann (2011) referred to the “drug trade in Africa” and defined khat as “a stimulant drug” in the first sentence. BBC News (2013) defined khat as a drug in an article on Kenya. Harper (2012) defined the plant as a drug that the Ethiopian town of Awaday “centers almost entirely around.” In an article in the entitled *Austin American-Statesman* an official from the “Public Safety Threat Overview 2013” was quoted as stating that Texas is a regional center for the “trafficking of the illegal drug known as khat, a chewable narcotic plant” (Dexheimer, 2013). A blog on “the leafy green illegal drug endemic to Ethiopia known as khat” by Awake (n.d.) described his experience with the plant. Another blog on the National Geographic website entitled Pop Omnivore states that “loot goes into purchasing a drug called khat,” in reference to piracy in East Africa (Basu, 2013). A blog by the editors of Foreign Policy describes the Somali pirates portrayed in the movie *Captain Phillips* as “chewing the drug [khat] and bickering over their supply” in a post written by Groll (2013).



There are many more instances in the media that portray khat as a drug or narcotic interchangeably.

By referencing it in this way, khat is placed in the same category as so-called “hard drugs” including heroin, cocaine, and methamphetamine. Many media outlets also directly compared the plant to these illicit substances. An article in *The Washington Post* by Husarska (2007) stated that khat is “similar to amphetamines” and another by Hedemann (2011) in *Ethiopian News* on Worldcrunch stated that cathinone and cathine are “natural amphetamines.” An article in *The Columbus Dispatch* stated that khat produces a “cocainelike or amphetaminelike euphoria” (Gray, 2011). ABC News also stated that khat “has the stimulant effect of a methamphetamine” (Esposito and Cuomo, 2006). On the *USA Today* website, Green (2013), referencing the movie *Captain Phillips*, labeled khat as “an amphetamine-like leaf.”

Multiple media outlets associated khat with terrorism or terrorist groups. ABC News (2006) subtitled an article “Officials: sales of khat linked to terror strongholds.” It stated that the sale of khat “has ties to terrorists” and “a money trail from its sale leads back to terrorist strongholds in Yemen, Somalia, and Kenya.” *The Economist* (2013), reported that “the sale of the drug is used to fund terrorism.” It observed that the British government “may also be nervous about the existence of hidden places in Britain where young Muslim men can get together and chat, isolated from mainstream society.” Fox news (2012) reported that a case against five men and women began two years ago “out of concern that money from khat trade flowing into Somalia could be funding terrorists.” *The*

*Austin American Statesman* article entitled “Public safety threat overview 2013” claimed that the profits from khat sales “benefit Africa-based terrorist organizations, such as al-Shabaab” (Dexheimer, 2013). In the same article, the Harris County (Texas) Prosecutor was quoted as asking a defense attorney “You know your clients are terrorists, right?” A blog by the editors mentioning the point in the movie *Captain Phillips* where the head pirate named Muse assures the captain that there is “No Al Qaeda here. Just business.” Foreign policy discussed the motives behind the United States and their opposition to various situations in East Africa (Groll, 2013).

Despite the negative connotations associated with the plant, several media outlets countered that khat use is a more complex situation with no clear solution at present. Husarska (2007) in *The Washington Post* concluded with the statement “a failed state doesn’t fail because of khat munching alone,” in reference to the lack of governmental organization in Somalia at the time, noting that “it would be too easy to blame these failures on the effects of khat.” A blog in *The Economist* by D.K. (2013) stated that “it is unclear whether this conclusion is reasonable,” in response to Britain scheduling khat as a class C drug. In reference to the same issue, *BBC News* (2013) stated that the decision was made “against the advice of its own experts.” Habtamu (2009) of *Ezega Ethiopian News* also concluded khat is “something we see but never consider directly” and that it has different effects for different users. In *The Voice of America*, van de Wolf (2013) observed “it is not yet clear if more [khat] users will create less productive Ethiopians.” Harper (2012) from *BBC News* argued that

“the local authorities and the international aid agencies could learn something from the people of Awaday,” in reference to the regularity and efficiency system of khat production and distribution in Ethiopia. An Indiana Newsdesk report discussed the controversy surrounding legal cases involving khat. Thompson (2013) the report states that those involved in an Indianapolis drug trafficking case were not linked to any other criminal activities, and that the science on the health effects of khat is not that clear. *The Austin American-Statesman* article referred to khat’s legal standing as complicated and stated that “at least one federal appeals court has cited the complicated listing as a reason to dismiss charges” (Dexheimer, 2013).

