

Why Illicit Drug Use is Increasing in Ethiopia? From Economics Perspective of Drug Use Control Policy: Review Article

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Abstract

Background: Use of psychoactive substances is contributing to the burden of disease and to a worsening socioeconomic problems in Ethiopia. Drug use and trafficking are highly complex problems which require a multi-sectoral and coordinated response. Generally drug control policy should address demand, supply and risk of drug use related problems. Despite the implementation of comprehensive national drug control master plan since 2017, the trend of licit and illicit drug use is increasing in Ethiopia.

Objective: The objective of this review was to answer the question why illicit drug use is increasing in Ethiopia by using economics perspective of drug use control policy.

Methods: We have included nine countries from developed and developing regions, to review drug control policy options and their impacts on drug use related problems in respective countries.

Findings: Our review revealed that zero tolerance laws are not effective in controlling and/or reducing drugs use problems. On other hand decriminalization approaches addressing demand, supply and risk of drug use have reduced drug use associated problems in selected countries except Ethiopia and Colorado. Total budget allocated for demand reduction is only 34.2% of total national drug control budget. Khat, alcohol and tobacco are available at low price at every corner of the country. Khat is used as a source of revenue generation by government and society. The ease of access and availability of Khat is contributing to cascades of drug use related problems and there is no clear law against Khat use and cultivation in the country.

Conclusion: In conclusion, national drug control policy movement towards 2030 goal (*i.e.* having drug use free generation) is challenged by commercialization of Khat; low budget allocation to demand reduction measures and lack of long term plan for substituting Khat cultivation with alternative economic sectors.

Recommendations: Based our review we forward the following recommendations to the responsible authorities to; increase investing in demand reduction measures; develop long term plan for substituting Khat with alternative revenue source for the country and create attractive teaching learning environment including recreational centers for students in school is important to retain students in school during school hours and reduce exposure time to triggers of unhealthy behaviors.

Keywords: Drug use policy options; Supply and demand reduction; Decriminalization; Risk reduction; Alternative drug control policies; Ethiopia

Abbreviations: PWUDs: People Who Use Drugs; HBV: Hepatitis B Virus; HCV: Hepatitis C Virus

Introduction

Ethiopia is landlocked country bordered by Kenya, South Sudan, Sudan, Djibouti, Eritrea and Somalia. Ethiopia is a second largest country in Africa second to Nigeria with a population of 112,078,730. The majority of Ethiopian population is young, about 47% are below 15 years of age.

Drug misuse and abuse is a major public problem globally. World Health Organization (WHO) estimates that 1.1 billion people, representing a third of the world population above the age of 15 years, use tobacco, principally in the form of the cigarettes. Of these, 700 million of them live in developing countries [1].

The use of psychoactive substances is contributing to the burden of disease and to a worsening socioeconomic problem in Ethiopia. Khat, alcohol, tobacco, cannabis and inhalants are widely used while the use of heroin and cocaine was less common. Khat, alcohol and tobacco are easily available and accessible at a low cost. A large segment of

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economically active population consumes khat and alcohol on a regular basis [5,6]. Tobacco is usually the drug first used by children, street children and the youth population in Ethiopia. The prevalence of tobacco use in Ethiopia is 4.2% (Males 7.3% and females 0.4%).

A study of high school students in Dire Dawa showed life time prevalence and current alcohol drinking is 34.2% and 19.6% respectively. Study conducted among Aman poly technic indicated that, overall prevalence of substance abuse was 42.5%. The commonly used substances were chat 65%, alcohol 28% and cigarette 4.8% [8]. Similar study done among high school adolescents in Eastern Ethiopia showed that the prevalence of khat chewing was 24.2%.

Another study from eastern Ethiopia found 12.2% prevalence of cigarette smoking among school adolescents. In Addis Ababa schools the prevalence of lifetime smoking was 10.1% and current prevalence was 3%-5.6%. Similar study conducted from Nazareth town showed that 283 (70%) study participants were addicted for one or more than one substance. The most commonly used drugs in descending order were: Khat 39% followed by alcohol 23.4% and cigarette smoking 21% [2].

