

Challenges and Approaches to Ensuring Socio-economic Sustainability of Khat Crop Dependent Communities Amidst Diminishing International Markets: East Hararghe, Ethiopia, in Focus

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Abstract: The gradual transformation from subsistence farming to a monoculture Khat crop economy emerged in Eastern Ethiopia of Eastern Hararghe; due to socio-economic, environmental and agro-ecological reasons. This study was carried out to investigate as to whether and how long the Khat crop economy itself is sustainable. The study employed both qualitative and quantitative research approaches. The research tools used were questionnaire, focus group discussion, field observation and interview. The Scornes' 1998 Sustainable livelihoods were used as a guiding framework for the inquiry process. For clustering and interpreting the qualitative data Theoretical Coding was used while the SPSS version 20 was employed for illuminating and illustrating the dynamics that underlie the quantitative data. The results generated the global and local mechanisms currently putting the sustainability of the lucrative Khat Crop Production at risk whose consequence is, in turn, putting incidents the livelihood and future lives of millions of households, especially the young generation, in uncertainty. The findings shade lights on policy-practice ironies and perspective for future actions.

Keywords: Khat, vulnerability, economy, livelihood, sustainable, social, environment

INTRODUCTION

Much of the lore of khat crop passed orally from generation to generation, leaving in adequate written records (Dechassa, 2001). Based on Huffnagel, 1961 cited in Klingele, 1998, Khat crop originated and domesticated in Harar. Khat crop is an ever green perennial shrub plant that belongs to the calastraceae family. The plant is called by different names in different countries: 'Khat' in Ethiopia, 'Qat' in Yemen, 'Mirra' in Kenya, and 'Qaad' or 'Jaad' in Somalia (Belwal and Teshome, 2011).

Empirical evidences have different standpoints towards Khat crop. On one hand, it plays key environmental roles in preventing soil erosion (Klingele, 1998; and Dechassa, 2001); Khat crop once established it grows well under a wide range of soils and climate condition having a better drought tolerance than coffee. Moreover, Khat can be easily intercropped with other crops such as maize, or sorghum (see Guinand, 1999). Finally, the economic benefit of Khat crop is a strong compelling reason for its expansion. It provides lucrative cash flow as compared to subsistence farming

(Klingele, 1998; Dechassa, 2001). On the other hand, numerous scholars discouraged Khat crop, due to different reasons. A case in point; Khat crop consumption increased prevalence of respiratory trouble (see Kennedy, 1983); divert household income (Kalix, 1987); leading to low productivity of labor due to absenteeism and after-effects of its use (see Halbach, 1979; Elmi, 1983; Gianninetal. 1986; Kalix, 1987).

Khat crop cultivation, as a livelihood strategy, is currently dominating socio-economic landscape of Eastern Hararghe and beyond. Nonetheless, the so far inquiries inadequately addressed serious socio-economic possibilities and trade-offs; and interventions made at all level towards the Khat crop economy in eastern Hararghe (see Survey of Ethiopian economy-11, 2005; Dasilvia, 2003; cited in Belwal and Hassen, 2010; kebede, 2014). This in turn, outwardly, posed actual and potential socio-economic sustainability dilemma on millions of households whose lives, quite often, depended on the particular economy. Sustainable livelihood approach indicated people operating in a vulnerable context have access to certain assets. If

external shocks occur on these assets and no measures are taken, the vulnerable population will fall in to disaster risks (IIRR, 2007; and save the children, 2007).

Therefore, there was a need to examine challenges and approaches to socio-economic sustainability of Khat crop dependent communities. To this end, the Scoones, 1998 Sustainable Livelihood Framework(Figure1) was employed as a road map to investigate the inquiry. Hence, the study attempted to investigate key questions including- given a particular context (of policy, agro-ecology and socio-economic conditions), what combination of resources (different types of ‘capital’) result in the ability to follow the Khat

crop economy; with what outcomes? Of particular interest in this framework were the transformational processes(embedded in institutions and organizations) which mediate the ability to carry out Khat crop economy achieve sustainable livelihood outcomes or not. In the due course, the study strived to identify the underlined vulnerability context and the factors that explain who and what is at risk and why. Besides, the study also aims at exploring wider mitigation policy action and development approach which focus on livelihood security, livelihood adaptation and resilience to vulnerability factors and natural resources sustainability in the study area.

