Public discourse on *Khat* (*Catha edulis*) production in Ethiopia: Review

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Agriculture is the most important economic activity and employment opportunity in Ethiopia. Globally, the country is the largest producer of *Khat*. The producers and consumers of *Khat* are increasing combined with earning for the national exports. Despite several controversies have continued on *Khat* practice, the legal stance of the Ethiopian government and studies on environmental impact are minimal. The review results reveal that agro-climates in different parts of Ethiopia are suitable for *Khat* production. The plant cultivation has come to common and expanded from southeastern to northwestern part of the country since the 1990s. Various anthropogenic and edaphic factors have contributed for the expansion of *Khat* production. *Khat* has substantial economic advantages though it has adverse implications on livestock production, cereal crops and water resource. *Khat* has undesirable effects on health, social, and environment followed by less empowering the economic capacity of women. Nervous problems, extra marital affairs, sexual abuse, HIV/AIDS, corruption, suicide, addiction, and car accidents are among the detrimental effects of *Khat* practice on health and social relations. Thus, researchers, policy makers, scholars, and higher learning institutions need to come together to minimize the controversies, alleviate heated debates and disclose public discourses on *Khat* practice in Ethiopia.

**Key words:** Agriculture, Ethiopia, *Khat*, origin, prevalence, public discourse.

**INTRODUCTION**

Ethiopia is located in the horn of Africa, between 3° 24’ and 14° 53’ North and 32° 42’ and 48° 12’ East (Eshetu and Habtemariam, 2001). Agriculture is the main stay of the economy, which contributes for 34% of the gross domestic product (GDP) and about 80% of employment opportunity (Admasu, 2017). The altitude of the country ranges from 100 m.a.s.l in the Afar depression (Wild Frontier, 2014) to 4620 m.a.s.l of Ras Dejen, a highest mountain in the Northwestern Ethiopia (Asrat et al., 2012). The country is classified into 18 major agro-ecological zones (Hurni et al., 2016). The current size of population is estimated to be above 100 million (Assefa and Seid, 2017). The population is expected to twofold and reach 188 million by 2050 (ECA, 2016). Even though about 14 million holders earn their living by farming, only 13.8 million ha of land is cropped annually (CSA, 2015). Ethiopia is the leading and the largest producer of *Khat* practice (Cochrane and O’Regan, 2015; Cafer, 2016). The number of *Khat* chewers has significantly increased over the years in the country and reached an average...
prevalence rate of 15.3% (Demewoz and Yihunie, 2015; Awell et al., 2016). The land used for Khat production has increased by 160% from 2001/2002 to 2014/2015 and rapidly expanded to new areas of the country where it had not previously been grown (Cochrane and O’Regan, 2015). In the 2000s, Khat was the second export item and accounted for 13.4%. Currently, it is the third largest export crop after coffee and oil seeds with a share of 15.0% (Taye and Aune, 2003; Degol, 2007; Berhanu et al., 2014). Young leaves and tender twigs of Khat are important products. It plays significant roles for social life for many people in most parts of Ethiopia and has economic advantages for producers. The plant is a cash crop with psychoactive properties that resulted in euphonizing effects (Gebissa, 2008).

Khat is an illegal drug in most countries of Europe, Asia, and North America (Cochrane and O’Regan, 2015). The number of countries in the world is criminalizing the use of Khat. It is neither allowed nor prohibited in Ethiopia (Gessesse, 2013). Khat has started to replace cereal, coffee, fruit, and vegetable crops grown in the highlands of Ethiopia (Kandari et al., 2014). Outmigration, volatility in coffee market, increasing demand for export, and transportation network are among the key contributions for Khat expansion and production in Ethiopia (ibid). Currently, over two million farmers produce Khat on more than 250,000 ha of land (Gessesse, 2013; CSA, 2015). A number of studies were conducted in different parts of Ethiopia in different social settings. The findings of previous studies show that the prevalence of Khat chewing is extremely increasing (Gebissa, 2008; Demewoz and Yihunie, 2015). The concern of Khat practice has been increasing among college and secondary school students (Cafer, 2016).