Ethiopia is classified among the main illicit drug trafficking routes destined to Europe and some Asian countries. It is believed that Ethiopia not only serves as a transit point but that some of the drugs, particularly heroin penetrates the local market. There has also been high seizures of cocaine at Addis Ababa airport during long direct flights from Brazil and West Africa. According to Federal Police Commission, anti-narcotic service report in 2016, 821.050 kg of Cannabis and 36.060 kg of cocaine were seized. Ethiopia has launched comprehensive national drug control master plan with vision of achieving drug free society by the year 2030. However the drug use pattern is increasing in direction against this vision. Therefore this review was conducted to explore global policy options and economics perspective of drug use control.

Literature Review

Impact of drug use

Unhealthy behaviors such as smoking, drinking and illicit drug use often begin during adolescence; they are closely related to risks of premature death; risk of acquiring infections such as hepatitis B and C and HIV, overdose, respiratory failure, mental health problems, unemployment, poor school performance, increased accidents, increased suicide, increased risk for chronic illnesses and decreased life expectancy. An Integrated Behavioral and Biological Surveillance (IBBS) survey was conducted among People Who Inject Drugs (PWID) in Addis Ababa, Ethiopia in 2014-2015 showed that 30% of People Who Inject Drugs (PWID) reported sharing syringes and needles. Thirty eight percent of PWID reported having an HIV test and receiving their test results in the past 12 months. HIV prevalence was 6%, HBV was 5.1%, HCV 2.9% and syphilis 5.1% among PWIDs. Five percent of PWID were living with HIV and HBV, 12% were living with HIV an HCV and 27% were living with HIV and syphilis [3].

Risk factors for substance abuse

The abuse of psychoactive substances is a complex problem and that both the inclination toward experimenting with psychoactive substances and regular consumption result from the simultaneous impact of various interconnected factors. Studies explored that

exposure to media on alcohol advertising and promotion alters adolescent's attitudes, perceptions and expectations about alcohol. Abuse of psychoactive substance can start at any age, but majority of cases are at adolescence. Adolescence is a time when many biological, social and cognitive changes take place, which may be associated with initiation and maintenance of alcohol and drug use.

Adolescence is a critical developmental period that involves pubertal maturation, continuing brain development, changes in social roles and contexts, peer pressure and an increase in risky behavior, such as substance use. Adolescents are at liberty to rebuild deficient psychological attributes, explore new possibilities in various domains, and accelerate the growth of previously identified potentials. Continuing brain development during adolescence, which involves synaptic pruning and continuing myelination, results in a developmentally normative delay in the maturation of behavioral inhibitory systems relative to neural systems associated with reward (e.g., sensation seeking). This normative delay in the maturation of behavioral inhibition results in a greater propensity for reward-seeking and risk-taking behaviors in adolescents than in adults [4].

Young people are not well adjusted to anticipate and plan for a better future and they enjoy current gratifications and living for today. Occurrence of substance use disorder involves the following eight steps; emotional immaturity to handle personal problems or discomfort, turn to drugs to relieve discomfort, gradually increases use, loss of ability to control, failure to fulfil major obligations, ability to get high from the drugs gradually decreases, continued use and tolerance (drug craving) and crossing an invisible and intangible line (addicted).

Other factors which are believed to increase risk for adolescent and substance use include, substance abuse by a parents, peer pressure, lack of parental guidance, or a disruptive, abusive family, school failure, early experimentation with drugs and living in a community where substance abuse common and weak public policy. Risk of getting addicted increases with number of risk factors.

Prevention strategies

Drug use and trafficking are highly complex problems which require a multi-sectoral and coordinated response on both the supply and demand side. Government and communities have to work hand-in-hand, complementing each other based on their respective comparative advantages at national level, in the framework of regional and international cooperation.

Generally policy options should address the demand, supply and harm reduction. Demand reduction should be the priority agenda, because it is demand that induces production, cultivation, manufacturing and supply of drugs. Harm reduction the concept of reducing the harms associated with people unwilling or unable to stop using drugs (Figure 1).