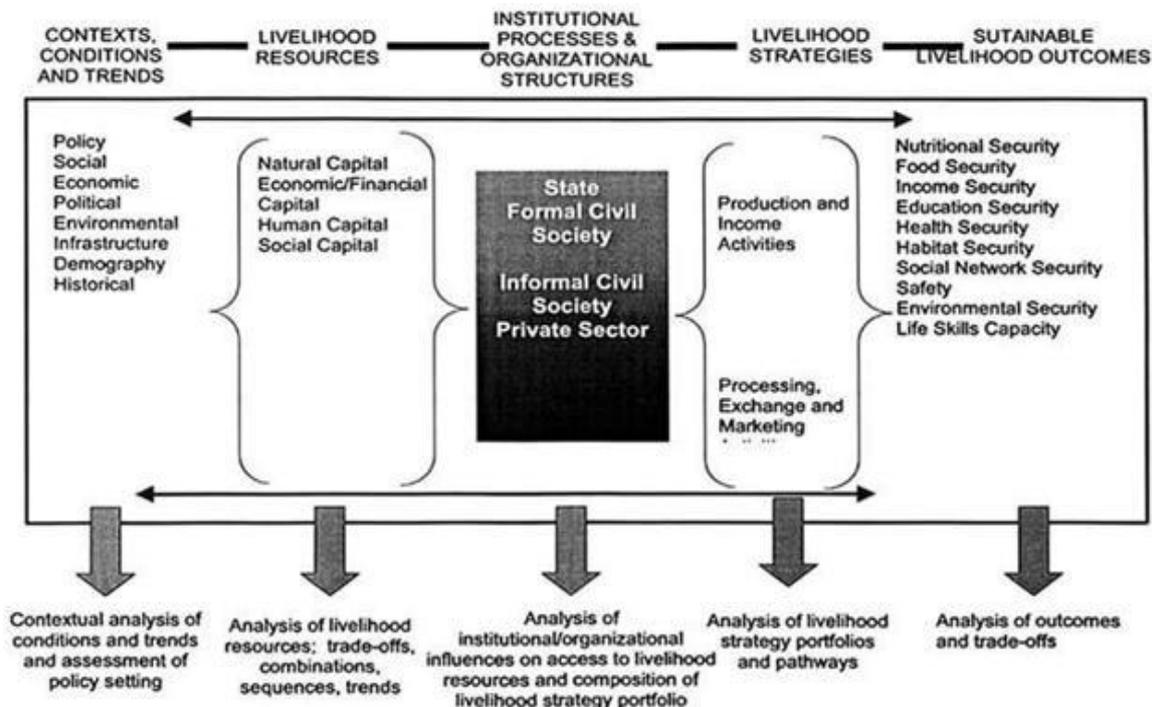


Figure 1: The Sustainable Livelihoods Framework adopted from Scoones, 1998

RESEARCH METHODS

Description of the study area

The study area, East Hararghe, is located in the eastern part of Oromia National Regional State Ethiopia. Its altitude ranges from 500 to 3,400 meters above sea level. It contains, three agro-ecological zones, highlands (elevations above 2,300m), midlands (elevations between 1,500 and 2,300m), and lowlands (elevations below 1,500m). The low lands occupy the largest area (62.2%), followed by midlands (26.4%) and

highlands (11.4%) (Tolossa and Tafesse, 2008). East Hararghe has 18 districts with a total population of 2,723,850, of whom 1,383,198 are men and 1,340,652 women. With an area of 17,935.40 square kilometers, East Hararghe has a population density of 151.87 per square kilometer. While the majority of the population, about 90%, depends on agriculture in the rural area, 8.27% are urban inhabitants, and a further 1.11% is pastoralists (CSA, 2007).

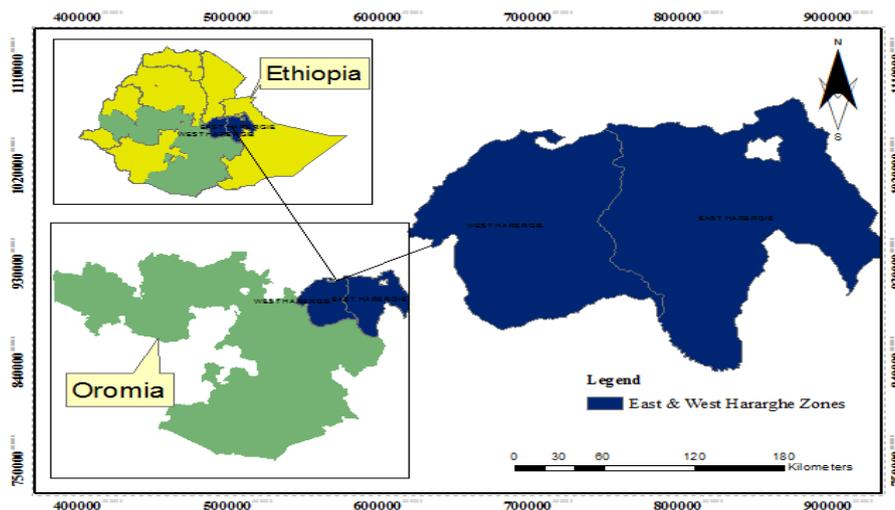


Figure 2. Map of Ethiopia and the study area, Eastern Hararge Zone

Research methodology

The study used mixed methodology (including qualitative and quantitative approach). Mixed method, specifically the concurrent triangulation approach will be selected as research design. The concurrent mixed approaches enable to gather quantitative and qualitative data, and are gathered at the same time (Creswell, 2003; Gay, Mills and Airasian, 2009).

