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**Sub title: Negative impact of deforestation
in Lower juba, Somalia**

Introduction

Lower Juba, the regional administration of Jubaland in Somalia, the degradation of land is visible with the naked eyes, whereby pockets full of trees have become deserts. A study published in the American Journal of Climate Change concluded that the area has experienced a 50% reduction in forest cover between the years of 1993-2014. Deforestation, has profound effects upon the environment, such as flood risk, soil destabilization and the acceleration of drought. This brought the question of who is responsible for the catastrophic regression of the southern part of Somalia into a barren desert?

Ecosystems have a critical role in supporting revenues, future development opportunities, livelihoods, and sustainable harvest sectors that rely significantly on natural resources, such as agriculture, forestry, and fisheries, in particular for emerging countries. Healthy ecosystems offer the foundation for future food production and economic development.



According to sustainable development goals, every country has to attain these goals by the end of 2030. Some members of educated youth are trying to compete for a seat in the parliament in order to change the situation while others are joining humanitarian NGOs to intervene in the matter. Badhadhe youth group made some contribution to respond to the effect of drought and youth from the diaspora hired some water tanks to bring water from a distance. Youth are trying to make awareness and education to change the behavior but are facing financial constraints to meet the cost incurred during activities and meetings. Pastoralism considers animals as a source of wealth. In this regard, a man amongst the pastoral community is reported to have lost all 300 cattle and attempted to commit suicide, which was intervened by the youth. The hope and the destiny of youth and sustainability in ecosystems that sustain lives is facing massive destruction, putting lives of wild animals and pastoralism at risk. Greta is a 16-year-old young school-going environmental advocate who felt worried when facing the following Environmental and social issues.

I am a young person.

I face these issues.



Worries experienced by youth living in the globe in 21 century in various parts of the globe.

We youth here in somalia are as well facing all the above mentioned and many other additional challenges.

What we want as youth to sustain so that our children enjoy tomorrow include but not limited to the following: our life, our way of life, our society, our nature, our ecosystems, our wildlife, wilderness, water, clean air, our fertile soil, our community living in enabling environment. Caring and concerned politicians and leaders who are more concerned about better youth and

better tomorrow. We human being need to develop understanding and way of thinking and to resolve the ecological impacts and crises created by human activities that has risked. The only way to develop this thinking is to start to identify and acknowledge the complex and fundamental way life on earth is connected, and to trouble the notion that man has some special place among this web of life. We need to Show some kindness in all aspects of life.

Literature review

Global modernization and revolution in the energy sector have been significant, although the majority of the population in developing countries still depends on wood as fuel for their daily energy needs (Smith et al., 2004). Unsustainable charcoal production can undermine the production of ecosystem services, agricultural production, and human health. This is due to the high prevalence of poverty, which leads to deforestation due to the indiscriminate extraction of wood and other resources for the production of charcoal. Charcoal is used in transporting to Asian countries and to earn a living. Destruction of the environment deprives vulnerable groups of essential assets and accelerates both the downward spiral of poverty and environmental degradation. This has threatened the lives of many animals, plants and human, contributing to widen the poverty gap and reduced food production. This is greatly spearheaded by people in power without thinking the long term effects. Therefore, agencies are spending more many in reducing this but they are not addressing the root cause of the problem. poverty reduction is a growing focus on many development agendas around the world (FAO 2012). Since the World Social Summit in Copenhagen in 1994, the Millennium Development Goals (MDGs) have identified poverty reduction as goal. Environmental degradation, lack of adequate forest cover, clean water and land suitable for agriculture; it leads to more hunger, disease, poverty and limited livelihoods. This is due to the inadequate adoption of technologies in charcoal production and inadequate access to education and information, making it difficult for poor people to manage available natural resources in a sustainable manner, resulting in a loss of livelihoods and biodiversity (UNEP 2012)

Global call for nations to shift to alternative clean development mechanisms or green energy use is a motivation to sustainable development (UNEP, 2012). Initiatives aimed at sustainable development strategy to build healthier community and creation of wealth will be realistic with a paradigm shift from unsustainable energy sources to cleaner renewable energy sources (Müller et al., 2011).