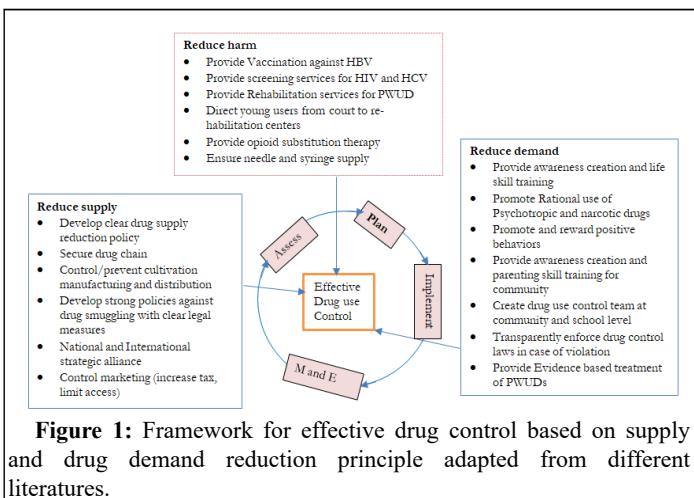


Figure 1: Framework for effective drug control based on supply and drug demand reduction principle adapted from different literatures.

Drug control policy options

Generally there are two broad policy strategies for drug use control. The first one is war on drugs (*i.e.* banning drugs or zero tolerance). The second is taking drug use problem as disorder and managing it by using appropriate interventions (decriminalization). Researches confirmed that the first approach is failing to reduce drug use related problems in society. While alternative approaches adapted by different countries are proven to have better effect on drug use control. Alternative world on drug report showed number of harms related to war on drugs. These include, threatening public health, spreading infectious diseases, disturbing peace and security, undermining development, ignoring human rights, creating crime and enriching criminals, wasting billions, promoting stigma and discrimination, harming children and young people and causing deforestation and pollution [5].

Social and health harms are almost equal in society where there is ultra-drug prohibition and commercial promotion. While decriminalization with strict legal regulation is the best policy option to reduce societal health harms from illicit drug use. Decriminalization is removal of criminal sanctions for possession of small quantities of illegal drugs for personal use, with civil or administrative sanctions optional. Under this definition, possession of drugs remains unlawful and a punishable offence albeit no longer one that attracts a criminal record. The term is often mistakenly understood to mean the complete removal or abolition of possession offences or is confused with the more far-reaching step of legally regulating drug production and availability (Figure 2).



Figure 2: A graphical representation of the argument for legal regulation options: Adapted from the alternative world drug report, 2nd edition: Count the costs initiative sign-on statement.

Overview of ethiopian national drug control policy

Ethiopia has developed national comprehensive drug control master plan addressing demand, supply and risk reduction in response to sustainable development goal 3 ensure healthy lives and promote well-being for all at all ages specifically targets. Strengthen the prevention and treatment of substance abuse including narcotic drug abuse and harmful use of alcohol. National Drug Control Master Plan (NDCMP) has identified nine national priority areas: Legal framework, crime prevention and drug supply reduction, drug demand reduction, harm reduction, implementation, monitoring and evaluation and strategic information. Here we present objectives of national drug policy at glance.

Legal framework, crime prevention and drug supply reduction:

The objectives of this area is to; ensure effective law enforcement against the trafficking of illicit drugs and of licit narcotic and psychotropic substances, combat drug-related crimes, reduce the level of drug use and advocate for the diversion of offending PWUD from the criminal justice system to the health and social services [6].

Drug demand reduction (drug use prevention, drug use disorders treatment, rehabilitation and social reintegration):

Objectives this include; prevention and delaying the onset of drug use among young people, enable educational institutions to offer effective drug prevention programs, offering affordable and accessible treatment for substance use disorders, intervening at the earliest possible point in order to reduce the negative consequences associated to drug use, strengthening the national capacity for the provision of rehabilitation and social reintegration to people who use drugs and ensuring the availability of the relevant medication for the treatment of substance use disorders; reducing the harms associated with injecting drug use by providing needle and syringe program, Voluntary Counseling and Testing (VCT), Opioid Substitution Therapy (OST) and Antiretroviral Therapy (ART).