Data type and sources

Structured and semi-structured interviews and focus group discussions were utilized to collect data from sample respondents including; relevant government officials (of Haramaya, Girawa, Awoday and Kersa Woreda); 3 Exporters, 5 Brokers, 10 Khat crop Retailers, and 4 transport agents. Extra primary data were gathered from 200 households through survey. Observation check lists were also utilized to gather events connected to the cultivation and commercialization of Khat crop. Lastly, secondary data sources were collected from internet, published and unpublished.

Data analysis

For clustering and interpreting the qualitative data, Theoretical Coding (Saldaña 2009) was used

while the SPSS version 20 was employed for illuminating and illustrating the dynamics that underlie the quantitative data. Results presented using through percentages and graphs. Additionally, narrative and discourse analysis were utilized to gain deeper insights on pertinent variables of the study.

RESULTS AND DISCUSSIONS

In this section, the results of the study were presented and discussed based on the research questions and in line with the sustainable livelihoods framework (Figure. 1).

Trends of Khat crop cultivation

The transformation from subsistence farming to a monoculture Khat crop economy, at current, established in the study area. The data obtained from Oromiya Eastern Hararge Zone Rural Land Use Administration Office, 2018 report (Table1) indicated that in the sample Woreda (including; Haramaya, Girawa and kersa) the maximum of 105,479.025 (Ha) of land is currently allocated for Khat crop cultivation. The office report further revealed that in Eastern Hararge in general the total of 49,003 (Ha) of land have been irrigated, and 191,112 tons of khat crop harvested up during the 2017/18 budget year.

Table 1: Khatcrop coverage and land use by location

Sub-Category	Woreda	Area (Ha)	Land use coverage in %
Cultivation land	Girawa	31,017.131	10.790
	Haramaya	41,561.391	14.459
	Kersa	27,716.721	9.642
Total cultivated Land		100,295.243	34.891
Irrigated Land	Girawa	4915.152	1.710
	Kersa	268.630	0.093
Total irrigated land		5,183.782	1.803
Total agricultural land allocated to Khat crop		105,479.025	36.694

Source: Oromiya Eastern Hararge Zone Rural land Administration and Use Office, 2018

A study carried out by Zenebe et al. 2015 indicated that over 63% of the total land previously occupied by coffee, has been converted into khat, and thus makes it possible for khat production to expand by over 900%.

Driving forces contributed to the emergence of Khat cash crop economy

Combinations of resources (different types of ‘capital’) result in the ability to follow certain type rural livelihood strategy. In view of that, sample households were asked to indicate the underlined factors which led to the expansion of Khat crop economy as a rural livelihood strategy in the study area. Accordingly, results of the study (Figure 3) are discussed below.

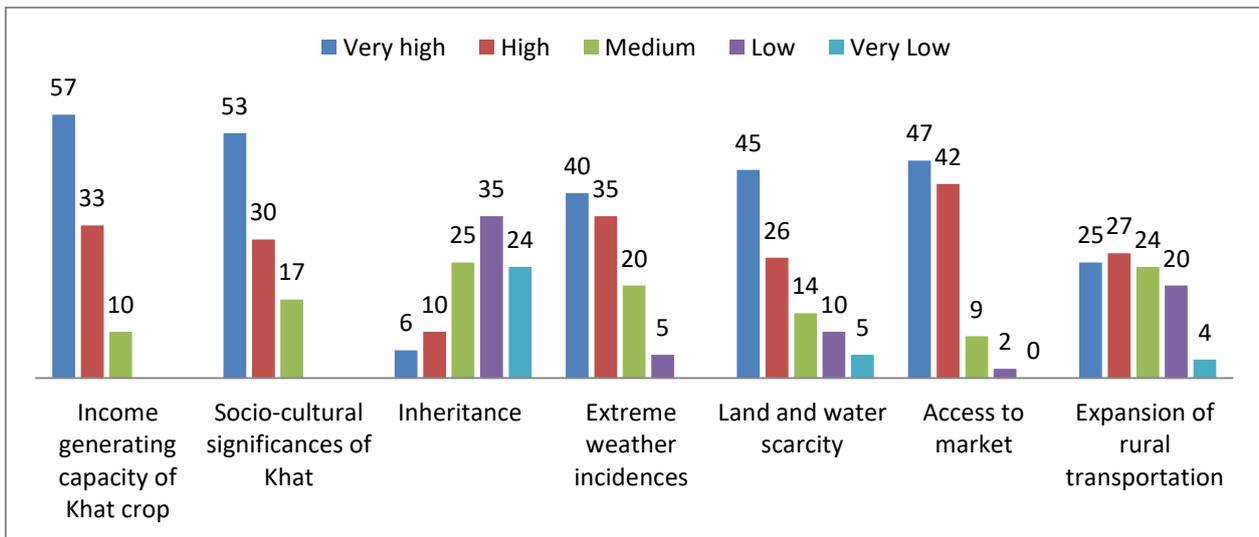


Figure 3. Driving forces contributed to the expansion of Khat crop cultivation in percentage

Source: Field survey, 2018

Among the contributing factors considered, income generating capacity of Khat crop (57% of respondents) is the highest available factor contributed to the expansion of Khat crop economy. Supporting this, Guinand, 1999; and Klingele, 1998 showed Khatcrop economy as a livelihood strategy commands a

wide range of income possibilities as compared to subsistence farming in Eastern Hararghe. This is because Khat crop can be harvested around the year there by becoming a source of continuous revenue for Khat growers (Kandari et al, 2014).



