

Impact of Deforestation on Sustainable Livelihoods in Low-Resourced Areas of Thulamela Local Municipality: Implications for Practice

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ABSTRACT People in rural settings depend on woods to prepare foods which damage the environment and places future risk against heavy storms. Social policy is quiet and tends to overlook the environmental wood deforestation in rural areas. The paper sought to appraise perspectives, explore their perceptions and strategies of people in rural areas on the impacts of deforestation. Exploratory-descriptive designs, interview schedule, audio tape, verbatim transcriptions and NVivo were considered. Participants of a percentage of ninety-six indicated that deforestation in rural areas cause damages as heavy windy storms destroys houses because there are no longer big trees to block the winds. It was concluded that government should give electrical prepaid subsidies, integrate social and environmental policies to deal with the impacts of deforestation. Social Workers should be involved in prevention by raising awareness to mitigate the impact of deforestation rather than only providing counselling and social relief of distress during disasters.

INTRODUCTION

Today globally, consumer puts pressure on companies towards deforestation due to free sources of palm oil where the largest areas of vulnerable forests are in Africa and South America (Vijay et al. 2016). The paper objectively sought to appraise perspectives, explore their perceptions and strategies of people in rural areas on the impacts of deforestation. The rationale behind this study is to strengthen policies looking at integrating social and environmental policies by raising awareness of people in rural areas about the impacts of deforestation. This further extends to incorporating sustainable livelihoods of the people in rural areas who mostly depend on wood collection to sustain their families. It is very important to have forest conservation policy when people depend on fire woods to sustain their lives (Pfaff et al. 2015). Struggles to lessen climate change have increased the attention paid to deforestation's emissions as strategies are needed to deal with it (Pfaff et al. 2015). Studies by Wards (1978) and Ajibade (2002) described deforestation as clearing of any area of its natural vegetation cover which normally leads to decrease in plants population. Deforestation in Africa is taking place as a result of warm-

ing of the land surface, reduced evaporation rate, increased surface albedo, reduced net radiation, reduced cloud cover, and reduced rainfall (Snyder et al. 2004). Critical ecosystems services emanate from tropical forests which make it important to be preserved irrespective of agricultural expansion, timber extraction and development policy interventions to lessen deforestation. Tropical forests provide carbon as well as livelihoods to millions of people (Bustic et al. 2015).

Aliyu et al. (2014) asserts that human practices coupled with climate change and rural poverty have led to the escalation of deforestation in the rural areas of Nigeria which serves as a challenge to sustain green environment. Again, the natural tropical high forests diminish rapidly in Africa (Aliyu et al. 2014). The impact of complete African deforestation is modelled by Werth and Avissar (2005b) who indicated that local climate would respond with a decrease in rainfall of up to 1mm/day, especially during the dry season in July. Environmental deprivation is understood in line with high use of rare non-renewable resources and destruction of key renewable resources, like soils and forests, as well as the generation of waste that are not easily assimilated or broken down by natural processes

(Thobejane and Scheepers 2009). Thobejane and Scheepers (2009) further assert that “poverty is said to be both cause and effect of environmental degradation; the link between poverty and environment is an extremely complex phenomenon”. There is a need of raising awareness to people in rural areas about the impacts of fuel wood utilization and deforestation on the environment (Adamu and Alarima 2013). Human activities like burning of fossil fuels and changes in land use such as deforestation releases greenhouse gases into the atmosphere which increases the already existing concentration of the gases (Ozor et al. 2015). Forests help mitigate the impacts of global warming and play a role in the water recycle process which helps balance the oxygen amount.

A strong decrease is found by Semazzi and Song (2001) when they model total deforestation over the whole of Africa with savannah grassland replacement. During the dry season from July to September, there is a 2-3 mm/day decrease in rainfall, and a delay in the onset of the wet season. There has been occasional strong hazardous wind which is detrimental to building roofs and growing plants, and is gradually and likely becoming an annual factor. On the other hand, flooding has also become a problem because of population growth in urban areas as well as agricultural practices increasing rapidly (Aliyu et al. 2014). Aliyu et al. (2014) further assert that deforestation cause many environmental impediments in our society today as it also results in the loss of biodiversity, erosion, flooding and drought. Forests and trees stabilize soils and prevent silting of dams and water courses (Binns et al. 2001). It is important for key stakeholders to initiate measures to stop deforestation to prevent loss of certain animal species and protect the environment (Clark 2012). Clark (2012) asserts that forest is an important resource that needs protection as it is a natural habitat for so many species.