Despite several controversies, Khat plant is an integral part of life for many people in Ethiopia. A substantial literature is available on various aspects of Khat such as historical background, botanical characteristics, chemical constituents, cultivation, pharmacology, marketing and export. Nevertheless, a little is known and no inclusive evidence on social, economic, health, and environmental impact of Khat and its expansion in Ethiopia. Therefore, the aim of this paper is to provide comprehensive information on different effects of Khat and expansion of the plant in terms of production and consumption in different parts of Ethiopia. It also provides overview on debates of different public discourse. The sources of secondary information were abstracts and literature review based on empirical research findings from different spatial and temporal dimensions.

HISTORICAL PRECEDENTS OF KHAT: OVERVIEW

Khat is known by different names; chat in Ethiopia, qat in Yemen (Numan, 2012), mirra in Kenya, and jaad in Somalia (Alem et al., 1999). Gebissa (2008) described it ‘leaf of Allah’ and others express it ‘flower of paradise’. An extensive public discourse has continued on the origin, practice and legality of Khat in the world. The most debated issue is the origin of Khat because it is not clearly identified. Numan (2012) believed that the origin of Khat is around southern Red Sea, Yemen or Ethiopia. Many literatures agree that it is native to Ethiopia (Assefa, 1983; Awell et al., 2016). It was introduced to Yemen between the 1st and 6th centuries and later on the Danish botanist and physician Forsskal gave the name Catha edulis to the plant growing on the mountain of Yemen in 1762 (Estifanos et al., 2016; Numan, 2012). However, there is no conclusive evidence for specific time of introduction and the origin of Khat to Yemen and Ethiopia.

There are different legends in Ethiopia and Yemen, goatherd who noticed the effects and properties of Khat on his goats (Numan, 2012). Al-Habeshi and Skaug (2005) supposed that the origin of Khat could be in Yemen and then spread to Ethiopia, or vice versa. Sir Richard Burton described, Khat was introduced to Yemen from Abyssinia in the 15th century (Burton, 1966 cited in Al-Habeshi and Skaug, 2005; Saeed, 1987). El-Menyar et al. (2015) reported that the plant is native to Ethiopia and Arabian Peninsula but it is produced widely in Yemen than that of Ethiopia (Saeed, 1987). Gebissa (2008) corroborated that Khat is originated in eastern part of Ethiopia; specifically in Harar. It is grown and/or practiced in many countries from South to Northeast Africa and elsewhere in the world (Saeed, 1987; Alem et al., 1999; Numan, 2012; Asmamaw et al., 2013; Alemayehu and Tewodros, 2014).

The second public discourse lies on the cultural and religious debates of Khat practice. On one hand, Khat is an illegal substance in most European countries (including Germany, France, and the Netherlands), the United States and Canada. On the other hand, it remains allowed in many countries like Somalia, Djibouti, Ethiopia, Yemen, and Israel (Belwal and Hassen, 2011; Yusuf, 2011; Al-Menyar et al., 2015). Laws against the use of Khat are not established in Ethiopia (Gebissa, 2008). Many literatures claimed that East African migrants particularly Somali people uses Khat in United Kingdom and other European countries (Yusuf, 2011). Khat is non-scheduled substance in United Kingdom (Numan, 2012), where it is chewed among Diaspora communities mainly Ethiopians and Southern Arabia for pleasure and social interactions (Anderson and Carrier, 2011; Kassim et al., 2015).

In Yemen, Khat users deem that it is their identity, social status, source of pride and sense of self-esteem (Numan, 2012). In 1933, the Advisory Committee on the Traffic in Opium and Other Dangerous Drugs of the League of Nations attempted to prohibit the cultivation and trade of Khat by French, British and Italian colonial
administrations that have been undertaken in East Africa (Kenya, Djibouti, and Somalliland) and South Yemen in the first half of the 20th century. Others have attempted to ban Khat undertaken in Aden in 1957 and in Somalia in 1956 and 1983. Yemen tried to ban Khat in 1972 but the campaign failed completely (Numan, 2012).

THE EXPANSION OF KHAT IN ETHIOPIA

Khat chewing has deep rooted history as early as 14th century and is commonly used for social and religious purposes (Alemayehu and Tewodros, 2014). The cultivation of Khat in Ethiopia is started earlier than that of coffee (Al-Menyar et al., 2015). Though originally Muslim prayers have used Khat for ceremonies, it has become widely utilized also by Orthodox follower Ethiopians for recreational purposes. As late as the 19th century, only the political elite, religious devotees and well-off urbanites chewed Khat regularly in Ethiopia (Gebissa, 2008).