Other priority areas include; leadership, coordination, monitoring and evaluation and strategic information. International Liaison to effectively interdict drug trafficking at its borders, monitor trends in the international environment regarding drug trafficking, communicate the government's policy on multilateral and bilateral issues related to drug use and trafficking and forge cooperation with neighboring and other countries in fighting illicit drug trafficking. Finally capacity building for health professionals, legal practitioners, prison authorities, trade sectors on human rights of PWUD. Empowering and supporting populations at higher risk to drug use (youth and other vulnerable groups) and ensuring availability, rational use and control of licit NPS for medical purposes [7].

Where are we spending?

Assessment of national drug use problem and policy gaps is important for developing goals and action strategies. These objectives and actions strategies should direct specific action plans and corresponding budgets. The program implementation should be monitored periodically to excel best practices and improve poor performances. The following table shows national drug control budget of Ethiopia in 2017. Total of \$980,000 USD budget was allocated to

national drug control master plan and 34.2% (\$335,000 USD) was allocated to demand reduction and harm reduction [8].

Economics of drugs as policy

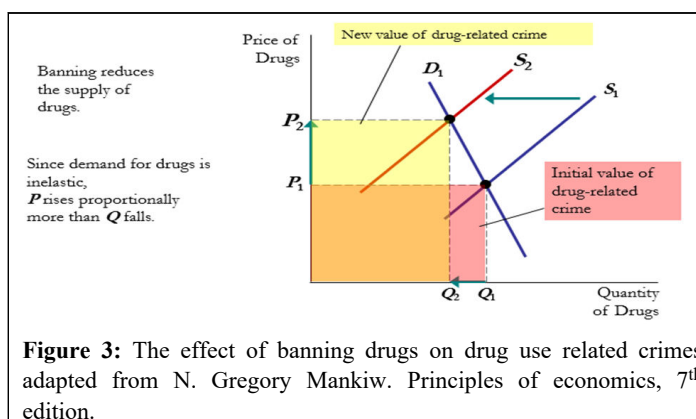
As we have described earlier effective drug control policy should address demand reduction, supply reduction and harm reduction measures. A policy that doesn't incorporate these three approaches may not bear satisfactory fruits in reducing drug related harms. The

following example provides hypothetical scenario of drug and two policy options to reduce drug use related crime in society. Drug-related crime, which is committed on both the supply and demand side, falls into the following categories, crime committed by people who use drugs to sustain their drug-taking habit, crime committed under the influence of drugs and crime related to the cultivation, manufacture, possession, trafficking and sale of drugs (Table 1) [9].

Objectives	Estimated cost
Legal framework, crime prevention and drug supply reduction	\$250,000 USD
To establish a strong legal framework for the country to effectively address the dynamic nature of drug use and trafficking	\$120,000 USD
To reduce the cultivation and production of illicit drugs in the country	\$60,000 USD
To strengthen the prevention and control mechanism for the smuggling, circulation and distribution of drugs in the country	\$60,000 USD
To develop a holistic, dynamic and coordinated institutional drug supply reduction strategy	\$10,000 USD
Drug demand reduction	\$335,000 USD
To prevent and reduce drug use through a comprehensive national prevention strategy and program	\$155,000 USD
Outpatient and residential treatment services for drug dependent persons established in existing health facilities	\$180,000 USD
Harm reduction	\$200,000 USD
To provide evidence-based drug use disorders treatment, rehabilitation and social reintegration of People Who Use Drugs (PWUD)	\$30,000 USD
To reduce the harms induced by injecting drug use (HIV, Hepatitis B and C)	\$170,000 USD
Coordination mechanism, implementation framework, monitoring and evaluation and strategic information	\$195,000
To establish a strong and efficient national master plan coordination committee and an Implementation framework	\$5,000 USD
To establish an effective and functional national drug observatory	\$20,000 USD
To generate strategic information on drug use, injecting drug use and related HIV in Ethiopia	\$170,000 USD
Total	\$980,000 USD

Table 1: Ministry of health Ethiopia budgeting for national drug control master plan 2017.