As indicated by Clark (2012) deforestation is not a problem to animals alone, it also affects humans because it leads to drought as the land is eroded and trees do not block the path of water or soak in the water which picks up sediment from the ground and overflows the rivers into people’s crops which contaminates the crops as well as results in poor food quality. Deforestation impacts the global carbon cycle resulting from an increase in carbon released

when trees are cut, burned and decomposed. This adds to the problem of global warming (Clark 2012). Hence, Jonson and Chenje (2008) contend that globally, Africa’s forests require climate regulation as well as sanctuaries for an abundance of species and plants as they continue to be destroyed. Hence it is important to preserve the environment. Forests comprises of sixty percent of the earth’s biodiversity as well as they supply twenty-five percent of medicine from tropical plants (Howden 2007).

Growing Population

In Africa, increased population growth is one of the primary causes of deforestation. For instance, South African population is growing almost every day due to immigration which puts the country at risk of ongoing deforestation. The causes of deforestation and degradation include a combination of direct and indirect economic, institutional, political, natural or social factors: for example, demand for agriculture or infrastructure development, or government failure to protect these valuable assets. Socio-economic development at the expense of natural forest by deforesting is a conservation concern globally (Vijay et al. 2016). Logging, land conservation to agriculture, wildfires, cutting down trees for firewood, conflict over land rights caused by increased population growth, a need for more land mostly for agricultural production, as well as slash and burn as an agricultural technique that involves the cutting and burning of forests to create fields are mostly the causes of deforestation (Jonson and Chenje 2008; Klein 2002; Clark 2012). Mosnier et al. (2012) contends that forest starts to degenerate as the domestic demand of food and natural resources increases because of economic growth and high population growth. The result is that forests are often lost or degraded even when it is not in the countries’ long-term interests. The current as well as long term consequences of human activities like logging, bush burning, land clearance for construction, and wood collection are some of the most contributing factors to deforestation which are detrimental to jeopardize our lives on earth and fertile agricultural land (Aliyu et al. 2014). In South Africa, mass felling of trees put the country under threats of desertification (Preston-Whyte and Tyson 1988; Binns et al. 2001). The fuel wood and biomass collection for traditional agricul-

tural practices is an important aspect in deforestation, which is attempted in the study.

It can be questioned why social workers address problems of the environmental domain. Nevertheless, different disciplines, including social work are concerned about the environment as it also looks at the interactions of the person and environment (Dominelli 2012). The main argument to maintain this claim is that social workers work directly with the communities that enables to raise awareness by disseminating knowledge, changing attitude and behaviour of community members about the impacts of deforestation of sustainable livelihoods. 'Social workers advocate by promoting and disseminating knowledge, changing attitudes and behaviour is essential for protection of the natural environment in recognition of its fundamental importance to the future of human society' (Australian Association of Social Workers 2010; Boetto and Bell 2015). It follows then that social work education should directly address the interrelationship between human beings and the natural environment (Boetto and Bell 2015) through disseminating knowledge, changing attitude and behaviour of community members about the impacts of deforestation of sustainable livelihoods.

Impact of deforestation on sustainable livelihoods – the case of Malamulele rural areas: A social Policy perspective serves as a benchmark to social work profession on coining environmental and social policies. Section 24 of the Constitution of the Republic of South Africa, Act 108 of 1996 makes provision of environmental protection which provides a room for social workers to advocate by disseminating knowledge, changing attitude and behaviour of community members on the impact of deforestation on sustainable livelihoods through the use of community education model. The section 24 (a and b (i and ii) of the Act 108 of 1996) of the Constitution of the Republic of South Africa further expound that everyone has the right to an environment that is not harmful to their health or wellbeing; and to have the environment protected for the benefit of the present and future generations, through reasonable legislative and other measures that prevent pollution or littering and promote conservation of the environment. The National Water Act 36 of 1998 recognizes the need to protect and maintain the ecological reserve on which humans depend. Aliyu et al. (2014) assert that knowledge base of the

different stakeholders on environmental management is very low due to lack of awareness and low educational attainment.