Currently, Ethiopia is the leading producer of Khat and the production has an increasing trend (Degol, 2007; Kandari et al., 2014; Beyene et al., 2017). In the new era, for instance in Harar, even children under-five chew Khat (Alem et al., 1999). However, Khat chewing is commonly practiced in ages between 25 and 44 years (Ibid). According to the study of Estifanos et al. (2016) conducted in Dessie city of Ethiopia, the mean average age of Khat chewers is 19.23 years.

Khat grows well in middle and higher altitudes (Berhanu et al., 2014). It can grow between altitudes of 1500 and 2590 m.a.s.l. adapting to well-drained and poor soils with a range of climatic conditions (Al-Habeshi and Skaug, 2005; Yusuf, 2011; Kandari et al., 2014). The height of Khat tree ranges from 1.0 to 18.0 m in Yemen (Al-Habeshi and Skaug, 2005). In Ethiopia, the plant can grow up to a height of 30 m around Wondo Genet (Gessesse and Kinlund, 2008). The plant is seedless and hardy, growing in a variety of climates and soils (Alemayehu and Tewodros, 2014). The plant can grow in marginal lands, terraced hillsides and relatively requires low labor and inputs, and resistance to many diseases (Degol, 2007; Beyene et al., 2017). The detail characteristics of the plant are shown in Table 1.

The potential areas of Khat growing are found in the eastern highlands of Ethiopia (Hurni et al., 2016). The significant expansion of Khat has appeared since the 1960s (Gessesse, 2015). Nowadays, it is grown in almost all regions of the country. For example, there was no Khat cultivation at farm level in South and North Gondar areas prior to 1990s. Nowadays, Khat production is extensively practiced along the main asphalt road between Bahir Dar and Gondar cities of Northwestern Ethiopian highlands (own surveillance). A study conducted by Asmamaw et al. (2013) in Dera district found that the prevalence of Khat use is 17%. There are several evidences for the expansion of Khat in Ethiopia. Extensive deforestation of the natural forest in Wondo Genet environment is the result of human intervention for Khat expansion (Gessesse and Kinlund, 2008). Khat practice has increased over the years and recently the country becomes the fastest growing of Khat commodity (Kandari et al., 2014) that cultivated and chewed extensively (Beyene et al., 2017). The plant yields between 15 and 18 ton/ha through monoculture cultivation (Kandari et al., 2014). Gessesse (2015) has found that the average yield of Khat is 8 ton/ha around rift valley areas.

The other controversy lies on the use of Khat. Some organizations/institutions do not classify Khat as addictive drug, like the World Health Organization (WHO). Saudi Arabia and others have strictly banned the practice of Khat with the help of enforced law. Nevertheless, some countries including the UK, had classified the crop as a drug substance, but they did not take any measure to ban it (Berhanu et al., 2014). The International Narcotics Control Board is leading a campaign to ban Khat. In contrast, the WHO has not yet found justification for restricting the availability and use of Khat (Degol, 2007).

In Ethiopia, Khat is grown from less than 100,000 ha ahead of 15 years to the present 250,000 ha of land (Alemayehu and Tewodros, 2014; Kandari et al., 2014; Cafer, 2016). Beyene et al. (2017) found that some farmers converted their landholding to Khat plantation in Oromia and SNNP regions of Ethiopia. About a third of Khat production is exported to neighboring countries like Djibouti and Somalia (Kandari et al., 2014). It implies the plant is expanding at rapid rate (Cafer, 2016).

There are several reasons for the expansion of Khat in Ethiopia. Many farmers are challenged with crop productivity due to soil degradation. Khat can be grown in those degraded areas. The plant can incur higher income returns relatively as compared to other cereal crops. The plant is evergreen and less vulnerable to drought. It is low labor intensive as compared to other crops (Kandari et al., 2014; Beyene et al., 2017). Improving road networks, availability of land and air transport have contributed to the expansion of Khat (Gessesse and Kinlund, 2008; Numan, 2012). Many studies concur on the economic factor of Khat expansion (Gessesse and Kinlund, 2008). The positive and negative effects of Khat practice have had inconclusive discourse and not free from socio-economic, political, and public dilemma.