Many of the media sources often depicted the khat plant as addictive. *The Voice of America* stated that khat is “considered to be mildly addictive” (van der Wolf, 2013). An article in *Ezega News* by Habtamu (2009) made the accusation that khat users “just want to satisfy their addiction.” *The Columbus Dispatch* called khat “an addictive stimulant” and “highly addictive,” in an article on two men from Columbus arrested for khat distribution (Gray, 2011). Husarska (2007) referred to khat as, “a mild drug, but very addictive,” in *The Washington Post*. Henemann (2011) in *Worldcrunch* wrote that the majority of the population in the horn of Africa is “addicted to khat.” A *National Geographic* blog called Pop Omnivore described khat as an “addictive, bitter leaf from Kenya and Ethiopia” (Basu, 2013). Groll (2013), in a blog by the editors of *Foreign Policy*, described the portrayal of khat in the recent film *Captain Phillips*: “The pirates are constantly chewing the drug and bickering over the supply: at times they come

across as junkies who are only kidnapping the captain in order to get the cash necessary to land their next khat score.” Ray (2013) observed that in the movie *Captain Phillips*, the largest of the pirates throws a fit and gets rather agitated when he finds out that all the khat has been chewed and none remains. It appeared as if he was going through a withdrawal, and he became more and more angry as the movie progressed.

Media sources blamed khat, as a cash crop, for displacing necessary items and services such as food production, clean water, and waste disposal systems. *Fox News* (2012) reported that prosecutors in a khat case stated that “the fields are planted with khat, not corn,” in spite of the abject poverty in many areas of East Africa. Husarska (2007) of *The Washington Post* commented on the consistency and accuracy with which khat is grown and delivered in East Africa and wondered, “why can’t they bring water to their taps and build latrines for their people?” Worldcrunch reported that “many farmers in Ethiopia switched to growing khat” in the place of coffee and other food items. It quoted a local farmer who stated, “My father grows grain, fruit and vegetables. I only grow khat, because it brings in more money” (Hedemann, 2011). This article further commented that the “pangs of hunger subside” for khat chewers in reference to its appetite suppressant properties. Harper (2012) of BBC news stated, “whether there is war, drought or famine, the leaves get through” and “khat is being grown in an area affected by drought and shortages of food.” A blog post on National Geographic written by Basu (2013) argued that the proceeds from piracy primarily go towards purchasing “a drug called khat” and that “very little of it goes

back to their homes.” In addition, it “doesn’t stimulate the local economy” because “the money really goes back to Ethiopia and Kenya” to buy khat.

There were less frequent media references to khat being closer to allegedly mild substances such as tobacco, alcohol, and energy drinks than to hard drugs such as cocaine and methamphetamines. In these cases, the media compared khat to widely used and socially accepted substances such as tobacco, alcohol, and coffee. An Indiana Newsdesk report (2013) compared khat to tobacco or coffee and stated that a user would need to chew four pounds of the leaf in order to feel the effect of “one line of cocaine.” It is also stated that khat has one one-hundredth of the potency of marijuana. A Fox News article (2012) discussed a study showing that khat use is “similar to ingesting an energy drink.” Worldcrunch Ethiopian News quoted a prominent khat distributor in Ethiopia as saying “you don’t call your beer brewers drug dealers” (Hedemann, 2011). *The Economist* stated that khat is “what a pint of beer in the pub is to most Britons” (D.K., 2013). Mik A (2008), a blogger, equated khat to red bull or Ritalin in his account of khat use and was even disappointed in his reaction to the substance after chewing it.

## **DISCUSSION**

This thesis has provided a holistic view of the khat controversy through multiple sources of data: scholarly literature, personal narrative, expert opinions, and media portrayals. Several major themes emerged. This section summarizes and integrates the findings of these different sources.

Khat is often villainized through its association with hard drugs and reports of exaggerated effects. Due to its portrayal both in the scholarly literature and in the popular media, khat is depicted as a dangerous and addictive drug that can even cause psychotic symptoms in users. Despite the absence of sound evidence, opinions about the plant appear to have already solidified and are influencing decisions on a domestic and international level. This negative image has created bias that impacts public perceptions and governmental policies. Prime examples of this outcome include the decisions in the United States and the United Kingdom to ban khat, in contradiction of advisory committees recommendations in both countries.

Many experts simply do not advocate for the regulation of khat. They base this opinion on the fact that no conclusive empirical evidence as to khat's medical effects exists and that the plant is a long-standing cultural tradition in many parts of the world. They also point to past attempts at regulation that failed in the Horn of Africa. Most well informed experts contend that khat is not very physically and addictive or harmful and believe that the rush to regulate it is based on irrational fear rather than logical thinking.

Internationally, many governments are ignoring the advice of their experts in regards to khat's regulation. The WHO recommended against any attempts at regulation. The United States scheduled cathinone and cathine as controlled substances despite being advised otherwise by its advisory committee. The United Kingdom did the same recently, designating khat as an illegal substance despite recommendations to the contrary and pleas from many of its citizens. If these governments are not listening to the advice of their scientists and experts who form recommendations based on the evidence, then it seems likely that other factors are determining their decisions.