Somalia faces a sharp increase in new displacements in 2017 and in the first half of 2018 due to the social conflict disasters like drought (IMCD, 2018). in search of protection. Displacement shapes Somalia's urban and rural landscape and contributes to its rapid urbanization. According to UNHCR, Somalia's urbanization rate averaged 4.5% between 2005 and 2010 (UNHCR, 2016). The population of Mogadishu is not available, but it is estimated at 2.12 million people (UNHCR, 2016). Mogadishu has the second highest urban population in the world after Dhaka, the capital of Bangladesh (Somali Public Agenda, 2019).The situation worsened in 2011 and a severe drought that had built up over the past two years, as well as the economic and other effects of the conflict and restrictions on freedom of movement and trade in south-central Somalia resulted in the worst

famine the world has ever suffered. seen for more than 20 years 1 (Hammond, 2015). In 2018, the number of internally displaced persons in Mogadishu was 2,648,000 (IMDC, 2018) and the majority of these people were displaced from the riverside areas of southern Somalia (UNHCR, 2016). Famine is a consistent function in Somalia, and it contributes to the considerable displacement of human beings from the rural regions to city centers. In 2011, the UN declared that famine in Southern Somalia affected 3.1 million human beings, of whom an predicted 1/2 of million have been malnourished (Maxwell & Fitzpatrick, 2012). Even alevn though the media ascribed drought as the primary reason of the famine. These proximate reasons of famine, compounded on a long- current crisis of livelihoods, governance and the surroundings in Southern Somalia, a place that had lacked any effective government because the fall apart of the Siad Barre navy regime in 1991. . Even alevn though famine critically affected maximum of the country, south-of Somalia bore a great deal of the brunt. Indeed, 65% of these affected and displaced came from the southern regions, (Majid & Mcdowell, 2012).

According Greta Thunberg's (2020) "To realize planetary health's goal of ensuring that the decisions made by today's society protect the health and wellbeing of those who will inherit the world tomorrow, young people must not only be heard but listened to. Youth engagement is an investment in young people's abilities and ingrains longevity into the planetary health vision, by ensuring it is the vision held by future youth leaders.

SIGNIFICANCE OF ENVIRONMENT AS LIVE SUSTAINING ECOSYSTEM

Trees in nomadic Somali culture are a symbol of life. Within the courtyard of every Somali hospital, a tree would be found, as, traditionally, nomadic women would give birth beneath trees. Tribal elders gather below their branches and hold their customary clan judicial laws known as (social norms).

Forest protection also ensures the survival of communities that rely on them for their livelihood. Forests provide food, water, fuel, medicines, traditional cultures, and livelihoods to about 1.6 billion people. Land degradation has a detrimental impact on livelihoods and food security, since land productivity declines, increasing poverty. Climate extremes and variability put the already fragile community's livelihoods and food security in jeopardy.

The influence of charcoal production on land cover change is not just a major threat to natural vegetation, but it is also thought to have a long-term climatic impact. Forests are also essential in terms of emissions, carbon sequestration, as well as balancing of oxygen in the atmosphere and regulation of amount of rainfall received by particular region.

In Jubaland region nomads have and still use, trees to build houses and to sustain their livelihoods. it is highly not doubtful that regional administration is to blame for massive destruction of natural resources such as tress. A stable and transparent regional administration would be able to combat the charcoal trade before the region reaches the peak of irreversible damage.

Somalia is currently experiencing almost all types of environmental concerns ranging from

deforestation, degradation, desertification, charcoal burning and others, these human activities in the region has resulted negative climatically changes and natural disasters.