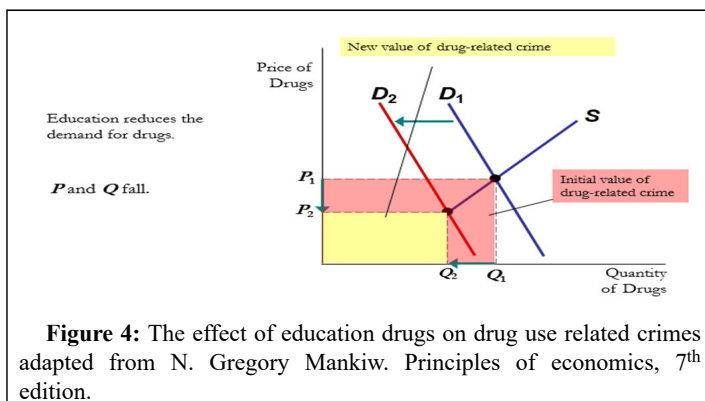
From economics point of view, demand for illegal drug use is inelastic (*i.e.* drug use does not respond significantly to change in price or availability) due to addiction related issues. This is because using drug becomes necessity for the person and there is no close substitute to replace it. Banning decreases the availability of drugs and increases the price of it. Therefore if banning (zero tolerance) is used as only policy strategy to control substance use, users often turn to crime to finance their habit. Which increases total spending on drugs and drug related crimes (Figure 3) [10].



The second alternative approach is using behavioral change education as policy option. Education decreases the demand for drugs and reduces price of drugs. Reducing price of drugs will finally reduce the crime related to financing their habits and indirectly reduce supply of drugs because suppliers will not be interested to supply at lower price. This indicates that behavioral change education with controlled drug supply for special populations (*i.e.* addicted or dependent) will reduce drug use and related societal consequences (Figure 4) [11].

Practical evidence form the rest of the world

We have reviewed policy options of nine countries from developed and developing countries. Countries using decriminalization as policy options by targeting three intervention areas (demand, supply and harm reduction) have reduced both substance use and harms related to drug use. These countries include Portugal, Spain, Netherlands, Turkey, Uruguay and Switzerland. However countries with repressive or punitive (zero tolerance) policy like Sweden have faced increased drug use and associated harms. Despite low prevalence of substance in Sweden, their repressive policy is increasing drug related harms to level above European average. From Colorado experience, we have observed that decriminalization to extent of free commercialization have negative outcomes like increasing accidental exposure of children to illicit drugs. Despite the availability of comprehensive national drug control policy the trend of both licit and illicit drug is increasing in the county (Table 2) [12].



Country	Drug control policy	Policy strategy	Target influenced	Impact
Portugal	Drug decriminalization	Allowing possession of all drugs for personal use	Demand and supply side	Drug use has declined among those aged 15-24 years Newly diagnosed HIV cases among people who inject drugs has declined Deaths due to drug use have decreased significantly Proportion of drug-related offenders to fund drug consumption declined Rates of problematic drug use and injecting drug use decreased
Spain	Cannabis social clubs	Providing cannabis for registered members, membership is granted only upon invitation by an existing member or doctor's confirmation	Supply and demand side	Reduce availability of cannabis in commercial market Reduces cannabis promotion Restricts cannabis use only addicted users Reduce drug related offences to fund drug consumption
Netherlands	Cannabis policy	Decriminalization of personal possession and use of cannabis for adults, tolerates the existence of outlets for low-volume cannabis sales, outlets	Supply and demand side	Reduced the percentage of cannabis users (14%) compared to 52% in Sweden Rates of cannabis use is lower than many nearby countries and US
Turkey	Opium trade	Transition from illicit production to a legally regulated production and market	Supply and demand	Progressively reduce illicit global demand through Developing regulated systems for supplying nonmedical opiates to dependent users in