The widespread insistence on regulation is in part due to khat's association with the Horn of Africa and the Arabian Peninsula. The amount of opposition in the United States to khat use markedly increased after the American encounter with Somalia in the 1990s in which Somali men were portrayed as "high" and "crazed" on khat. It also markedly increased after the War on Terror began after 2001 and it is now often linked to terrorism, no matter how weak those links turn out to be. African and Middle Eastern populations are historically marginalized and treated with suspicion, and khat suffers from its association with these populations. One could argue that if chewing tobacco were associated with terrorism and unpopular ethnicities, it would be just as much a target as khat. Historically, American drug legislation has followed increased immigrant populations. For example, opium was banned due to its association with an increase in Chinese immigrants, marijuana due to its association with Mexican immigrants, and crack due to its association with poor,

urban African-Americans. Yet, crack is the same drug as cocaine, which is used by more affluent Anglo-Americans and penalties for its use are far more lenient.

International regulation of the plant may begin to put pressure on Ethiopia to consider regulating the plant there. As discussed earlier, at this time, regulating may result in very negative economic consequences. No feasible alternatives that offer the same earning potential and crop security have been devised for farmers who depend on the plant for their livelihoods. Further, the Ethiopian economy appears to depend on it as one of its top exports. By putting international pressure on Ethiopia, a developing country that is working to eradicate poverty, the international community may be hindering Ethiopia's efforts toward economic growth and security. An alternative argument is, rather than simply outlawing the plant, perhaps it would be better to explore ways to introduce a new crop for production. Another option might be to devise methods of harnessing khat's earning potential while lowering its negative effects.

The labels of "drug" and "narcotic" result in negative connotations about the plant that are difficult to overcome. These labels immediately designate that it is dangerous, as exemplified in the various dictionary definitions. Other frequently ingested substances such as caffeine, alcohol, or tobacco are generally not regarded as drugs. Nor are over-the-counter medications, such as painkillers, popularly thought of as drugs, yet all of these substances produce chemical responses and negative side effects. In fact, alcohol is the most dangerous drug used in America. People die of alcohol poisoning on a regular basis, kill others while driving drunk, and kill destroy their health, yet the substance is legal, widely



available, and affordable. This makes it all the more confusing that khat, a foreign leaf that people chew and which typically produces less effect than a strong cup of coffee, was so quickly regulated when it was introduced to the United States by immigrant populations.

These labels also suggest that khat is addictive, a word whose actual meaning is not understood by most people. Addiction can range from mild to severe. Many Americans are addicted to caffeine, sugar, video games, or sports. Negative feelings, physically and mentally, are experienced when consuming the substance or doing the activity is stopped. Despite many arguments to the contrary, including those of the experts consulted, it seems unsupportable to claim that khat is a dangerous addictive substance that needs to be regulated when it is more accurately regarded as a mild stimulant.

Perhaps the most concerning result of labeling khat a drug is the negative attribution we subsequently place on the societies that use it. Ethiopia and Somalia are characterized as countries where everyone chews khat and khat chewers are stigmatized as psychotic, lazy, drug users. Then this stereotype is often projected onto the population as a whole. This ethnically based discriminatory viewpoint is extremely damaging given that the current evidence suggests that the plant itself is relatively harmless.

Unsupported conclusions about khat are also based on research that is contradictory and inconclusive. The literature review covered multiple differing perspectives in regard to khat, each presenting valid arguments. However, the vast majority of studies are inconclusive, failing to account for confounding

factors such as tobacco use and previous health related predisposing conditions. The literature is also contradictory. One source might claim that khat can kill users or cause psychotic breaks, while another source might advocate that khat can be used to increase mental health.

These mixed findings are partly due to methodological issues. Many of the studies involving humans had a small sample size or failed to control for extraneous variables such as alcohol or tobacco use. The medical history of subjects was seldom considered and the pesticides often used on the plant during production are rarely mentioned. Abusive use was often not differentiated from recreational use. No standard for “large amounts” of khat has been established to allow for comparison across studies. Therefore the research needs to be more rigorous and systematic before definitive conclusions can be drawn.

Many studies also ignored the fact that Somalia and Ethiopia suffer from many other problems that may cause the social issues that are attributed to khat. Somali refugee populations in the United States are often the participants in these studies and their economic, mental, and political statuses are frequently disregarded as having an effect on the outcome. For example, study participants were probably very mentally distressed since their country was in chaos, they had family back home in danger, and they are struggling to make a life in a strange country without sufficient resources. Similarly, Ethiopia is suffering from rampant unemployment especially among youth. Despite this, very rarely do studies explore these variables as a possible factor in khat consumption. In my

own experience, many of the young Ethiopians that I met were unhappy that they had completed a college level education and had no prospects for employment. They said that khat chewing made them happier and helped them forget their problems. This disillusionment of educated youth is an area of study that remains virtually unexplored.

The difference between causality versus correlation is also another issue that needs to be clarified in the literature. Many of the studies could only establish associations, yet the findings were presented as if there was a causal relationship. Then, recommendations for regulating the plant based on this erroneous connection were made. A lack of logical reasoning is demonstrated as follows: khat makes people drink, drinking makes people have sex, and sex causes HIV; therefore, khat causes HIV. This argument was advanced despite no evidence to show that khat actually causes drinking. Association proves only that a relationship exists, not any causal connection. Associations are easy to find, and should never be the basis for decision-making or forming conclusions in regard to khat, especially in terms of regulation or foreign policy.