THE SOCIO-ECONOMIC AND ENVIRONMENTAL EFFECTS OF KHAT

Correlates of Khat and health

A practice of Khat chewing is a growing health concern in Ethiopia (Demewoz and Yihunie, 2015). Khat can have medicinal values for some epidemic diseases and
Table 1. The major characteristics of Khat plant.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botany</td>
<td>It is classified under Celastraceae family. The scientific name is Catha adulis and its local name is Khat. Khat is practiced in Ethiopia, Kenya, Sudan, Somalia, Djibouti, Tanzania, Rwanda, Burundi, Uganda, Zambia, South Africa, Zimbabwe, Saudi Arabia, Afghanistan, Yemen, Israel, India, Pakistan, Turkestan, Iran, Malaysia, Australia, and Madagascar.</td>
</tr>
<tr>
<td>Distribution</td>
<td>Khat is a flowering evergreen tree or shrub that reaches up to 30m. Leaves can have a length of up to 10 cm and 2-5 cm width.</td>
</tr>
<tr>
<td>Description of the plant</td>
<td>The active ingredient of Khat are cathinone and cathine, which produce psychotropic, euphoric, metabolic, and cardiovascular effects similar to amphetamine. A maximum potency of leaves are up to 48 hours but can be preserve using freezing.</td>
</tr>
<tr>
<td>Chemical constituents</td>
<td>The plant grows in medium altitude (1500-2600 m.a.s.l.), medium temperature (18-29°C), high rainfall amount (900-1200 mm), and well drained soils.</td>
</tr>
<tr>
<td>Ecological adaptability</td>
<td>Khat is propagated by cutting. It can be planted year round. The plant can be grown in monoculture or intercropping with maize, sorghum and other cereal crops. It can be fertilized using manure. DDT can be used for disease protection. Watering, weeding, manuring, topping, pruning, and stumping are tending operations. The first harvest is within 2-3 years. The plant can give yield over 75 years at a rate of 2-4 harvest per year.</td>
</tr>
<tr>
<td>Methods of cultivation</td>
<td>Harvesting is by hand picking in morning or late afternoon. After harvesting, it can be wrapped using ensel or banana leaves or packed using plastic bags to retain its moistness and freshness.</td>
</tr>
<tr>
<td>Harvesting</td>
<td>The young leaves or shoots are used for chewing and marketing. Tea can be prepared from Khat. It can have both positive and adverse effects on social, economic, and environment.</td>
</tr>
<tr>
<td>Legality</td>
<td>Khat is illegal in many countries in Europe and USA. It is legal in Ethiopia but chewing is prohibited in the civil servants and university campuses based on rules of conducts.</td>
</tr>
</tbody>
</table>

Source: Al-Habeshi and Skaug (2005); Gessesse and Kinlund (2008) and Kandari et al. (2014).

alleviate symptoms of melancholia and depression (Balint et al., 1991). Despite the plant do not contain calories; it has protein and fiber contents of 5.6 and 2.5%, respectively (Gessesse, 2015). It may also be used to suppress hunger when there is shortage of food (Balint et al., 1991). On the contrary, many research findings revealed that Khat practice has detrimental effects on health. In addition, Alem et al. (1999) have reported that there is no evidence that Khat can increase intellectual performance. Subsequent to fifteen years, Ewenat et al. (2014) confirmed that Khat chewing is associated with poor academic performance among students in Bahir Dar University. Many researchers have discovered that the psycho-stimulant effect of Khat is due to the alkaloid chemical ingredient ‘cathinone’ present in the fresh leaves of the plant. The central and peripheral nervous system, the gastro-intestinal system, dental problems, stomach ulcer, and stroke are among the main adverse effects of Khat chewing (Alemayehu and Tewodros, 2014).

There is immense dilemma between merits and demerits of Khat and there is no conclusive evidence on some health effects of the plant such as psychosis. Khat affects cardiovascular, constipation, oral cancers, digestive, respiratory, endocrine, and urinary systems (Numan, 2012). Gastritis, malnutrition, anorexia, spermaturorhea, arrhythmias, impotence, elevation of blood pressure, insomnia, anxiety, depression on cessation, tension, and various psychotic symptoms are adverse effects of Khat chewing (Alem et al., 1999). Moreover, females used hot beverages made from boiling dry or fresh Khat leaves in water to induce abortion (Awoke et al., 2017). If male and female chew Khat together, they tend to engage in unplanned and risky sexual intercourses especially among the young. Chewing is also dangerous for drivers and if alcohol is added, accidents will be worse. Furthermore, chewing has adverse effects for women who have children and their children face loss of weight due to low appetites of the mother who is unable to give adequate breastfeed (Ibid).

