

The Governance of Community Forests in Eswatini: The Case of Ezikhotheni and Ngcayini Chiefdoms

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Abstract

The aim of this study was to assess the rules governing the management of resources from plantation-style community forests in the Kingdom of Eswatini using Ngcayini and Ezikhotheni chiefdoms as case studies. Data were collected by selecting and interviewing respondents comprising internal and external stakeholders. Internal stakeholders included heads of households, members of the community inner council, Natural Resource Management Committee members, as well as the *Inkhundla* Local Government Council (*Bucopho*). External stakeholders included officers in the Forestry Section of the Ministry Tourism and Environmental Affairs (MTEA); officers of the Eswatini Environment Authority (EEA); the Livelihoods Manager for *World Vision*; and the Director of Environment for *Conserve Eswatini*. The research findings indicate that access to forest resources is free in natural forests, yet in plantation-style community forests it is controlled by traditional authorities and Natural Resource Management Committees (NRMCs). Furthermore, there are elaborate rules governing the management of community forests in the specific chiefdoms studied (90% Ezikhotheni and 88% at Ngcayini). The rules are formulated by all community members and enforced by community leaders. Despite the elaborate rules, there are challenges of illegal burning and harvesting of resources, as well as the theft of fence materials surrounding the forests and gullies. Nonetheless, perpetrators are generally exposed and reprimanded through levying of fines. In addition, community members indicated knowledge of national policies and legislation relating to the management of community forests.

Keywords

Community Forests, Traditional Authorities, Natural Resource Management Committee, Rules, National Policies, Legislation, Ngcayini, Ezikhotheni

1. Introduction

The Kingdom of Eswatini (Swaziland) is located between longitudes 30 and 33 degrees East and latitudes 25 and 28 degrees South in the south-eastern part of Africa (Figure 1) [1, 2] with a population of about 1 093 238 people with an annual population growth of 0.7% [3]. The country is landlocked,

covering an area of 17 364 km², and a population density of 63 inhabitants per km². Regardless of such a small areal extent, the country is characterized by six distinct agro-ecological regions (Figure 2), which are clearly distinguished on the basis of elevation, topography, climate, geology and soils [4, 5]. These zones are Highveld (33%), Upper Middleveld (14%), Lower Middleveld (14%), Western Lowveld (20%), Eastern Lowveld (11%) and Lubombo Range (8%) [6].



Figure 1. Location of Swaziland (Eswatini) in Southern Africa.

Source: [7]

According to Carter, community forestry is an approach to forest management that actively promotes the rights of the people living in and around the forest to both participate in forest management decisions and especially to benefit both financially and/or in kind from the results of the management exercise [8]. Rath argues that involving community members in natural resource management has interesting dynamics and a great potential [9]. Furthermore, Rath contends that it is requisite that we understand this dynamics properly and make optimum use of this potential for facing challenges like climate change [9]. According to the National Forest Policy, community forestry refers to the participation of community members in the planning, implementation, and management of forests in the local environment [10]. Community forestry also relates to homestead or farm forestry, agro-forestry, woodlots, and planting as well as use of trees in conservation, rehabilitation or other rural schemes. Furthermore, community forestry in Eswatini involves the use and management of natural forests and woodlands, as well as wattle and eucalyptus forests within the community boundaries [10]. Therefore, in Eswatini community forestry comprises both plantation-style community forests, and

natural forests and woodlands.

A community forest *per se* is a village level forestry activity, decided on collectively and established on communal land, where community members participate in the planning, implementation, management and harvesting of forest resources and therefore get a major share of the socio-economic and ecological benefits from the forest [11, 12]. Community forests' areas provide a myriad of basic inputs; free of direct cost to local homesteads such as fuel wood timber, and Non-Timber Forest Products (NTFPs) namely; animal fodder, green manure, wild fruits and vegetables, as well as medicinal products.