The literature seems very repetitive with a limited range of scholarship. While conducting the review, I noticed that the same authors were cited repeatedly and very few articles offered entirely new information or a unique perspective. Although it is reasonable for a core group of experts to exist on a subject, the consistent referencing of so few citations throughout the literature points to the need for more independent and original research in the area.

Nevertheless, almost all of the authors called for more rigorous research on the subject and noted the need for larger and more diverse samples. There is insufficient well-conducted research for a clear understanding of the plant or its effects. Until more rigorous studies no definitive conclusions can be drawn about khat chewing's effects on the human body. This need does not preclude reasonable concerns regarding its health effects or reservations about how to solve potential social problems as a result of use.

Some articles pointed out that social factors such as unemployment and dissatisfaction with life might cause recreational use to progress into abuse. Though causality cannot be assumed, this is an interesting area of inquiry. All of the users that I spoke to in Ethiopia cited social reasons for their use followed by the desire for the energy that khat provided. The people that I met who chewed described themselves as lonely and used khat as a way to interact socially. Few of these young men were employed, so they had a lot of free time and were unhappy with their status in life. Even though many of them had completed college, they had no prospect for a job. Khat chewing helped them to forget their problems. Almost all of them differentiated between addicted users and those who used it socially, suggesting that it is possible to maintain recreational use without letting the plant negatively affect other areas of their life.

As this experience indicates, it is possible that finding solutions to these social problems, such as unemployment, may help to keep khat users from abusing the plant. Very little of the literature suggested finding ways to address these problems. People chew for a reason, and it will be very difficult (if not

impossible) to reduce khat chewing in Ethiopia without a thorough understanding of social factors and subsequent solutions. Some of the articles in the literature suggested public educational campaigns in order to raise awareness of the available scientific information regarding the plant. For example, it is reasonably well accepted that excessive khat use can decrease sperm production. In a culture that places high value on large families this could possibly greatly deter use.

There is also inconsistency in media portrayals, where khat use and its detrimental impact is often exaggerated and misrepresented. Khat busts were reported in terms of weight, without clarifying the quantity of khat needed per person to cause a response. As a result, the over all amount seemed extreme, which is actually quite misleading. Many countries that are known for high levels of khat use are also inaccurately portrayed as completely shutting down during the afternoon in order for people to chew, generalizing the entire population of the country into one group of apparently hopelessly addicted khat chewers. For example, some communities in Ethiopia simply get up early and finish the day early because their trade is based around the harvest and sale of khat early in the day. Afternoon rest periods are also common in many areas of the world, especially in hotter climates.

The media also consistently failed to cite sources for the information presented. Most of what was reported as fact was not accompanied by any means to verify the credibility of the information. Considering that it is much easier for the average person to find information from media sources than the

scholarly literature, inaccurate reporting can result in false impressions regarding the plant.

The media sources used in this thesis seldom offered a solution or a path to deeper inquiry. These media sources rarely encouraged an analysis of the information or referral to further resources. So much of the media presented the plant negatively yet failed to explore ways to reduce the detrimental effects of khat use. This pattern misleads an already ill-informed public about to the controversy surrounding this topic. For example, several media sources implied that khat is the sole reason for economic and political instability in Somalia and khat use alone is blamed for the weak Ethiopian economy or for an entire generation is unproductive. Both sides of the issue are not presented and the conclusions formed are based on biased information.

Another way that the media seems to mislead the public view on khat in a negative manner pertains to drug policy. Several media sources also labeled the plant as a drug or narcotic, and indicated that it is illegal in the United States. This is incorrect: cathinone and cathine are illegal, and not the plant itself. They also failed to mention that many legal appeals to convictions have been successfully overturned for this reason.

Probably the biggest problem with media sources was their inherent brevity. The controversy surrounding khat is not something that can be explained in a few pages without leaving out critical information. Many media sources were less than a page or shorter than a 3-5 minute video. None of these incomplete reports can even begin to adequately address the controversy.

The expert opinions also reflected this general controversy. It became evident very quickly that khat use not only needs to be researched more extensively, but also that its effects must be given more attention. Several experts were very knowledgeable, yet presented personal opinions or anecdotal evidence. There simply is not enough information available regarding the plant for anyone to be entirely certain of its medical, economic, or social effects.

Based on the literature, personal experience in Ethiopia, and expert opinions, it appears that women are generally more opposed to khat use than men. All of the female experts were less amenable to the plant than the men, and one expert who has worked with refugees from areas that use the plant stated that women are the ones who often advocate against the plant. This raises an important question in regard to the role of gender in khat use and production and represents a much-needed area of exploration.