Indicating the level of water scarcity, rainfall is very low (250 mm/y) and variable, while the potential evaporation is extremely very high (over 2000 mm/y). Droughts that occur very frequent are naturally caused by climate. It leads to water shortage and starvation particularly for the rural communities, which are more dependent on rainwater and grass for their survival in livestock raising and cultivation traditions. Being a natural disaster, drought causes loss of life both human and animal every year in the region. Deadly droughts are often followed by devastating floods, another natural disaster, which mainly severely affects southern part of the country. It has also been noted that there are very heavy destructive winds that swept the coastal line causing a lot destruction to live and reduced livelihood options in the lower Juba region of Somalia forcing displacement and discomfort to residence. Human-induced environmental abuses include, charcoal burning where massive cutting down of

trees is done which resulted reduce in the amount of rainfall in the region. This activity has also impacted negatively the climatically condition of the region raising temperature which contributes desertification and destruction of habitats for wild animals. alarming deforestation and overgrazing resulting desertification and soil erosion. salinization by inefficient irrigation destroying valuable productive land. Since the tress act as wind break massive cutting of trees left the land bare resulting heavy winds that destroyed many properties

Trees plays an important role in the regulation of amount of rainfall and moderation of climatic condition as well as balancing of ecosystem. In lower juba region of Somalia, the use of charcoal has been blamed for deforestation. Deforestation in the drier parts of Southern Somalia has led to and even worse problem like desertification and the loss of thousands of species. Deforestation is the product of the interaction of many environmental, social, political, economic and cultural forces at work in this region. Most of the living species in the Lower Juba region have migrated to neighboring countries e.g. Kenya after destruction of their habitats by charcoal burns. previously this region is known to be having a variety of wild species where tourist an even citizen of Somalia comes for visit but currently it has turned unfriendly for animal to survive.

The worry is if the massive cutting down of tress continues for years to come without intervention the life sustaining ecosystem will shrink.

During the last several years, a new type of business was introduced in Somalia. Cutting of trees to produce charcoal for export to the Gulf States has become a big business with considerable profits for some uneducated individuals, self-centered businesspersons and inhuman leaders. Trees are cut down, burn and brought by trucks for export from major ports in the region, particularly, Kismayo where most of the charcoal is made. In Jubaland experience the major problem of more than 80% of the trees used for charcoal are types of trees which would have been essential for both domestic and wild animals. Due to absence of strong regional administration inthe region, there is no documentation of the volumes being exported or the number of trees being cut down. Hosonuma, N., Romijn, E., et al. (2012). In the last 30 years of civil unrest, environmental facts for southern Somalia is scarce. Wood charcoal massive cut down, burning and export has been source of income for those in power not knowing the end result. However, little quantitative facts exist at the volume of this charcoal exportation as was done in the black market. According to 2011 and 2013 WorldView-1 imagery. Based on the sites detected solely for 2013 we predicted a median harvest of 24,000 tonnes of charcoal and 2.7% tree loss for the two-yrs interval, the usage of literature- and local-knowledge-primarily based totally assumptions on in all likelihood degrees of kiln and tree parameters. Large-Monitoring and evaluation can better facilitates to higher understanding of the dimension about the actual impact of charcoal production on human lives in southern Somalia and exhibits a fast depletion of tree cover Bolognesi, M et al. (2015). The climate change that occurred greatly impacted the lives of both Human and animals. but with uncertain overall effects. Migration or leaving the affected areas was being the response of both humans particularly those living in the rural areas and while animals too. These kinds of movement in search for water and pasture for animals made many to cross the borders causing conflict with the communities living there over resources. What worsen the matter was that the rain duration prolonged and all the neighborhoods were exhausted. Due to poor disaster preparedness and good government policies the was no good intervention given in

response to this matter until now 2/11/2021 and the lives of both people and animals are at a risk.

Causes Behind the Conduct

The alarming rate of deforestation has several combined causes behind it. It is evident that it is largely a combination of human activities such as economic, social and political reasons. The following below are some of the reasons behind charcoal burning to cause deforestation in Lower Juba region hence desertification.

In the south of Somalia, charcoal collection is currently the leading cause of environmental deterioration. Though charcoal is widely used for fuel in Somalia, the foreign demand has been a major source of worry, with an estimated 4.4 million trees logged annually for export. Charcoal production has devastated the country's natural resources as a result of the war economy. Because less capital is required for manufacturing, charcoal has developed into one of Somalia's primary export products, providing a substantial source of income for those in power control.