Problem Statement

Deforestation plays a role in both global warming and cooling as it results in reduction of biodiversity, disturbed water regulation, and the destruction of the resource base and livelihoods for many of the world's poorest (Williams 2003). Due to deforestation, globally around 13 million hectares of forests continue to be lost every year (Food and Agriculture Organization of the United Nations 2006). The main consequences of deforestation include temporary increase in agricultural production, land erosion, river contamination, emission of carbon dioxide and extinction of endangered species (Clark 2012). For years, sustainable management of forest resources became a primary concern due to its detrimental impact on biodiversity as well as the maintenance of global ecological functions (Areola 1987 as cited by Aliyu et al. 2014). Aliyu et al. (2014), contends that Nigeria could face the probability of timber and fuel wood scarcity towards the end of the century. Anticipatory reports shows that in the next half a millennium, if no appropriate measures are taken, most African humid tropical forestland will transform into unproductive land due to wood collection as well as the deterioration of the savannah into desert will be proliferated (Hunter et al. 2005; Medugu 2010). The level of rural area community's nutrition is sometimes connected to fuel wood availability and cost as many people residing in the African continent, including South Africa as a country use fuel wood as their main source of energy for cooking, and because of population increase the existing wood resources are over exploited (Aliyu et al. 2014).

Witness Tiva of the SABC News reported on Sunday the 22nd of November 2015 at 06:44 that Limpopo storm destroyed hundreds of houses. Several people had been injured and hundreds of houses destroyed after a storm struck more than five villages in the Malamulele area of Limpopo. Roof tops and corrugated iron that have blown off houses can still be seen in the streets of Nwadzekudzeku village just outside Malamulele. The report further indicated that "meanwhile, more than 50 families whose houses were damaged by a storm at Finale village

outside Hoedspruit in the Mopani District Municipality area are still waiting for assistance from government". Again, the SABC News report indicated that "in the North West, the Department of Local Government says they are working with the Red Cross and Provincial Disaster Management to assist over 900 households affected by freak storms". "The affected area as a result of the hail storm is Signal Hill in Mafikeng where 51 shacks have been blown away and 10 formal structures, their roofs have been partly damaged. Twenty houses in Sheila village and 6 houses in Werddal have also been damaged."

Fuel wood collection, historically, as the natural vegetation has been exploited by locals as fuel wood is the only source of domestic energy. Fuel wood is extensively used not only for cooking on traditional chulas (hearths) but also for heating water for bathing, and keeping home warm during rainy as well as winter season. Aliyu et al. (2014) asserts that due to intense deforestation, most people in rural areas, particularly women are forced to walk long distance to fetch fuel wood and eventually tempted to substitute dried animal dung and crop residues for fuel wood. This sacrifices women's lives as it places them at risk of being raped in the forests while fetching fuel woods. Women are regarded as figures to fetch fuel wood to sustain their families in rural areas as this is considered as one of their family roles.

Causes of deforestation such as mining, shifting cultivation, fuel wood collection and industrial use, as well as its environmental impacts lead to social vulnerability which calls for attention for coining environmental and social policies (Amruta and Kurane 2010). There is research dearth aimed at the impact of deforestation by looking into social and environmental issues of the rural areas of the Thulamela Municipality of Vhembe District of the Limpopo Province. The impact of deforestation on sustainable livelihoods in low-resourced areas were specifically examined by recommending the use of community education model to raise awareness as a way to enhance social and environmental policies that presently work in silos. This research was conducted from five communities of Mapapila, Matsakali, Muchipise, Mphambo, and Xigalo to explore the impacts of deforestation on sustainable livelihoods in rural areas to enhance the integration of social and environmental policies. Therefore, this paper raises the

following main research question on how rural communities of Thulamela of the Vhembe District perceive and respond to the above impacts of deforestation.

Aims and Objectives

The study was aimed at exploring the impacts of deforestation on sustainable livelihoods in rural areas of Vhembe District of Thulamela Municipality in order to describe how people perceive and react to these impacts. The objectives were:

- To appraise the contextual perspectives of people in rural areas on the impacts of deforestation,
- To explore the perceptions of people in rural areas on the impact of deforestation and,
- To explore strategies or models of people in rural areas on the impacts of deforestation.

Theoretical Framework

A theoretical framework and model serves as a lens of an overview of ideas and practices that shape the way the paper sought to address the impact of deforestation of the research project. The objective of the theoretical framework and model is to reduce various factors that are key to the impact of deforestation. The paper adopted the ecosystems and community education model to look at the impact of deforestation on sustainable livelihoods in low-resourced areas of Thulamela Local Municipality through a social work perspective.