Also apparent in the expert opinions and through personal experiences was the difference in opinion between better-educated Ethiopians and less educated Ethiopians. Every single person that the author spoke with in Ethiopia who had a college education or was of a higher socioeconomic class, even those who used khat, wanted to outlaw the plant and thought it had an overall negative effect on the country. Those who were not college educated believed it was potentially harmful, yet cited its social benefits as well as its value as a cash crop all over the country that provided livelihoods for millions of Ethiopians. This represents another interesting area for further inquiry. Since the well educated population is not necessarily better informed, more research into these different

perspectives between social classes may provide further insights into the role the plant plays within Ethiopia.



## **CONCLUSION**

This thesis has explored the impact of khat use globally and specifically in Ethiopia. The information gathered regarding the khat plant is both contradictory and inconclusive from all four sources explored including the scholarly literature, personal experiences, expert opinions and media sources. While chewing the plant can be harmful, the severity of these effects is debatable. It is also evident that khat plays an integral role socially within Ethiopia and that the local and national economy is currently dependent on its production. The literature, media, and experts are unclear on whether regulation is necessary internationally or within Ethiopia as well as its potential impact.

My own personal opinion is that regulation is not the best option for handling the problems associated with use of the plant in Ethiopia. Instead I would advocate that educational campaigns should be attempted. These campaigns could inform the public of any health concerns regarding use so that an informed choice to chew is more likely. I also strongly encourage the exploration of the underlying causes of khat use. Economic development, job creation, and fuller employment may curb the increasing use of the plant. This would be the only way to truly determine if these factors are indeed contributing to its use.

Regardless of the khat plant's regulatory status, more research needs to be conducted in order to gain a greater understanding of its medical, economic, and social effects within Ethiopia. Further areas of needed research include establishing the long-term health effects despite possible confounding factors,

determining the reasons users chew the plant, and exploring crop alternatives to khat that offer similar benefits to farmers across the nation. Social inquiries should also include looking into the difference in opinion based on gender as well as educational level and socioeconomic status regarding its production and use. Khat represents an important commodity in an area of the world that still struggles with extreme poverty while developing economically. The controversy surrounding khat use deserves the attention needed to better understand its impact within communities as well as to avoid any bias and potential discrimination based solely on ethnicity and geographic origin regarding its users.

I began this thesis with an explanation of what interested me about this topic and what I hoped to gain from studying it. I have addressed not only the importance of this subject, but also its complexity. As such an influential part of the economy and culture in Ethiopia and the surrounding region, I believe the presentation of this information in a holistic fashion can encourage discussion about the plant and promote a more open-minded and inquisitive discourse. As I continue my education at the graduate level in the future, I fully intend to pursue this topic and to inform those around me about the critical issues that surround this relatively unknown yet widely used plant. As I grow in all areas of my life, this research will constantly remind me that there is always more to any story and that nothing can be fully viewed from just one angle. If a topic is not approached holistically, then it is easy to miss the bigger picture. To me, this is as important an outcome of the thesis as my greater understanding of the plant. As the title implies, I want to continue chatting about khat.

## References

- Al-Ghamdi, S. S. (2012). The reproductive and thyroid hormonal profile of khat (*Catha edulis*) chewers. *Pharmacology and Pharmacy*, 3, 447-452.
- Al-Motarreb, A., Al-Habori, M., & Broadley, K. (2010). Khat chewing, cardiovascular diseases and other internal medical problems: The current situation and directions for future research. *Journal of Ethnopharmacology*, 132, 540-548.
- Armstrong, E. G. (2008). Research note: Crime, chemicals, and culture: On the complexity of khat. *Journal of Drug Issues*, 38, 631-648.
- Awake, M. (2008, January 9). *Khat Got Your Tongue?* Retrieved from <http://mikawake.blogspot.com/2008/01/khat-got-your-tongue.html>
- Aziz, H. A., Peh, K. K., & Tan, Y. T. (2011). Herbal delivery system for treatment of obesity administration of encapsulated khat-extracts on body weight of rats. *Obesity Research and Clinical Practice*, 5, 305-312.
- Background Note: Ethiopia. (2007). Background notes on countries of the world: Federal Democratic Republic of Ethiopia, 1.
- Basu, T. (2013, October 15). *As Seen in "Captain Phillips": 5 Facts about modern piracy*. Retrieved from <http://newswatch.nationalgeographic.com/2013/10/15/as-seen-in-captain-phillips-5-facts-about-modern-piracy/>
- BBC NEWS. (2013, November 27). *Kenya appeals to UK not to ban khat*. Retrieved from <http://www.bbc.com/news/world-africa-25120302>
- Beckerleg, S. (2008). Khat special edition introduction. *Substance Use & Misuse*, 43, 749-761.