In some studies, deterioration of sexual activities and estrangement between spouses is reported. Contrasted findings are found in Somali region on sexual activities, 18.8% of male respondents replied that Khat improve
Table 2. The prevalence of *Khat* chewing in different social settings of Ethiopia.

<table>
<thead>
<tr>
<th>Area of study</th>
<th>Prevalence (%)</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students in Bahir Dar university</td>
<td>24.0</td>
<td>Ewenat et al. (2014)</td>
</tr>
<tr>
<td>Students in university of Gondar</td>
<td>24.5</td>
<td>Desalegn et al. (2014)</td>
</tr>
<tr>
<td>Students in Jimma university</td>
<td>23.9</td>
<td>Tilahun et al. (2017)</td>
</tr>
<tr>
<td>Students in Sidama high schools</td>
<td>14.6</td>
<td>Andargachew et al. (2017)</td>
</tr>
<tr>
<td>Students in Agaro high school</td>
<td>65.0</td>
<td>Gebissa (2008)</td>
</tr>
<tr>
<td>Residents in Harar town</td>
<td>50.0</td>
<td>Alem et al. (1999)</td>
</tr>
<tr>
<td>Residents in Butajira town</td>
<td>50.0</td>
<td>Alem et al. (1999)</td>
</tr>
<tr>
<td>Residents in Adami Tulu town</td>
<td>31.7</td>
<td>Gebissa (2008)</td>
</tr>
<tr>
<td>Prevalence for men in Ethiopia</td>
<td>27.3</td>
<td>Demewoz and Yihunie (2015)</td>
</tr>
<tr>
<td>Prevalence for women in Ethiopian</td>
<td>11.0</td>
<td>Demewoz and Yihunie (2015)</td>
</tr>
<tr>
<td>Prevalence for rural Ethiopia</td>
<td>16.6</td>
<td>Demewoz and Yihunie (2015)</td>
</tr>
<tr>
<td>Prevalence for urban Ethiopia</td>
<td>11.2</td>
<td>Demewoz and Yihunie (2015)</td>
</tr>
</tbody>
</table>

The prevalence of *Khat* chewing in University of Gondar has increased from 21.0% in the 2000s to 24.5% in 2010s (Yigzaw, 2002; Desalegn et al., 2014). Similarly, the prevalence of *Khat* chewing in Jimma University has increased from 23.9 to 39.0% within a decade (Gebissa, 2008; Tilahun et al., 2017). Not all areas in Ethiopia produce *Khat* and not all producers chew *Khat*. As one travels from northern part of Ethiopia to Southeastern Ethiopia, the size for production of *Khat* increases (Figure 1). There is a production and prevalence of *Khat* chewing variation among regions in Ethiopia (Demewoz and Yihunie, 2015). The highest *Khat* chewing prevalence is found in *Harari* (53.2%) while the lowest is found in Tigray (1.1%). It implies *Khat* consumption is practiced in every regions of Ethiopia with unlike magnitudes (Figure 2). It needs further inquiries and researches why the starting place of *Khat* growing is *Harar*. Agro-ecologies, trade routes, settlement patterns for Muslims, and other socio-cultural factors are the probable reasons that might influence the trends and patterns of *Khat* practice in Ethiopia.

Social effects of *Khat*

Anderson and Carrier (2011) believed that there is no robust evidence between *Khat* use and social harms. Nevertheless, recent studies disclosed that *Khat* practice does not only affect human health but also it influences social cohesions (Saeed, 1987; Al-Habeshi and Skaug, 2005; Numan, 2012; Asmamaw et al., 2013; Al-Menyar et al., 2015). *Khat* consumption is high in Muslim communities and usually takes place at homes, recreational sites, or trading places for pleasures and other related purposes (Belwal and Hassen, 2011). Most people chew *Khat* in groups during special ceremonies.
intended to enhance social interaction or facilitate contact with Allah by Muslims (Alem et al., 1999). Playing during ceremonies, stabilize emotions, pleasure, increase work efficiency, stimulation, elevate mood, social meetings, concentration during studying, collective and individual labor works, and praying are some of the social reasons of Khat chewing (Alem et al., 1999; Numan, 2012).