The Ecosystems Theory

The ecosystems theory is a holistic view of people and a metaphor that provides an understanding of the reciprocal and interdependence transactions that takes place between people and environment they function in (Ashford and LeCroy 2013; Ambrosio et al. 2008.). The ecosystems metaphor helps the social work profession to enact its social purpose of helping people and promoting responsive environments that support human growth, health and satisfaction in social functioning (Germain and Gitterman 1996; Zastrow 2000, 2006). It assists the worker to grasp the problem of concern within the situation of the person-in-context and contributes to the problem intervention process (Compton

et al. 2005). This theory focuses on the mutual relationship between the person and environment in which each shapes and influences the other over time. The theory emphasizes a particular way of thinking which determines how we know and understand the world around us (Bateson 1979; Tomm 1984; Meyer et al. 2008). The theory highlights dissemination of information in the field of human and environmental relationships (Meyer et al. 2008). Social work directly addresses the interrelationship between human beings and the natural environment (Boetto and Bell 2015).

Community Education Model

Ross and Deverell (2010) assert that the main reason for community education model is that there is huge need for community education in South Africa. Community education is a model of community work in social work focusing on knowledge, attitude and behaviour (Weyers 2011). Social education programmes are life skills, awareness raising initiatives, community and social development services (Rankin et al. 2008). The community education underpins initiating the informative awareness prevention programme to disseminate knowledge, change attitude and behaviour on the impacts of deforestation of sustainable livelihoods which can be evaluated (Weyers 2011; Conyne 2013).

Awareness of the impacts of deforestation of sustainable livelihoods is the area to be considered in knowledge dissemination, changing attitudes and behaviour of how people interact with the environment (Wynveen et al. 2014). Community education is used as a vehicle to get into rural communities for mobilization community members of rural areas on the impacts of deforestation of sustainable livelihoods. Community education model is concerned with concrete tasks that are undertaken to meet specific needs or solve particular problems, for instance, educating the public about the impacts of deforestation of sustainable livelihoods, like the use of community awareness campaigns (Ross and Deverell 2010). The process goals promote cooperation and participation of community members to take responsibility, to grow, to develop skills and confidence to tackle problems in rural areas (Ross and Deverell 2010).

The community education model's goal is to eliminate ignorance, change attitudes and be-

havior, and impart knowledge and skills required to control people's lives and to contribute effectively to the environment in which they live in (Weyers 2011) whereas, Ross and Deverell (2010) contends that the model's aims are to develop people's knowledge and insight, to make the community members aware of ways of solving problems, motivate participation and cooperation, skills development, and to instil people with needed attitudes. The process of community education model is to do situation analysis; identify and analyze impediments; formulate a plan of action; and implement the plan of action and evaluate (Weyers 2011).

MATERIAL AND METHODS

The research followed qualitative approach of data collection and analysis. The research design used for collection of data for this study was exploratory, where the gathering of information is through interaction with people in rural areas, exploring their perspectives, perceptions and strategies in dealing with impacts of deforestation on sustainable livelihoods.

Population and Sampling

All the people in rural areas belonging to the selected communities were the population for the study. From each community 50 households were selected randomly. Convenience and purposive sampling techniques were employed. Altogether 250 household were surveyed from the study sites. Generally, people depend on wood collection which fuels deforestation for sustainable livelihoods.

Data Collection

An in-depth interview schedule and focus group discussion (FGD) were used to collect information on people's perception on the specific issues such as their perspectives, challenges and strategies on the impact of deforestation. Secondary data was based on existing literature and reports.

Data Analysis

For this research, data was analysed thematically. According to Mills et al. (2010) coding is a basic analytic strategy used in thematic analy-

sis and it is defined as a process of closely inspecting text to look for recurrent themes, topics, or relationships, and marking passages with a code or label to categorize them for later retrieval and theory-building. There are steps to be followed when analysing data using themes. The researchers thematically transcribed data from tape recorder onto paper thematically following Sarantakos (2002) guidelines. The thematic analysis allows interviews to be transcribed verbatim and the use of NVivo to code transcripts (Bryman 2012).