- Bongard, S., Al'Absi, M., Khalil, N. S., & Habori, M. A. (2011). Khat use and trait anger: Effects on affect regulation during an acute stressful challenge. *European Addiction Research, 17*, 285-291.
- Cambridge Academic Content Dictionary (n.d). Drug. Retrieved [http://dictionary.cambridge.org/us/dictionary/american-english/drug\\_2](http://dictionary.cambridge.org/us/dictionary/american-english/drug_2)
- Cambridge Academic Content Dictionary (n.d). Narcotic. <http://dictionary.cambridge.org/us/dictionary/american-english/narcotic?q=narcotic>
- Coleman, D. (2013). Culture and Arts. *Ethiopia Country Review*, 160-161.
- Columbia Electronic Encyclopedia. (2013). (6th Edition), Ethiopia,1-5.
- Colzato, L. S., Ruiz, M. J., van den Wildenberg, W. P., & Hommel, B. (2011a). Khat use is associated with impaired working memory and cognitive flexibility. *PLoS ONE*, 6 (6).
- Colzato, L. S., Ruiz, M. J., van der Wildenberg, W. P., Bajo, M. T., & Hommel, B. (2011b). Long-term effects of chronic khat use: Impaired inhibitory control. *Frontiers in Psychology*, 1219. doi:10.3389/fpsyg.2010.00219.
- Corkery, J. M., Schifano, F., Oyefeso, A., Ghodse, A. H., Tonia, T., Naidoo, V. (2011). 'Bundle of fun 'pr bunch of problems'? Case series of khat-related deaths in the UK. *Drugs: Education, Prevention and Policy*, 18, 408-425.
- Country profile, Ethiopia [electronic resource]. (2005). [Washington, D.C.] : Library of Congress, Federal Research Division. CIA: The world factbook: Ethiopia. (2011). *CIA World Fact Book*, 218.

- D.K. (2013, July 3). *Khatchup*. Retrieved from <http://www.economist.com/blogs/blighty/2013/07/drug-control>
- Damena, T., Mossie, A., & Tesfaye, M. (2011). Khat chewing and mental Distress: A community-based study in jimma city, Southwestern Ethiopia. *Ethiopian Journal of Health Sciences*, 21, 37-45.
- Dessie, G. (2013a). Favouring a demonised plant: Khat and Ethiopian smallholder-enterprises. *OA/ster*.
- Dessie, G. (2013b). Is khat a social ill? Ethical arguments about a 'stimulant' among the learned Ethiopians. African Studies Center, Leiden. Retrieved from <https://openaccess.leidenuniv.nl/handle/1887/20402>
- Dessie, G., & Kinlund, P. (2008). Khat expansion and forest decline in Wondo Genet, Ethiopia. *Geografiska Annaler Series B: Human Geography*, 90, 187-203.
- Dexheimer, E. (2013, December 1). DPS says khat drug linked to terrorists but other doubt how strong the link is - if it exists at all. *Austin American-Statesman*, p. A1 & A11.
- Dhaifalah, I., & Santavy, J. (2004). Khat habit and its health effect. A natural amphetamine. *Biomed Papers*, 148, 11-15.
- Dictionary.com (n.d). Unabridged. Drug. Retrieved <http://dictionary.reference.com/browse/drug>
- Dictionary.com (n.d). Unabridged. Khat. Retrieved <http://dictionary.reference.com/browse/khat>

- Eckersley, W., Salmon, R., & Gebru, M. (2010). Khat, driver impairment and road traffic injuries: A view from Ethiopia. *Bulletin of the World Health Organization*, 88, 235-236.
- Esposito, R., & Cuomo, C. (2006, July 26). *Dozens Indicated in Massive Drug Ring*. Retrieved <http://abcnews.go.com/US/LegalCenter/story?id=2237921>
- Feyisa, T. H., & Aune, J. B. (2003). Khat expansion in the Ethiopian highlands. *Mountain Research and Development*, 23, 185-189.
- Fox News Network LLC. (2012, August). *5 sentenced in khat drug smuggling case*. FOXNEWS.com: <http://www.foxnews.com/us/2012/08/10/5-sentenced-in-khat-drug-smuggling-case/>
- Gebissa, E. (2010). Khat in the horn of Africa: Historical perspectives and current trends. *Journal of Ethnopharmacology*, 132, 607-614.
- Gebissa, E. (2012). Khat: Is it more like coffee or cocaine? Criminalizing a commodity, targeting a community. *Scientific Research*, 2, 204-212.
- Gebissa, E. (2008). Scourge of life or an economic lifeline? Public discourses on khat (*Catha edulis*) in Ethiopia. *Substance Use & Misuse*, 43, 784-802.
- Gelaw, Y., & Haile-Amlak, A. (2004). Khat chewing and its socio-demographic correlates among the staff of Jimma University. *Ethiopian Journal of Health Development*, 18, 179-184.
- Getachew, M. (2009). Ethiopia and the United States [electronic resource]: History, diplomacy, and analysis. Getachew Metaferia. New York: Algora.
- Getahun, A., & Krikorian, A. D. (1973). Chat: Coffee's rival from Harar, Ethiopia. Botany, cultivation and use. *Economic Botany*, 27, 353-377.