				<p>consumer countries (such as opioid substitution therapy and Heroin-Assisted Treatment (HAT))</p> <p>Addressing the underlying social and economic drivers of opiate dependence</p>
Colorado	Cannabis regulation	Legally regulated market for the production and supply of cannabis for non-medical use (2014)	Supply side	<p>Cannabis use increased but not significantly</p> <p>The number of treatment admissions with cannabis as the primary substance of abuse has risen</p> <p>Accidental ingestions of cannabis by children have risen</p> <p>Arrests for cannabis possession have dropped dramatically</p>
Uruguay	Cannabis legalization public health and safety over private profit	Provides medical users with access to the drug, as well as the option for any adult user to either cultivate cannabis in their own home or join a club that will cultivate it on their behalf	Supply and demand	<p>Reduce the illicit marketing and promotion of cannabis</p> <p>Reduce cannabis use among adolescents</p> <p>Reduce drug related crimes to fund for drug needs</p> <p>May increase the accidental exposure of children to cannabis</p>
Switzerland	Heroin-Assisted Therapy (HAT)	Successfully regulating the supply and use of a high-risk injectable drug and providing HAT for long term users resistant to other treatment approaches	Supply and demand side	<p>Health outcomes for HAT participants improved significantly</p> <p>Illicit heroin (and illicit cocaine) consumption was significantly reduced</p> <p>Heroin from the trials was not diverted to illicit markets</p> <p>Initiation of new heroin use reduced</p> <p>Street dealing and recruitment by former user-dealers reduced</p>
Sweden	Drug policy	A repressive approach that increases harm, zero-tolerance approach to drug use	Supply side	<p>Drug use among the general population is rising</p> <p>Rate of lifetime amphetamine use among adults is increasing</p> <p>Lifetime use of inhalants and non-prescription use of tranquilizers and sedatives among young people has risen above European average</p> <p>Rates of hepatitis C among injecting drug users is higher than Europe</p> <p>Drug-induced mortality rate was 62.6 deaths per million in 2012, more than three times</p>

				the European average of 17.1 deaths per million
Ethiopia	National drug control master plan	Involves punitive and harm reduction approach	Demand and supply reduction	Use of licit and illicit drugs and drug trafficking is increasing Use of psychoactive drugs like alcohol, chat and cigarette is increasing among adolescents

Table 2: Main options for drug control policy, strategy, target of influence and impact.

Discussion

We have reviewed drug control policy options of eight countries from developed and developing countries and compared with Ethiopian national drug control master plan from economics perspective of drug use control. Our review revealed that zero tolerance laws are not effective and decriminalization approaches addressing demand, supply and risk of drug use are effective. National drug control policy is comprehensive and addresses demand, supply and risk reduction. However movement of Ethiopia towards to 2030 goal requires vigilant look into the priority areas of focus [13].

Drug control policy of Portugal, Spain, Netherlands, Turkey, Colorado, Uruguay, Switzerland and Ethiopia are based on controlled commercialization (decriminalization). While drug control policy of Sweden is repressive or zero tolerance to handling psychoactive substances without medical indication. Countries who are implementing decriminalization have achieved good control in drug use prevalence and harms associated with drug use except Ethiopia and Colorado. While Sweden which is following repressive or punitive policy is experiencing increased trend of substance and associated risks to level above European average.

Repressing or punitive measures are failing because of their focus on supply and availability of drugs without addressing the need and risk of addicted population. Demand for illicit drugs is inelastic and will not respond to decreasing availability which raises cost of drugs. From economics we know that goods or services with inelastic demand with no substitute will not respond to price changes. Decreasing availability with addressing demand increases the price of drug. This will lead addicted individuals to search of money to fund their habits. Finally drug related crime will raise. In addition to this serious punitive measures cause social and health problems. For example serious punitive measures on drug smugglers may cause family financial problem that will increase number of uneducated children, increase unemployment and social crime. On other hand users may change dosage form to injection to escape from persecution, which will lead to increased risk of infectious diseases like HIV/AIDS, HBV and HCV. Therefore ultra-prohibition of drug use in countries with high prevalence of drug use problem will have negative impact on health, economy and security [14].

The Colorado trend difference is because of its tendency to over commercialization or less control. However the Ethiopian cause is multidimensional (societal, economic and technical) and will be discussed below. Effective drug control policy should integrate multiple stakeholders to address demand, supply and risk of addicted population and their families. Depending on the prevalence of drug use problem status priority areas may vary. For example if the country

has low prevalence of drug use problem focusing on supply reduction with clear policies are more effective in controlling drug use and reducing harms related with drug use. While in countries with high prevalence of drug use problem focusing on demand and risk reduction will have paramount importance. In this case controlled legalization (decriminalization) of possession of limited amount of illicit drugs for personal use, with vigilant regulation and control to avoid commercialization are effective in reducing drug use and associated problems as evidenced by Portugal experience.