FINDINGS

Findings are presented thematically as follows:

Understanding of Deforestation

This study revealed that a clear majority of the participants stipulated their understanding about deforestation. This showed a clear cut understanding of deforestation that refers to cutting down of trees without replacing them which commonly happens in rural areas due to fuel wood collection. To capture the essence of the participants, one of them from Mphambo said:

“Ku tsemeleriwa ka minsinya ka hina vanhu swi vula tihunyi to sweka hi tona ku tihanyisa lomu mimintini ya hina.” This literally means deforestation to people means to collect fuel woods to cook to sustain families.

In corroboration with the above, another participant from Mapapila said:

“Ku tsemeleriwa ka minsinya swi vula kuyi tirhisa ku endla mimirhi yo tshungula vanhu, ku endla fenichara, swivala na ku xavisa tihunyi ku hanyisa miminti” Literally, this refers to cutting down of trees to use for traditional herbal/medical purposes, to make furniture and kraals, as well as to sell woods to sustain families.

Again, in line with that, another participant from Matsakali said:

“Swi vula ku tsemeleriwa ka minsinya yinga pfariwi”. This literally means extreme cutting of trees without replacing or planting other ones.

A significant proportion of people in rural areas consider deforestation as cutting down of trees without replacing, purposefully for fuel wood collection and selling to sustain families, traditional medicine and kraals. A majority of

participants commonly shared the same understanding of deforestation as cutting down of big or small trees.

People's Views on the Current Escalating Deforestation

This study stipulated views of the people in rural areas about the current escalating deforestation where a clear majority of the participants showed that deforestation is viewed as part of everyday living as woods are important for sustaining families which cannot stop if the government does not intervene. It is viewed that this happens mostly in communities due to poverty as people cannot afford electricity, while some other people collect woods due to boredom. Again, other types of trees no longer exist due to deforestation which might be unfavourable to the next generations. Forests help mitigate the impacts of global warming and play a role in the water recycle process which helps balance the oxygen amount. Deforestation is also viewed as a cause for shortage of pastures where animals eat. To capture the views of the participants, one of them from Muchipisi said:

“Ku tsemeleriwa ka minsinya swama siku hinkwawo swi nge yimi hi mhaka ya nhluvuko wa ku maka naku pfumaleka ka gezi swi vanga ku vanhu va tsemelela minsinya.” This literally means deforestation cannot stop as it happens every day due to development and when people do not have electricity or cannot afford to buy electricity to cook.

In corroboration with the above, another participant from Xigalo and Mapapila said:

“Ku tsemeleriwa ka minsinya swi endla ku ku hela tinxaka tin'wana ta minsinya leswi swinga ta vanga ku pfumaleka ka minsinya yin'wana ka rixaka leri raha taku.” Literally, cutting down of trees finishes other types of trees which might not be there in the next generations.

Again, in line with that, another participant from Mphambo said:

“Mavonelo iku Loko vanhu va tsemelela minsinya ava tlheli vayi byala.” This literally means that when people cut trees, it is good to plant them to replace.

It was perceived that to prevent the impacts of deforestation technology must continue, for instance, the use of solar systems simultaneously with electricity. Majority of the participants

showed that the traditional leaders and communities must take a responsibility of discontinuing deforestation in rural areas by imposing fines to those who participate in the escalating deforestation. Majority of participants perceived that fuels wood collection must discontinue and an alternative plan of action to sustain families in rural areas should be devised, for instance, electricity subsidies or solar installation in rural areas. The majority of participants viewed deforestation in rural areas with lack of knowledge about its impacts to sustain livelihoods. Aliyu et al. (2014) asserts that knowledge base of the different stakeholders on environmental management is very low due to lack of awareness and low educational attainment.

The Impacts of Deforestation in Rural Communities

This study showed various impacts of deforestation in rural communities. A clear majority of the participants showed that the impacts of deforestation are: shortage of oxygen, carbon dioxide gain, climate change, natural disasters such as windy storms and destruction of houses, droughts, escalation of heat or hot temperatures, escalation of shortage of traditional medicines, escalation of shortage of other types of trees which will not be there for the next generations, erosion, no rains and escalation of shortage of shades. To capture the perceptions of the participants about the impacts of deforestation, one of them from Xigalo said:

“Switandzaku swa ku tsemeleriwa ka min-sinya iku kuta xota tixaka ta misinya yin’wana hikuva yile ku heleni hikokwalaho kaku tsemeleriwa ka minsinya naku swi tava swingari kahle ka rixaka leri raha taku hiku ringe yitivi minsinya leyi yi herisiwaku.” This literally means the impacts of deforestation is the escalation of other types of trees due to deforestation which will affect the next generations because they will not know the trees which are currently existing because people are destroying them.