Events of chewing include circumcision, wedding and funeral ceremonies for welcomed and entertained guests. Students, farmers, traders, and drivers chew Khat. Kandari et al. (2014) found that higher numbers of consumers are drivers followed by students and shopkeepers in Harar. A study conducted in Dessie city revealed that the most frequent users of Khat are jobless.
youths, students learning in higher education, street children and drivers (Estifanos et al., 2016). Affected schoolchildren resulting in school dropouts due to Khat chewing and increase in criminal activities (Kandari et al., 2014). Khat cultivation is claimed to be mainly male preference crop for the benefit of income. Women prefer Khat in less extent for the reason that men tend to marry additional wives and the plant increases alcohol consumption and drinking in turn expose to HIV/AIDS (Gessesse and Kinlund, 2008). Social problems such as frequent quarrel among family members, breach of family ties, neglect of education, less care for children, encouraged prostitution, and addiction are linked with Khat chewing (Yusuf, 2011). Some research findings reported that Khat consumption has adverse consequences for married couples. Spending money to maintain the habit and wasting working hours during Khat ceremonies lead to family neglect and, consequently to divorce (Alem et al., 1999). The rise over addiction is associated with criminal activities such as terrorism (Cochrane and O'Regan, 2015).

**Economic effects**

According to Berhanu et al. (2014), Khat is the third largest export commodity after coffee and oil seeds. Khat can generate considerable amount of revenue at individual, household and national level. Some farmers prefer Khat than that of other crops due to several reasons. Khat is a cash crop, which can bring substantial returns. The plant is less vulnerable to drought with less cost for labor demand throughout production. Khat has both positive and negative economic advantages. On the positive part, it serves as employment opportunity and source of income in the cultivation and marketing processes. The source of cash income (up to 76.8% in Harar) and drought resistance behavior of the plant are among the main economic advantages of Khat growing (Alem et al., 1999). Alemayehu and Tewodros (2014) and Beyene et al. (2017) reported that the wood part of the plant is resistant to termites that serves for fuel, farm implements, home utensils, house construction and fencing. The income return from maize mono-cropping is three times less than the intercropping of Khat with maize in Hararghe highlands (Kandari et al., 2014). Farmers also utilize mixed cropping with tef in south Wollo (Cafer, 2016).

Conversely, Khat has deleterious effects on disharmony, family breakdown, and diverting household incomes (Alemayehu and Tewodros, 2014). Spread of corruption, theft of public and private properties, damage to people and properties caused by accidents, and waste of family resources are economic related problems linked with Khat chewing (Yusuf, 2011). Khat is a cash crop covering about 0.2% of the total area of Ethiopia fetching about 10.5% of the country's export value (Gessesse, 2013). It is easy to transport and serve as fodder for goat population adversely due to decline of pastureland and less interest in livestock raising (Kandari et al., 2014).

**Environmental consequences**

Khat is an extremely water demanding perennial plant and heavily reliance on irrigation for intensive production (Cafer, 2016). Many Khat landscapes are vulnerable to land degradation and Khat cultivation undermines crop production (Gessesse, 2013). The number of farmers growing annual crops has declined as the result of Khat expansion, which undermines food crop production. In many areas, for example in Wondo Genet, deforestation and land conversion took place for Khat cultivation that implies adverse environmental implications (Gessesse and Kinlund, 2008). Thus, Khat production could have either positive or negative effects on food security. The relationship between Khat cultivation and its consequences on land use change and water use is complex (Gessesse, 2015).

**DEBATES ON RULES OF LAW**

The practice and global trade of Khat is controversial (Degol, 2007). Though public officials in East Africa denounce its consumption, they benefit from the foreign exchange and tax revenues that it generates. The United States and most countries in Europe have banned it, considering its psychotropic substance. Nevertheless, legislating against Khat in these countries has had little success in curbing use of the plant and has taken place with little consideration of evidences (Anderson and Carrier, 2011). The sale or use of Khat is enacted through laws and banned it in many western countries such as Netherlands, UK, China, and USA (Degol, 2007; Gessesse, 2013; Beyene et al., 2017). Considering these aforementioned knowledge, it is likely to develop policies concerning to Khat practice. It has been condemned both by Islamic school of thought and by Orthodox Church in Ethiopia (Yusuf, 2011). Nevertheless, Ethiopian government neither encourages nor takes any action against its cultivation, trade and use (Berhanu et al., 2014). It looks like no specific government policy that promotes or prohibits production of Khat. Presently, it is difficult to punish someone out of substance dependence. Initially, dependent users ought to change their behavior and be active and productive members of the community (Estifanos et al., 2016).