National drug control policy of Ethiopia is comprehensively addresses supply, demand and risk reduction approaches by involving all relevant stakeholders. However there is no significant reduction drug pattern, rather increasing prevalence of addiction among youths. These could be explained by societal, technical and economic reasons. Societal reasoning is that use of substances like Khat and alcohol are socially accepted. Khat chewing is associated with religious practices. Alcohol production and consumption indigenous to the people of Ethiopia including the rural communities. Rural communities produce different forms of alcoholic drinks like Areqe, Tella and Teji by using fermentation of starch and traditional distillation mechanisms. These local products in addition to modern alcohols are freely marketed in the country.

Technical reasoning could missed opportunity to address priority source of problem as evidenced by allocation of only 34.2% (\$335,000 USD) to demand reduction. As we have described above the trend of drug use in Ethiopia is increasing both general population and youths. The country has relatively high prevalence of injection drug users. Based on these data government drug control policy could benefit more from focusing on demand and risk reduction measures. Increased addiction among youths could be explained by lack of appropriate life skills to resist internal pressures from physiologic changes associated with puberty and external pressures from peers and added societal roles. Economical reasoning is that Khat is used as source of revenue generation for government and second export commodity after coffee. Locally it is a big employer of the working force and mainstay of income for millions of farmers and traders. It is grown almost everywhere in the country, especially in the eastern, western and southern regions and sold to consumers in public and in abundant quantities. Ironically, it benefits the Khat growers, traders and the government. The ease access and availability of Khat contributes to cascades of substance disorder. These is because, khat chewers, smoke while chewing and drink to antagonize excitation caused cathine, cathinone and methcathinone. Individual who drink alcohol have decreased cognitive function secondary to alcohol induced central nervous system depression. Impaired judgment ability will lead host of problems including accidents, unsafe sexual activity.

The other problem with drug control policy in Ethiopia is that the country has no clear policy against khat chewing and number of working age populations including students are spending their quality

time on chewing. This could be antecedent or consequence of current large number of school failures and youth unemployment in the country. Empirical study revealed poor student engagement and energy to learn and wasting most of time in non-goal oriented activities (poor class attendance and delinquency) is reported as reason low outcomes of secondary/preparatory school students.

Finally success of drug control policy of Ethiopia will be under pressure as far as khat used as source of economy for government. This is because addressing behavioral change of may not be successful in the presence of triggering factors in distance near to their door. Process behavioral modification requires, make a personal commitment, mind and body (think what to stop), reasons why to stop, get help friends or health care providers, setting the right time to stop, avoiding triggers, stating intention to stop others, changing environment, start changing your habits, stopping substance abuse and staying drug abuse free.

Conclusion

In conclusion, national drug control policy of Ethiopia is comprehensive and addresses demand, supply and risk reduction. However movement towards 2030 goal will be challenged by commercialization of Khat, which is serving as initiator of cascades of substance use problems in the country. Budget allocation to demand reduction is relatively low. Careful consideration of budget allocation for each intervention areas (*i.e.* demand, supply and risk reduction) is important. Demand reduction should be the first priority for successful reduction of drug use problems. This should be supported by long term plan for substituting khat and tobacco cultivation with alternative economic sectors. However the drug policy lacks long terms strategies to reduce decrease khat and alcohol production and use.

Recommendations

Based our review we forward the following recommendations to the responsible authorities. For ministry of health: Investing in demand reduction is more important for the country since number of youths are getting addicted to one or more drugs. Therefore reconsidering the budget allocation for each intervention areas is important. Ministry of finance and economic development: Developing long term plan for substituting khat with alternative revenue source for the country and individuals is important, because preventive programs including behavioral modification education are

not effective in presence triggering agent in door youths. Ministry of education: Creating attractive teaching learning environment including recreational centers for students in school is important to retain students in school during school hours and reduce exposure time to triggers of unhealthy behaviors.

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