Jubaland has the lowest consumption of modern forms of energy such as gas. Firewood and charcoal are the major sources of energy for most of the people in Lower Juba region. As a result of this, the removal of trees in region is steadily increasing, following demographic trends, which are reversing the traditional Somali nomadic way of life, as well as another social crisis. As their source of energy, rural people rely on firewood while urban inhabitants use charcoal. Somalia charcoal supply comes mainly from the Lower Juba. In rural areas, strong link between poverty and deforestation exist.

Yet Somalia is rich in energy resources, having un-exploited reserves of oil and natural gas, untapped hydropower, extensive geothermal energy resources, many promising wind sites, and abundant sunshine, which can produce solar power. Despite all these, traditional biomass fuels - mainly firewood and charcoal, the smoky and inefficient fuels of the poor. Technically, it would not be problem to develop these potentially available energy resources. Major obstacles are today political, financial and institutional particularly in Lower Juba Regional Administration. Due to weak regional state legislation in place and lack of concerned body of environmental conservation in lower juber region. There was not a single protected area since the collapse of central government of Somalia in 1991 and over taking of regional leader who were concerned more on personal than public property and interest safety and protection. There was no involvement of humanitarian organization for creation of community awareness on environmental conservation measures and mitigations. Due to disparities and differences in the administrate systems, leaders are more focused on politics than environmental conservation, no system in place on judgement regarding charcoal burns or whosever found on misusing the

environment and public resources in the region.

Traditionally, the making of charcoal was limited to a small group of cutters who used hand axes and responded to an internal and very localized demand such as getting daily livelihood, which during the last several years started to increase. Despite increases in local consumption, foreign demand for charcoal puts unprecedented pressure on locally limited wood resources. Taking full advantage of region's poor leadership and lawless condition, interest-driven local businessmen in the region with commercial links in the Gulf countries export tremendous amount of charcoal to mainly Saudi Arabia and the United Arab Emirates. Charcoal from dry land in poor Lower Juba region is used in the houses of the Gulf countries as luxurious.

Due to poor regional administration since 1991 when the former regime was overthrown, Jubaland is the only region where there's no legal regulations protecting the environment and life sustainability, lacked good regional leadership. Since then the region is ruled by a series of rival warlords each holding a small territory of the region. This created a condition which the region became stateless vulnerable for anyone's exploitation particularly outsiders and local self-interest-driven individuals. This lack of proper functional system of administration and control facilitated these individuals to run these unsustainable business activities. Damaging and over

exploiting local natural environment, threatening the future generation's hope. Lack of regional administration and leadership commitment in region could therefore be seen as the major cause of the ongoing deforestation. According to the United Nation Environment Programme (UNEP) and the International Criminal Police Organization (INTERPOL), revenue from the charcoal trade in Africa is about USD 1.9 billion. In Somalia alone, an estimated USD 340 - 360 million per year is made from illegal charcoal, Ogallo, L. & Wayumba, G. (2018). The Horn of Africa is at stake regarding charcoal trade. The full-size populace length of the Horn of Africa is a pastoral community dwelling out of cattle and small farmers living in subsistence agricultural production. The lack of cattle and harvests as a consequence of a drought reasons the deprivation of tens of thousands and thousands of citizens. The impact has precipitated mass migration inside and numerous countryside destinations. Despite the reality Africa produces a low carbon emission, it nevertheless stays the number one sufferers of climate changes and desertification. This is so due to awful governance and unprofessional law makers and vulnerable environmental coverage and lack of global environmental legal application monitoring in addition to politicians who change on charcoal marketing and bear in mind it as income-generating activities in addition to different commercial enterprise sellers are a number of the drivers behind these prolonged problems. Poor resource allocation and management by Both NGOs and government to respond to the devastating prolonged effects of climate change by walking their talks and using the assets for the meant reasons.