Figure 4:Khat crop ready for sale in Awoday town, Eastern Hararghe

The second most important factor (53% respondents) behind the expansion of Khat crop is

socio-cultural significances of its consumption. The study carried out by Klingele, 1998 unveiled Khat crop

consumption has been and continues to play an important role in celebration, hosting guests, marriage, business, political meeting and discussions in the study area.

According to the survey results (Figure 3) 40% and 45% of respondents indicated that extreme weather incidents and land and water scarcity are also important driving forces behind the expansion of Khat crop economy respectively. In relation to this, Belayneh, 2003 exposed land degradation, scarcity and fragmentation of land, erratic rain fall patterns, recurrent drought among others, by far, damaged staple and coffee production in the study area. Thus, many rural households opted and are opting to cut down their coffee plantations and to replace them with Khat bushes. Over 63% of the total land previously occupied by coffee, has been converted into khat crop (Zenebe et al. 2015). Similar study also revealed Khat is not only taking coffee's place, it also planted in favor of staple crops (Klinge, 1998). Besides, Khat crop grows well under a wide range of soils and climate condition having a better drought tolerance than coffee, Khat crop can be easily intercropped with other crops such as maize, or sorghum. The survey results (Figure 3) also showed that 42% and 27% of respondents responded that access to market and growth of rural transportation were also important driving forces to the expansion of Khat crop economy respectively.

Institutional and organizational context (transforming structure and process)

Livelihood strategy is the product of socio-political contexts, conditions trends (Care, household livelihood security analysis, 1996). In relation to this, institutions and social relations are critical mediating factors for livelihoods because they encompass the agencies that inhibitor facilitate the exercise of capabilities and choices of in households (Ellis, 2000). The Khat crop economy involved a number of agencies including; substantial exporters and retailers, transport agents, brokers and daily laborers. Likewise, community based institutions (so called Guza), quite often, participated in land preparation and irrigation. Yet, institutional imperatives required reinforcing earning capacity of the economy mostly; policy and strategy, agricultural extension services, credit facilities,

farmers' cooperatives, and social capitals and networks, scarcely, recognized. More importantly, the UN Commission on Narcotics and Drug (UNCND) controversial position towards its consumption (Dechassa, 2001) led substantial countries to impose trade restrictions against Khat crop. In spite of the above, the only mediation executed by the government is the Khat excise tax proclamation No.767/2012; which obliges a person liable to pay Khat excise tax charged at a tax rate of Birr 5 per kilogram. Interviewed officials and focus group discussants argued, the proclamation passed with the purpose to reduce the domestic consumption of Khat crop and to ensure equity in the collection of the tax payable on Khat. Supporting it, Armstrong, 2008, debated that the proclamation towards the particular economy might be the right pressure to make Khat crop economy illegal.

Generative vulnerability factors towards Khat crop economy

Vulnerability context refers to the seasonality, trends and shocks that affect people's livelihoods and life. A central element in vulnerability is uncertainty and the ways in which individual deal with uncertainty to the extent that human-induced and environmental changes are unpredictable (Scoones, 1998; Ellis, 2000). The study investigated critical vulnerability factors which pose uncertainty and shock against the Khat crop economy. The results were discussed in the following manner.

Vulnerability factors that affect cultivation of Khat crop

Based on the survey results (Figure 5) 41% of respondents described lack of agricultural extension services from government office (comprising; farming techniques, pesticide and insecticide, credit and finance) seriously weaken Khat crop cultivation. In fact, Ethiopia established agriculture and rural development offices and assigned tens of thousands of trained extension workers (on crop, livestock, and natural resources management) mainly; to boost agricultural productivity at all level. However, qualitative results revealed Khat crop cultivation, by far, deprived of any sorts of development mediations. Engagements' of agriculture extension workers, quite often, limited to searching for data regarding land coverage.