In Eswatini, due to heavy reliance on forest resources, forest lands continue to be degraded; while grasslands are overgrazed; and most wild animal species being exterminated with some protected in the country's conservation areas. Consequently, the local populations who depend on natural resources are becoming poorer and poorer and their ability to redress land degradation is being hampered by poverty and the impact of HIV and AIDS that is decimating many rural communities [5]. For example, in some rural areas such as Ngcayini and Ezikhotheni, afforestation programs have been

carried out as a form of rehabilitating degraded land and supplementing timber products' requirements. In this case, *Eucalyptus spp.* (gum trees) were planted on degraded areas to promote soil conservation and augment the supply of timber resources, respectively. Worth noting is that when these forests are established a Natural Resource Management Committee (NRMC) is appointed in collaboration with the community concerned. The committee is mandated to select sites for the forests and oversee management activities relating to the forest namely; mobilization of people for the

establishment, protection and tending of the forests [10, 13]. Therefore, these forests together with individual household forests that have been left by their owners who have resettled in other areas are regarded as community forests [14]. In addition, to the plantation-style community forests, natural forests and woodlands also falls into the cadre of community forests although their management is normally overseen by traditional authorities [Chief, headman, inner council (*Bandlanthane*) and ward elders (*Imisumpe*) instead of Natural Resource Management Committee (NRMCs) [10].

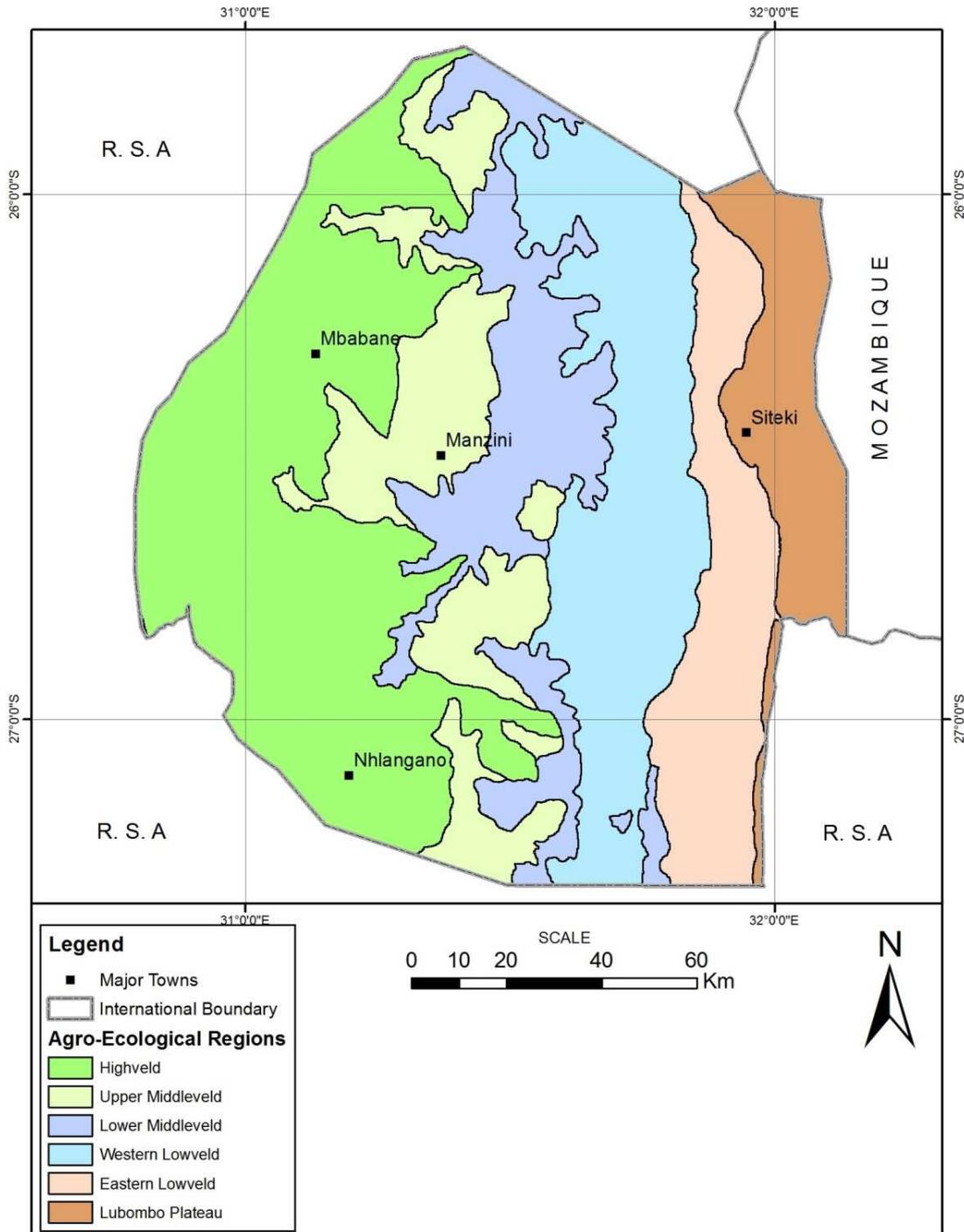


Figure 2. The agro-ecological regions of Eswatini.