In Lower Juba region there are no Institutional arrangement that specify rules, rights and obligation for the protection of natural resources as the region authorities lacked capacities and knowledge to manage and control the natural resources, this made the land no man's land with open-access to private business tycoons and outsiders as a resulted the ongoing land degradation and heavy winds that devastated the lives of many civilians in Lower Juba region. After the state collapse in 1991, the result became the creation of 'ownerless' land with open access to anyone's exploitation which accelerated, among other abuses, the rate of deforestation. Now as the people increase cutting down of the trees and some of land's natural resources exploitation, anthropogenic ally became degraded, new land with life-supporting-resource are required for life sustainability. Struggle for charcoal burn business land thus became one of the major sources of the present crisis in the region. Common resources, such as forest, which is free and open for all, tend to be vulnerable to depletion and degradation due to overuse and misuse by charcoal burners and private business sectors in Lower Juba region.

The region needs awareness, reforestation and social as well as political policy reform so that the future of Somalia turns a new page, we need not raze our beloved trees to the ground to sustain consumer habits in the UAE, Bahrain, Kuwait and Oman, which are, according to the UN (2014-study), the most popular markets for Somali charcoal exports. We also need the regional administration who is patriotic and ambitious for protecting the ecosystem, creating game parks and game receivers so that the youth who were coming tomorrow will enjoy the beauty of nature and while animals.

Evidence and justification of the after effect

I as Hassan, my main concern would be protection of nature, sustainable development, reconstruction, industrialization and stability of the environment, use of alternative sources of

energy than Charcoal use. Usually, environmental concerns would be one of my top priorities.

More than 95 per cent of water sources have dried up posing grave health and associated risks to lives and livelihoods.

Droughts threatened and aggravated poverty in the area, according to information I acquired from area inhabitants; an average home was claimed to lose 40% of its livestock during this drought, which they confirmed was the worst that had ever occurred in the area. The repercussions of the drought are not limited to cattle loss; they also include food and water shortages for both humans and livestock, a high rate of soil degradation, loss of life, and a significant drop in water supplies, particularly for pastoral communities. Agriculture in the drylands is prone to unpredictable rainfall patterns and frequent droughts by its very nature. Production uncertainty as a result of fluctuations.



Human activities caused weather change, which resulted water shortage that effected the lives of both domistict and while life (Oct 9/2021) Badhadhe district.(Hassan 2021)

According to L. A. Ogallo *et al* 2018 publication,

Figure showing Land Cover between 1993/5 and 2014.