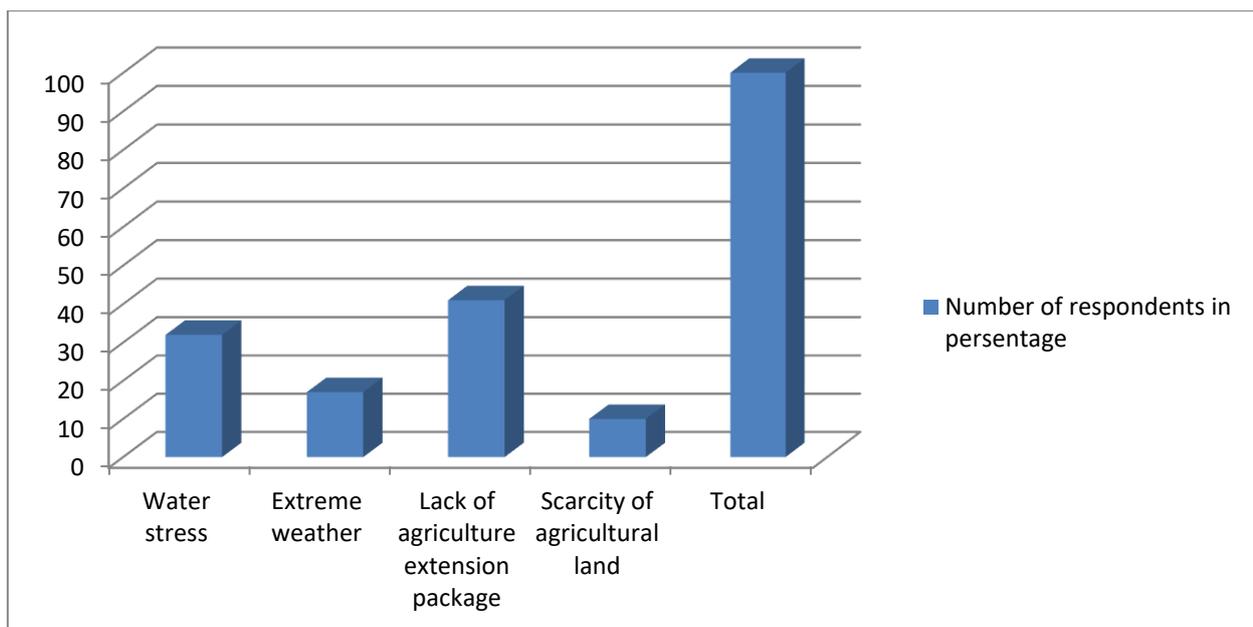


Figure 5. Vulnerability factors that affect Khat crop cultivation in percentage

Source: Field survey, 2018

Extra survey result (Figure5) indicated the second most important factor (27% of respondents) which undermined Khat crop cultivation was water scarcity. Recurrent drought and associated water scarcity, at current, undermined Khat crop cultivation. Recent developments showed water scarcity is causing major conflict amongst rural households. Qualitative results disclosed that water resource is significantly

determined price and output level of Khat crop in the study area.

Amongst the basic factors considered (Figure5), repetitive extreme cold weather (17% of respondents) identified as important vulnerability factor which destructed Khat crop and earning capacities of rural households’.



Figure 6: Dried Khat crop due to extreme cold weather in Haramaya, 2017/18

Source: Field survey, 2018

Lastly, as it is indicated (inFigure4) 10% of respondents’ revealed that performance of Khat crop cultivation at household level was diminished due to scarcity and fragmentation of agricultural land holding and land degradation.

Vulnerability factors undermine income generating capacity of Khat crop

The data obtained from interviewed officials and focus group discussants stated rural households, quite often, did not generate faire income from selling Khat crop in the market. Sample respondents were asked to identify the most pressing vulnerability factors which diminished income generating capacities’ of rural households. Based on survey results (Figure 7) 65% of respondents indicated lack of ownership on market

information was number one vulnerability factor which weakened income generating capacities’ of rural

households.’

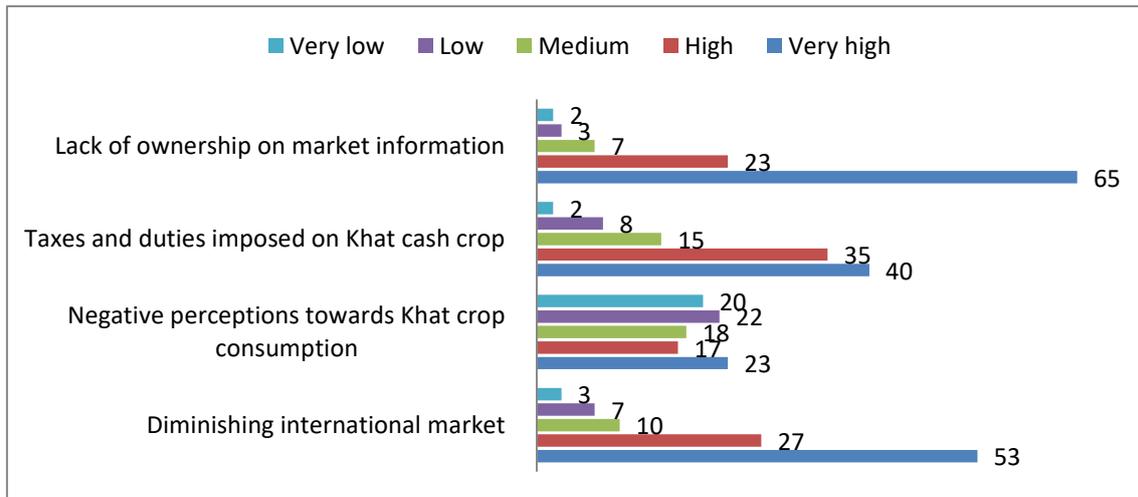


Figure 7: Vulnerability Factors undermine income generating capacity of Khat crop producer in percentage
 Source: Field survey, 2018