- Getahun, W., Gedif, T., & Tesfaye, F. (2010). Regular khat (*Catha edulis*) chewing is associated with elevated diastolic blood pressure among adults in Butajira, Ethiopia: A comparative study. *BMC Public Health*, 10, 390.
- Gray, K. L. (2011, May 21). *U.S. khat roundup nets Columbus men*.  
<http://www.dispatch.com/content/stories/local/2011/05/21/u-s--khat-roundup-nets-columbus-men.html>
- Green, S. (2013, October 11). *Real-life 'Captain Phillips' recalls high-seas drama*.: <http://www.usatoday.com/story/news/nation/2013/10/11/real-captain-phillips/2969317/>
- Groll, E. (2013, October 11). *Yes, Movies 'Can Tell Truths' - but Does 'Captain Phillips'?*[http://blog.foreignpolicy.com/posts/2013/10/11/captain\\_phillips\\_somalia\\_pirates\\_navy\\_seals\\_truth](http://blog.foreignpolicy.com/posts/2013/10/11/captain_phillips_somalia_pirates_navy_seals_truth)
- Habtamu, E. (2009, December 8). *Ethiopia's Khat: Opportunity or Threat?*  
<http://www.ezega.com/news/NewsDetails.aspx?Page=news&NewsID=1865>
- Harper, M. (2012, January 28). *Frenetic pace of Ethiopia's khat boomtown*.  
<http://www.bbc.co.uk/news/magazine-16756159>
- Hedemann, P. (2011, August 30). *Drug Trade In Africa: How The Queen Of Khat Got So Rich*. <http://www.worldcrunch.com/drug-trade-africa-how-queen-khat-got-so-rich/world-affairs/drug-trade-in-africa-how-the-queen-of-khat-got-so-rich/c1s3660/#.UyUkOvSwLRw>
- Husarska, A. (2007, August 19). *WP Opinions, Where Khat Is King, But Not Much Else Works*. <http://www.washingtonpost.com/wp-dyn/content/article/2007/08/17/AR2007081701714.html>

In Encyclopædia Britannica. (2014). Ethiopia.

<http://www.britannica.com/EBchecked/topic/194084/Ethiopia/281844/Federal-Democratic-Republic-of-Ethiopia-since-1995>

Karimi, F. (2013, November 2). *African pirates use millions of dollars in ransom on drugs, real estate, prostitutes*. <http://www.cnn.com/2013/11/02/world/africa/horn-of-africa-piracy-loot/>

Kassay, M., Sherief, H. T., Fissehaye, G., & Teklu, T. (1999). Knowledge of "drug" use and associated factors as perceived by health professionals, farmers, the youth, and law enforcement agencies in Ethiopia. *Ethiopian Journal of Health Development*, 13, 141-149.

Kassim, S., Hawash, A., Johnston, A., & Croucher, R. (2012). Validation of self-reported khat chewing amongst khat chewers: An exploratory study. *Journal of Ethnopharmacology*, 140, 193-196.

Kassim, S., Islam, S., & Croucher, R. (2010). Validity and reliability of severity of dependence scale for khat (SDS-khat). *Journal of Ethnopharmacology*, 132, 570-577.

Kebede, D., Alem, A., Mitike, G., Enquselassie, F., Berhane, F., Abebe, Y. (2005). Khat and alcohol use and risky sex behaviour among in-school and out-of-school youth in Ethiopia. *BMC Public Health*, 5, 109-8.

Kirby, G. (2013, July 8). *When the khat is away, the mice will play*. Retrieved November 11, 2013, from Adam Smith Institute: <http://www.adamsmith.org/blog/liberty-justice/when-the-khat-is-away-the-mice-will-play>



- Klein, A. (2011). Khat deaths - or the social construction of a non-existent problem? A response to Corkery et al. 'Bundle of fun' or 'bunch of problems'? Case series of khat related deaths in the UK. *Drugs: Education, Prevention and Policy*, 18, 426-427.
- Klein, A., & Metaal, P. (2010). A good chew or good riddance: How to move forward in the regulation of khat consumption. *Journal of Ethnopharmacology*, 132, 584-589.
- Klein, A., Beckerleg, S., & Hailu, D. (2009). Regulating khat - Dilemmas and opportunities for the international drug control system. *International Journal of Drug Policy*, 20, 509-513.
- Lamina, S. (2010). Khat (*Catha edulis*): The herb with officio-legal, socio-cultural and economic uncertainty. *South African Journal of Science*, 106 (3/4), 1-4.
- Lemessa, D. (2007). Khat (*Catha edulis*): Botany, distribution, cultivation, usage and economics in Ethiopia. *United Nations Office for the Coordination of Humanitarian Affairs in Ethiopia*. Ethiopia. Retrieved from [http://www.coffeshop.comuv.com/dokumenty/khat\\_in\\_etiopia.pdf](http://www.coffeshop.comuv.com/dokumenty/khat_in_etiopia.pdf)
- Mains, D., Hadley, C., & Tessema, F. (2012). Chewing over the future: Khat consumption, anxiety, depression, and time among young men in Jimma, Ethiopia. *Culture, Medecine, and Psychiatry*, 37, 111-130.
- Malaju, M. T., & Asale, G. A. (2013). Associations of khat and alcohol use with HIV infection and age at first sexual initiation among youths visiting HIV testing and counseling centers in Gamo-Gofa Zone, South West Ethiopia. *BMC International Health & Human Rights*, 13(1), 10-17.