In line with the above, another participant from Matsakali and Muchipise said:

“Switandzaku swa ku tsemeleriwa ka min-sinya iku mindzuti ya hela.” Literally, another impact of deforestation is the shortage of shades.

Subsequently, another participant from Mapapila said:

“Switandzaku swa ku tsemeleriwa ka min-sinya iku mimoya leyi kulu loko yiba yi hahlu-la tiyindlu.” This literally means that, another impact of deforestation is when heavy windy storms arise destroys houses.

People’s Experiences Due to the Impacts of Deforestation in Rural Communities

This study showed various experiences people go through due to the impacts of deforestation in rural communities. A clear majority of the participants stipulated various experiences due to the impacts of deforestation which are as follows: experiencing natural disasters in every two years in rural areas, losing their domestic animals due to drought, feeling the pain when their houses are being destroyed by heavy windy storms, experiencing high temperature and food insecurity. To capture the experiences of the participants about the impacts of deforestation, another participant from Mphambo and Mapapila said:

“Vanhu vatwa ku vava hiku loko va hahlu-keriwa hi tiyindlu hi mimoya va sala vari hava ko tlela.” This literally means the people feel the pain as their houses get destroyed by heavy windy storms and they are left without anything where they can sleep.

In line with the above, another participant from Xigalo and Matsakali said:

“Vanhu vatwa ku hisa kuya mahlweni hiku na mindzuti ya hela emakaya hiku tsemeleriwa.” This literally means that people continue to have bad experiences due to heat because there are no longer enough shades.

Another participant from Muchipise said:

“Vafuwi vatwa ku vava hiku swifuwo swa vona swi hela hi dyandza” This literally means that, people in rural areas experience or lose their domestic animals due to drought.

Mitigation of the Impacts of Deforestation

The mitigation of the impacts of deforestation was shown in rural communities. A majority of the participants indicated how the impacts of deforestation are mitigated in rural settings which are as follows: traditional leaders impose fines for deforesting, people are expected to pay wood collection fee to the traditional council, forest rangers also mitigate deforestation, and rural communities have voluntary community

members who mitigate deforestation. To capture how the impacts of deforestation are mitigated, another participant from Matsakali said:

“Loko munhu a kumiwa akari a tsemelela minsinya a rihisiwi hiva vukosi” This literally means that if one is found deforesting, he or she must pay a fine to the traditional council.

Another participant from Mapapila said:

“Mfumu awu tholi vanhu ku langutana na vuhlayiseki bya bya minsinya a matiko xikaya lava vanga tava vari karhi va tirha ahansi ka vulawuri bya tihosi.” This literally means that Government should employ people under the traditional council to look into forest conservation or preservation.

In line with the above, another participant from Muchipise said:

“A ku endliwi nawu lowu wu lwisanaku naku tsemeleriwa ka minsinya xin’wana I ku vanhu ava na vutivi hi switandzaku swa ku tsemeleriwa ka minsinya.” Literally, it means that laws should be developed to fight deforestation in rural areas and people in rural areas are not familiar or lack knowledge about the impacts of deforestation.

Models or Strategies to Raise Awareness about the Impacts of Deforestation

A clear majority of the participants indicated that awareness campaigns of different relevant stakeholders should be raised about the impacts of deforestation in rural areas. The other strategies were raised to reduce deforestation in rural areas such as: Eskom electricity subsidies to the people in rural areas, solar installation, paying of deforesting fee, and subsidising with coal. To capture the essence of the strategies to raise awareness about the impacts of deforestation another participant from Xigalo said:

“A Swikolweni vana ava dyondisiwi hi switandzaku swaku tsemeleriwa ka minsinya.” Literally, it means that a curriculum in schools should be developed to teach learners about the impacts of deforestation.

Another participant from Mphambo said:

“Tihosi ati vitani vanhu na lomu swivijwini ku dyondzisiwa hi switandzaku swaku tsemeleriwa ka minsinya.” Literally, traditional leaders should call community members in traditional gatherings to raise awareness about the impacts of deforestation.

In line with the above, another participant from Xigalo said:

“Lomu ka swiyani moya na swikomba kule a ku dyondzisiwi hi switandzaku swaku tsemeleriwa ka minsinya.” This literally means that, media should raise awareness about the impacts of deforestation.