Focus group discussants stated Khat crop growers have limited awareness and negotiating leverages; as compared to marketing agents participated in Khat crop economy. Qualitative results of the study also revealed key marketing agents including; exporters, retailers and brokers generated, unfairly, higher revenue from the Khat crop economy. Seemingly, lack of cooperatives (union) across rural households and bare provisions of market related services hampered Khat crop growers to fetch fair price for what they produce.

The second most important vulnerability factor(53% of households) weakened earning capacity of rural households’ was diminishing international

export market for Khat. Based on empirical evidences, it has been exported to various countries, such as Djibouti, Somalia, UK and the Middle East. More recently, the khat market is becoming familiar to America, China, India and Australia(Zenebe et al. 2015).Written documents disclosed, the volume of exported Khat reached to new heights of 15.7 metric tons (MT) in 1999/2000 from 6MT in 1997/98(Survey of Ethiopian economy-11, 2005). As Dasilvia (2003) cited in Belwal and Hassen (2010) in five years’ time officially earning from Khat doubled to almost 13% (\$58) of the GDP. The earning from Khatcrop export that was recorded 272.4 million birr in 1997/98 rose to 758.9 million birr in 2003/2004.



Figure 8:Awoday Town (Eastern Hararge), the known Khat crop market place

However, Khat along with others designated as agents of cathine by the 1988 UN Convention on Psychotropic Substances (see Widler, Mathys. et al.

1994’ and Kalix P.1992). Hence, countries such as Canada, United States, England and most of European countries considered Khat crop as illegal (see Al-

Hebshi and Skaug, 2005). And China’s recent trade restriction, outwardly, diminished export Khat markets. Besides, the prolonged civil war and conflict in Somalia and Yemen, along with the 2017/18 interregional conflict occurred between Oromiya Regional State; and Ethiopia Somali Regional state, rigorously, posed seasonal and long term sustainability dilemma on Khat crop economy and earning capacity of rural households’ in Eastern Hararghe.

As to the survey results (Figure7) 40% of respondents identified tax levied on Khat (Excise tax proclamationNo.767/2012) was one of the factors challenged earning capacity of rural households. Based on the survey result, 23% of respondents indicated negative perception displayed at local level against Khat crop was the least factor that weakened households’ earning capacity. Supporting study described Khat attracted deep social antagonism and anguish (Dechassa, 2001). Nevertheless, those negative perception and disagreements did not reduced consumption at least at local and national level. To the extent, interview results, depicted that the diminishing

international Khat market destinations did not create grave challenges so far because it is gradually counterbalanced by the growing insatiable domestic consumption of Khat crop.

Uncertainties and Household coping/ survival strategies

Low potential for substitution makes a particular livelihood more susceptible especially to shocks(Ellis, 2000).Shocks represent a particular challenge to livelihood sustainability(Blaikie etal 1994 cited in Ellis, 2000). Households’ earning capacity, widely, exposed to shocks and stress including; market uncertainties, extreme cold weather hazards, and water stress(see Figure 4 and 5). Such vulnerability factors carried temporary crisis to long term entitlement decline. Rural households’, quite often, faced adverse consequences (Figure 9) including; food insecurity (48% respondents), school dropout of children (25% respondents), unable to pay basic household expenses (20% respondents), family dislocation and divorce (7% respondents).