A person who lived in Dessie city reported that Khat is not religion related rather Muslims chew Khat just to be alert and avoid sleep (Estifanos et al., 2016). Some
Table 3. Compiled potentials for strength, weakness, opportunity, and threats with a popular analytical technique known as SWOT.

<table>
<thead>
<tr>
<th>Strength</th>
<th>Opportunity</th>
<th>Weakness</th>
<th>Threats</th>
</tr>
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<tbody>
<tr>
<td>Ethiopia is the leading/producer of Khat. Khat is the main export commodity (giving high contribution for the national economy). Khat is a cash crop, which can bring substantial return. Less vulnerable to drought and less cost for labor throughout the production of Khat.</td>
<td>Khat is able to mix with cereals, coffee, fruits, and vegetables. Khat doesn’t classify as addictive drugs (according to WHO statements). Not all areas in Ethiopia produce Khat. It means there are several areas still have other potential crops to produce.</td>
<td>Illegal drugs (detrimental effects on health, social conditions such as spread of corruption, theft of public and private properties, damage to people and properties caused by accidents). Khat landscapes are vulnerable to land degradation</td>
<td>Khat is illegal in many countries, like Europe and USA. In Ethiopia Khat production is legal but chewing is prohibited. There is no suitable policy to solve this debating issue. Dependent users ought to change their behavior and be active in positive community.</td>
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</tbody>
</table>

scholars in Ethiopia believed that Somalia and Yemen have integrated Khat use into religious life. According to Degol (2007), prohibiting the cultivation of Khat would threaten the livelihoods of many farmers and traders, and likely drive many of them deeper into illegal activity or into poverty. Criminalizing those who have to rely on Khat production for their survival is not the answer. The discussion of Khat needs to be placed within a development framework instead of being dominated by a mindset that stresses illicit ‘substance abuse’. Beyene et al. (2017) revealed that criminalizing and prohibiting Khat cultivation could affect the livelihood of Khat farmers, rural non-agricultural laborers and traders.

According to Estifanos et al. (2016), many people have intentions to stop Khat (for instance USA 62%, UK 50%, Yemen 46% and Ethiopia in Dessie city 68.47%). However, in reality, both the production and use of the plant is increasing. Thus, considering only economic strategy for Khat cultivation cannot be the basis of policy establishment for a sustainable development (Gebissa, 2009). In identifying suitable policies, potentials for strength, weakness, opportunity, and threats are compiled with a popular analytical technique known as SWOT (Table 3).

CONCLUSION AND POLICY IMPLICATIONS

In Ethiopia, Khat production is one of poverty reducing instrument for producers in the short run. Khat cultivation is expanding rapidly at the expense of cereal crops. The production has boomed over the last two decades, making the country a leading nation. The highest prevalence of Khat production and consumption spread from Eastern and Central Ethiopia to northeastern and other most major cities and towns of the country. The discourse between harm and benefits effects are inconclusive and not free from ethical dilemmas. That means Khat has adverse effects on health, society and environment with positive income effects on consumers and producers (Kandari et al., 2014).

Nowadays, Khat chewing is a public health concern. Heart failure and blood pressure are among the key health related problems of Khat chewing. The prevalence of Khat chewing is higher in secondary schools and university students influenced by peer pressure, family chewing habit, drinking, smoking and vicinity to residences. Many researchers argue that a complete ban or the production and marketing of Khat may be disastrous for Ethiopian economy for the short run (Belwal and Hassen, 2011). Some others claim that the government of Ethiopia has placed dual taxation, at local and federal level. The review has shown that Khat chewing habit has affected the majority of productive age groups confirmed by large number of students.

Previous studies are limited on different social settings and spatial distributions. A few number of researchers address the issue of Khat chewing and associated
behaviors at secondary schools, rural and urban residents, Khat trading areas, and universities. More studies are required on psychological, epidemiological, environmental and associated aspects. The attributes and effects of Khat has to be studied independently at different social settings, socio-demographic characteristics and work behaviors such as traders, farmers, women, shoe shine, civil servants, students, youth, adults, drivers, children and others. Knowledge based, gender sensitive, health and environment centered policy is required. Taking measures related to joblessness and educating people are among solutions. Therefore, it is essential to raise awareness, disclose public debates about the potential hazards of Khat chewing. Legislation has to consider for education into the curricula for primary and secondary students.

**CONFLICT OF INTERESTS**

The author has not declared any conflict of interests.

**REFERENCES**