DISCUSSION

Deforestation is in the form of cutting down the trees without replacing in rural areas due to fuel wood collection. Fuel wood collection is the only source of domestic energy (Aliyu et al. 2014). More than 180 governments, companies, indigenous people’s organizations, and non-governmental organizations have signed the New York Declaration on Forests (NYDF) which calls for ending deforestation from the production of agricultural commodities such as palm oil by no later than 2020 as part of a broader goal of dropping deforestation fifty percent by 2020 and eradicating it by 2030 (Vijay et al. 2016). In the context of rural areas this happens when people collect fuel woods to cook or prepare foods to sustain families. Deforestation again happens for many reasons such as cutting down of trees to use for traditional herbal/medical purposes, to make furniture and kraals, as well as to sell woods to sustain families. Pfaff et al. (2015) defines deforestation as “a change from forest to a non-forest land cover”. Deforestation is viewed as everyday living as woods are important for sustaining families which cannot stop if the government does not intervene. This happens in rural communities due to poverty as people cannot afford electricity. Thobejane and Scheepers (2009) assert that poverty has implications on environmental degradation including deforestation. Forests help mitigate the impacts of global warming and play a role in the water recycle process which helps balance the oxygen amount. Johnson and Chenje (2008) argue that deforestation is when a once forested area gets removed for the use of agriculture, pasture, urban development, logging, or wasteland.

The use of solar systems simultaneously with electricity is a way to lessen the impacts of deforestation which Government of South Africa needs to undertake as a project in rural areas. Another alternative plan of action to sustain families in rural areas is to have electricity subsi-

dies. Deforestation has implications that affect rural areas such as shortage of oxygen, carbon dioxide gain, climate change, natural disasters such as windy storms and destruction of houses, droughts, escalation of heat or hot temperatures, escalation of shortage of traditional medicines, and escalation of shortage of shades. Forests store a huge amount of carbon, helps with oxygen and biodiversity which are essential for species and humans on earth (Butsic et al. 2015). The impacts of deforestation are mitigated in rural settings where traditional leaders impose fines for deforesting, people are expected to pay wood collection fee to the traditional council, forest rangers also mitigate deforestation, and rural communities have voluntary community members who mitigate deforesting. Laws should be developed to fight deforestation in rural areas as people rural areas are not familiar or lack knowledge about the impacts of deforestation. Pfaff et al. (2015) assert that the forest conservation policy and climate policy helps to protect areas to reduce deforestation and climate change. Awareness campaigns by different relevant stakeholders is an effective model or strategy to reduce the impacts of deforestation in rural areas. Awareness of the impacts of deforestation of sustainable livelihoods is the area to be considered in knowledge dissemination, changing attitudes and behaviour of how people interact with the environment (Wynveen et al. 2014).

CONCLUSION

The study revealed and concluded that deforestation in rural areas cause damages as heavy windy storms destroys houses because there are no longer big trees to block the winds. People in rural areas largely depend on fire woods to prepare foods which fuels deforestation. The government of South Africa is silent about this. There is a need for intervention to address deforestation. It was concluded that government should integrate social and environmental policies by using community education model to mobilize, impart knowledge, change attitudes and practices to deal with the impacts of deforestation. It is recommended that the South African Government should provide subsidies to people in rural areas by adding monthly prepaid electricity units for free.

RECOMMENDATIONS

Contemporary challenges of the impacts of deforestation in rural areas call for the attention for the development of an integrated stakeholders' vision to raise awareness to the people about the consequences of deforestation. Media should raise awareness about the impacts of deforestation. Traditional leaders should call community members in traditional gatherings to raise awareness about the impacts of deforestation. A curriculum in schools should be developed to teach learners about the impacts of deforestation. The other strategies to reduce deforestation in rural areas are Eskom electricity subsidies to the people in rural areas, solar installation, paying of deforesting fee, and subsidizing with coal. Government should employ people under the traditional council to look into forest conservation or preservation. Fines should be imposed for deforesting. Laws should be developed to mitigate deforestation in rural communities. People should pay wood collection fee before collecting. People should be encouraged to plant trees at home. Most importantly, direct awareness campaigns that involve different relevant stakeholders should be raised in rural communities on the impacts of deforestation by following the community education model process such as doing the situation analysis; identifying and analysing impediments; formulating a plan of action; and implementing the plan of action and evaluating.

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