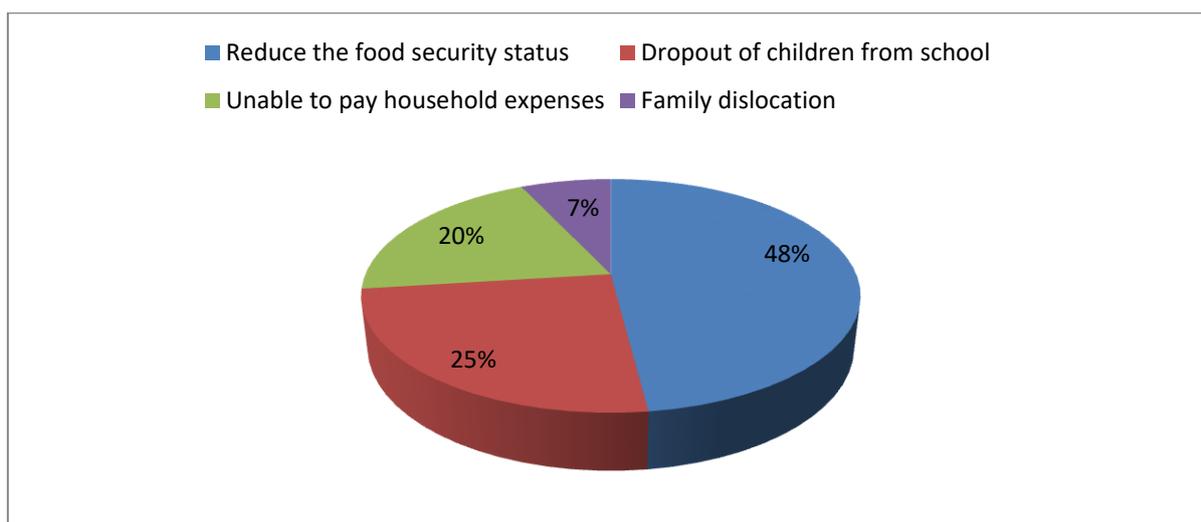


Figure 9. Adverse consequences of diminishing household income in percentage

Source: Field survey, 2018.

Sample respondents were asked to identify the types of coping strategies employed to survive adverse socio-economic consequences that Khat crop economy dependent households’ faced today. Based on results of the study (Figure10)55% of sample respondents revealed that turning in to daily laborer was the number one coping strategy employed amongst rural households’ to survive unfavorable conditions. Results

of the study also revealed that household asset disposal and engaged in petty trade were employed 17% and 15% respectively to copeun favorable socio-economic seasons and conditions. As part and parcels of coping strategies, 8% respondents disclosed that vulnerable rural households’ were also joining emergency relief program.

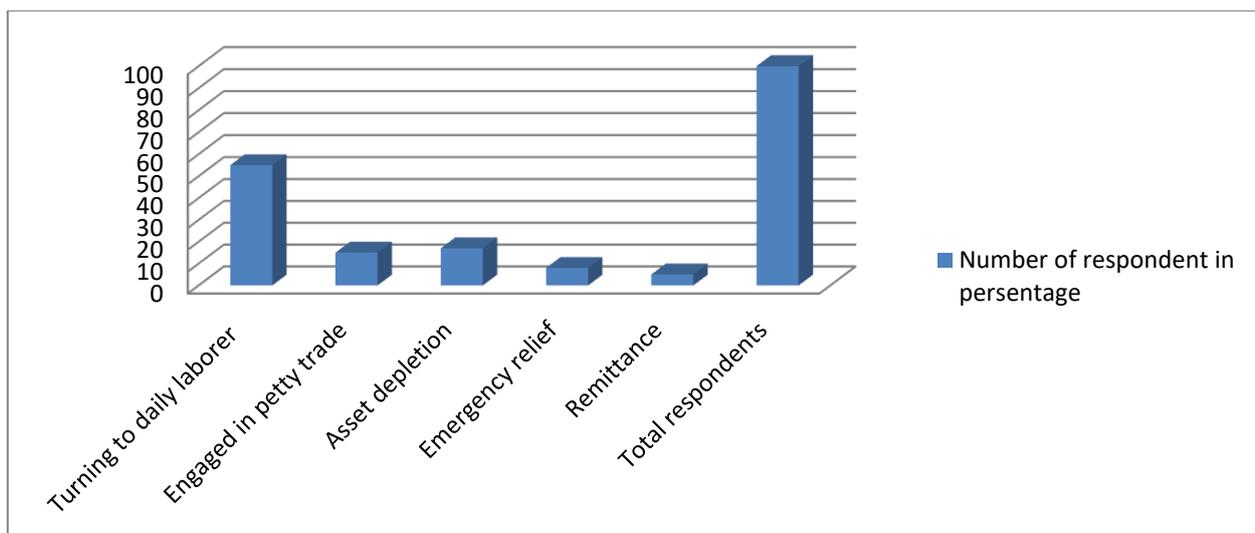


Figure 10 Households coping /survival strategies

Source: Field survey, 2018

Finally, as it is indicated (in Figure 10) remittance (5% of respondents) was the lowest coping strategy employed to augment households' income portfolio in the study area.

Sustainable livelihood outcomes

Compelling socio-economic and environmental imperatives are behind the expansions of khat crop economy as a livelihood strategy. Scoones, 1998, described that a livelihood can be built up, eroded, or instantaneously destroyed. The study assessed as to whether Khat crop economy is sustainable enough to cope with and recovers from stresses and shocks maintain or enhance its capabilities and assets, while not undermining the natural resources base. Accordingly, critical sustainability outcomes are summarized, and presented in the following manner. These are;

Livelihood security, vulnerability and resilience: -the Khat crop economy as a livelihood strategy is currently transforming the socio-economic landscape of the study area; yet resilience of the economy, quite often, weakened due to widespread shocks and uncertainties. As the data obtained from Figure 4 and Figure 5 indicated, sub-regional conflicts and unrest; deep resentment and associated growing import restrictions against Khat crop, by far, created visible market uncertainties. Qualitative results revealed lack of alternative rural livelihood strategy (shortage of wide household income earning portfolio) coupled with extreme weather hazards, water stress, and scarcity of agricultural land among other; significantly undermined performance of the Khat crop economy. More importantly, absence of clear policy instruments and agricultural extension services towards the particular economy, seemingly, deteriorate livelihood security and resilience of millions of rural households, retailers and

daily laborers whose daily life entirely depended on the Khat crop economy. Based on Sustainable rural livelihood approach people operating in a vulnerable context have access to certain assets. If external and internal shocks occur on these assets and no measures are taken, the vulnerable population will fall in to disaster risks (IIRR, 2007; Save the children, 2007).