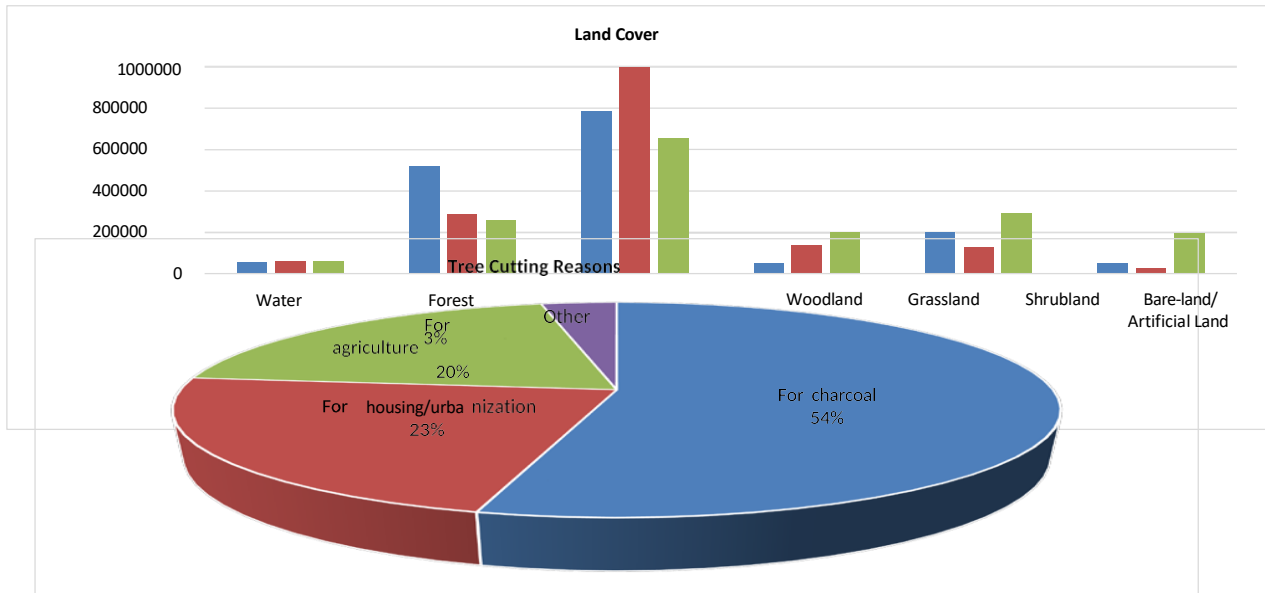


Figure above showing Reasons for tree cutting in Lower Jubba.



Badhaadhe youth league and Badhadhe upraising youth organization have made some initiatives to make trees planting campaign and mass education Through the support of TEA-NGO. They have as well tried to educate mass on importance of environment. As result there was local NGO

Transformative Empowering Action which is well trusted local NGO. This organization has done a lot despite funding crises posted by COVID 19. It promoted not only behavioral change through campaigns and public education, awareness raising but also in conflict resolution as well as provision of intervention to women and human rights violation, mobile schools for rural communities who move with their animals in search of water and pasture for their animals. While efforts have been made to collect hay and grass during rainy seasons to feed the animals during dry seasons but the challenge of lack of financial support to meet the cost of storage was the challenge. Youth from badhaadhe are trying their level best to seek support so that they save lives and protect their environment so that the nature lives are as well protected and water sources and dams dug to store water was can be consumed by both animals and human being during dry seasons

Recommendation:

- Strengthening Jubaland regional leadership, good governance and restructure and strong environmental conservation institutions that can implement rule of law in this region.
- Involvement of different community structures in response these environmental crisis prevention and mitigations.
- Disaster preparedness and plan during the rainy season where Resources are put aside to dig deep dams that collects during the rainy seasons and store for the usage of animals and pastoral communities during dry seasons.
- Involvement from Humanitarian Organizations in assessing the impact of charcoal burning and heavy winds the erupted the region for necessary intervention.
- Respect to human rights needs regarding protection of life sustaining ecosystem for better social economic and environmental development.
- Involvement of other actors such as environmental specialist, agronomist and legal agencies to create awareness and mass media education on the importance of protecting the ecosystem.
- Community participation and engagement on afforestation on the most affected areas in the region.
- Government attention in planning and formatting policies that promotes and protect the environment.
- Youth from the region to be given scholarship opportunities in order to equip them with all the necessary skills and knowledge on responding to environmental issues.

Conclusion

This Study gave an overview of Lower Juba degrading environment, particularly the ongoing deforestation and massive charcoal burning for the purpose of profit making for the last decade. Since the state collapse in 1991, region's environmental degradation has accelerated, while massive charcoal burning became newly established business. Because of the region's political condition and the lack of regional system of leadership, many foreign private companies, which are taking full advantages of the lawlessness and lack of regional administrative concern and rule of law that protects the environment in this region, these inhuman activities started immediate after the state collapse. Both deforestation and charcoal burning in the region became evident following the overthrown president Mohamed Bares regime in 1991.

No research at any level has been conducted in this region for decades concerning environmental degradation. Particularly, the threat posed by charcoal burning, the number of trees cut down and their environmental, economic and social impacts. As deforestation will affect more than forests, the remaining forest reserves need to be protected. Forest been habitats for many animals and birds leaving them homeless and exposed them to migration and illegal killing.

Charcoal export has become a big profitable business for local businessmen and their clients in the Gulf countries, who deliberately take full advantage of Somalia's lawless condition. The rate of deforestation in many parts of Lower Juba is alarming. These deadly business activities run by narrow-sighted self-interest business people and politicians

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