- Manghi, RA, Broers, B., Khan, R., Benguettat, D., Khazaal, Y., & Zullino, D. F. (2009). Khat use: Lifestyle or addiction? *Journal of Psychoactive Drugs*, 41(1), 1-10.
- Merriam-Webster (n.d). Drug. Retrieved <http://www.merriam-webster.com/dictionary/drug>
- Merriam-Webster (n.d). Khat. Retrieved <http://www.merriam-webster.com/dictionary/khat>
- Mohammed, A., & Engidawork, E. (2011). Reproductive parameters differentially altered following subchronic administration of Catha edulis F. (Khat) extract and cathinone in male rats. *Journal of Ethnopharmacology*, 134, 977-983.
- National Institute on Drug Abuse. (2013, April). *Drug Facts: Khat*. <http://www.drugabuse.gov/publications/drugfacts/khat>
- Nolan, K. (Writer), & Scott, R. (Director). (2001). *Black Hawk Down* [Motion Picture].
- Numan, N. (2012). The Green Leaf: Khat. *World Journal of Medical Sciences*, 210-223.
- Odenwald, M., Warfa, N., Bhui, K., & Elbert, T. (2010). The stimulant khat- another door in the wall? A call for overcoming the barriers. *Journal of Ethnopharmacology*, 132, 615-619.
- Oxford Dictionaries (n.d). Oxford University Press, Web. Drug. Retrieved from [http://www.oxforddictionaries.com/us/definition/american\\_english/drug?q=drug](http://www.oxforddictionaries.com/us/definition/american_english/drug?q=drug)

- Oxford Dictionaries (n.d). Oxford University Press, Web. Narcotic. Retrieved from [http://www.oxforddictionaries.com/us/definition/american\\_english/narcotic?q=narcotic](http://www.oxforddictionaries.com/us/definition/american_english/narcotic?q=narcotic)
- Ray, B. (Writer), & Greengrass, P. (Director). (2013). *Captain Phillips* [Motion Picture].
- Reda, A. A., Moges, A., Biadgilign, S., & Wondmagegn, B. Y. (2012). Prevalence and determinants of khat (*Catha edulis*) chewing among high school students in eastern Ethiopia: A cross-sectional study. (A. V. Garcia, (Ed.) *PLoS ONE*, 7 (3).
- Seyoum, E., Kidane, Y., Gebru, H., & Sevenhuysen, G. (1986). Preliminary study of income and nutritional status indicators in two Ethiopian communities. *Food and Nutrition Bulletin (USA)*.
- Singleton, N. (2011). Crying wolf? A reponse to Corkery et al. 'Bundle of fun' or 'bunch of problems'? Case series of khat-related deaths in the UK. *Drugs: Rducation, Prevention and Policy*, 18, 428-430.
- Suwaidi, J. A., Ali, W. M., & Aleryani, S. L. (2013, January). Cardiovascular complications of khat. *Clinica Chimica Acta*, 419, 11-14.
- Tefera, T. L. (2009). Study reponse, local reality and livelihood sustainability: The policy dilemma of khat (*Catha Edulis*) production in eastern Ethiopia. *International Journal of Agriculture Sustainability*, 7(3), 176-188.
- The World Bank. (2013, October). *Ethiopia Overview*.  
<http://www.worldbank.org/en/country/ethiopia/overview>

- Thickett, A. (2011). Khat use - What direction for policy? *Drugs: Education, Prevention and Policy*, 18, 405-407.
- Thompson, S. (2013, December 7). *How A Drug Case Is Impacting African Immigrant Communities*. <http://indianapublicmedia.org/news/indy-somali-community-feeling-affects-khat-case-59612/>
- U.S. Department of State. (n.d.). *Ethiopia*. <http://www.state.gov/p/af/ci/et/>
- United Nations Development Programme. (n.d.). *UNDP in Ethiopia*. Retrieved <http://www.et.undp.org/content/ethiopia/en/home/countryinfo/>
- Van der Wolf, M. (2013, April 30). *Chewing Khat Increasingly Popular Among Ethiopians*. Retrieved <http://www.voanews.com/content/chewing-khat-gains-popularity-among-ethiopians/1651557.html>
- Warfa, N., Klein, A., Bhui, K., Leavey, G., Criag, T., & Stansfeld, S. A. (2007). Khat use and mental illness: A critical review. *Social Science & Medicine*, 65, 309-318.
- World Health Organization. (2006). Expert committee on drug dependence. [http://www.who.int/medicines/areas/quality\\_safety/4.4KhatCritReview.pdf](http://www.who.int/medicines/areas/quality_safety/4.4KhatCritReview.pdf)
- World Trade Press. (2010). Ethiopia. Petaluma, CA: World Trade Press.