Natural resource base sustainability: - most rural livelihoods are reliant on the natural resource base at least to some extent (Scoones, 1998). According to Conway, 1985; and Holling, 1993, cited in Scoones, 1998 natural resource sustainability refers to the ability of a system to maintain productivity when subject to disturbing forces. Similar study by Klingele, 1998; and Dechassa, 2001 unveiled Khat crop cultivation plays key environmental roles in controlling soil erosion. In contrast to the above, Kebede, 2014 argued that, tolerant expansions of Khat crop along with unregulated water utilization highly contributed to extinction of Lake Haramaya. Currently, widespread utilizations of DDT as pesticide and insecticide are triggering critical socio-environmental anxieties. The 2000 Basel convention; the 2002 Rotterdam convention and the consequent 2002 Stockholm convention (POPs) clarified DDT as one of the 12 "Persistent Organic Pollutant "(POPs) that need to be banned. 151 member states of the United Nations including Ethiopia signed the POPs treaty which came into force since May 17, 2004. Besides, the national policy and proclamation to ban the use of pesticides approved through environmental policy of the country in 1997, and reinforced by the Pesticides Registration (Proc.20/1990), the Environmental impact assessment proclamation (Proclamation No 299/2002) the Environmental Pollution Control proclamation (No300/2002) and the Public health proclamation (200/2000).

Socio-economic tradeoffs: -a sustainable livelihood outcome is highly interested in assessing 'with what outcomes' does a particular livelihood strategy survive. In this aspect, the study assessed as to whether the Khat crop economy is achieved at the expense of other people, sector or socio-economic trade-offs. Based on qualitative results, the Khat crop economy is responsible for critical issues mainly; widespread school drop out of children; competition for land use and food crop deficit, gradual extinction of globally renown 'Harar coffee' from the agricultural landscape of Eastern Hararghe, the prevalent good deals of the countless car and lorry accidents on Hararghe roads are also said to be caused by excessive Khat chewers behind the wheel as well as competition to get Khat quickly to the market place. Supporting evidences also revealed that Khat consumption increased prevalence of respiratory trouble and hepatitis among Khat crop consumers (see Kennedy,1983); divert household income (Kalix, 1987); leading to low productivity of labor due to absenteeism and after-effects of its use (Halbach, 1972; 1979; Elmi, 1983; Giannin et al., 1986; Kalix, 1987).

Conclusion and Recommendation

The Khat crop economy is supporting millions of rural households, hundreds and thousands of off-farm daily laborers; drivers and semi urban dweller at large. Besides, the sector reinforced nationwide development endeavors through generating lucrative foreign exchange earnings, next to coffee. Even if, the Khat crop economy displayed high socio-economic profile in the study area and beyond, the economy is currently facing socio-economic and environmental sustainability dilemma due to man-made and nature led vulnerability factors. Findings of the study disclosed that significant number of rural households' faced unfavorable experiences including; malnutrition, school dropout of children's, search for daily labor, family dislocation and divorce. Additionally, environmental degradation, loss of bio biodiversity, food deficit, diversion of households income, addiction and adverse health concerns, low labor productivity, repetitive road accidents and loss of lives among others; were identified as pertinent socio-economic trade-offs connected with the value chain of the Khat crop economy. In spite of the above, the prevalent love-hate affiliation verified by the government towards the Khat crop economy; and absence of clear policy directions and agricultural extension services, meaningfully, weakened the livelihood security and resilience of millions of rural households, retailers and daily laborers whose daily life entirely depended on the economy, and beyond.

Proactive measures should be taken to address existing vulnerability factors that undermined earning capacities of millions of households through informed

and timely policy intervention at all level: primarily to sustain livelihood security, and resilience of rural livelihood strategies in the study area. In this regard, the study forwarded the following recommendations. These are; on one hand, actions should be taken to reverse the worsening cultivable land shortage, land use as well as livelihood change scenario, more workable improvements in crop and livestock productivity as well as other feasible innovations towards creating off-farm employment opportunities should be put in place in areas as a matter of utmost urgency/priority. More importantly, critical socio-economic and environmental pros and cons manifested in the entire value chain of Khat crop economy need to be vigorously investigated along with relevant stakeholder; primarily to identify the factors that explain who and what is at risk and why (i.e. the underlying factors behind the vulnerability) and the development of a wider variety of mitigation policy action and program in the study area.

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