Plantation-style forests as well as natural forests and woodlands are exploited for both subsistence and commercial purposes. The exploitation has serious consequences on land degradation in particular soil erosion.

1.1. Problem Statement

In Eswatini in particular, natural forests are sources of forest resources not only just for individual households but also for the Chiefs' royal kraals (*Imiphakatsi*) and the King's royal kraals (*Tigodlo*). Therefore, it is common practice that Chiefs and the King will now and again commission regiments to cut logs and branches (*Emahlahla* and *Tintfungo*) from natural forests for usage in the royal kraals. Most importantly, it is not just any tree species that is submitted to the royal kraals but there are selected and special species such as *Umhlume* (*Adina spp.*), *Sihloko*, *Imbondvo* (*Combretum spp.*) *Lusekwane* (*Dichrostachys cinerea spp.*) and *Umphahla* (*Brachylaena spp.*). Despite the importance of natural forests, they are by and large depleted as a result of rapid population growth, which exerts pressure on land; growing poverty; inequalities in land tenure; access and use rights; as well as lack of capacity to manage forests [15]. On that basis, the study also investigates on the protection of royal tree species in the case study chiefdoms.

Evidence indicates that forest degradation is more pronounced in the Lowveld and Middleveld regions of Eswatini due to heavy exploitation of fuel wood, wood carving, furniture making, and building material, respectively by local people [10, 15]. This is evident through the piles of fuel wood and handicrafts (wooden bowls, spoons and knobkerries) sold along the roads in the Lowveld and Middleveld regions. In turn, this implies that natural forests seem to be a significant resource in cultural activities as well as in the livelihood of people in general. Therefore, for purposes of making a comparison, the present study assesses both the plantation-style community forests and natural forests. The exploitation of both natural and plantation-style community forests raises questions regarding rules which are employed in the management of forests resources in Eswatini, particularly community forests.

At this juncture, it is important to mention that in Eswatini management of natural forests as per The Swazi Administration Order, 6 of 1998 is supposed to be overseen by ward elders (*Imisumpe*) whereas that of plantation-style community forests is presumed to be led by NRMCs [10]. Notably, the use of NRMCs is a novel practice in the management of resources in the country; as such there is a lack of information on their roles in the governance of community forests, hence the need for this study. In addition, there is also a dearth of information on the role of external

stakeholders such as NGOs and government departments in the governance of community forests; hence the need for this research.

1.2. Objectives

- i. To determine the rules governing the management of community forests at Ngcayini and Ezikhotheni chiefdoms.
- ii. To assess community members' knowledge on laws and policies governing the management of forest resources in Eswatini using Ngcayini and Ezikhotheni chiefdoms as case studies.
- iii. To determine the role of organizations in the governance of forest resources in the communities in Eswatini using Ngcayini and Ezikhotheni chiefdoms as case studies

2. Materials and Methods

2.1. Study Area

The study was carried out in two chiefdoms namely Ngcayini and Ezikhotheni. Ngcayini chiefdom is located in the Manzini district under Kukhanyeni constituency, while Ezikhotheni chiefdom is found in the Shiselweni district under Shiselweni one (1) constituency in Eswatini. In terms of absolute location, Ngcayini is found between longitudes 31°21'34"E and 31°24'15"E, and latitudes 26°16'17"S and 26°18'31"S (Figure 3) whereas Ezikhotheni lies between longitudes 31°23'09"E and 31°29'18"E, and latitudes 27°09'02"S and 27°14'56"S (Figure 4).

2.2. Data Collection

Data were collected using in-depth interviews guided by a questionnaire administered to heads of households and community leaders at Ngcayini and Ezikhotheni chiefdoms as well as officers from organizations liaising with communities in the development and management of community forests. The institutions include the Forestry department in the Ministry of Tourism and Environmental Affairs (MTEA), Eswatini Environment Authority (EEA), and Non-Governmental Organisations namely; *World Vision* and *Conserve Eswatini*. In terms of population distribution, according to a personal interview with the *Inkhundla* Local Government Council (*Bucopho*) during the field reconnaissance survey in the year 2017 it was gathered that Ngcayini had 103 homesteads (three homesteads being new arrivals), while Ezikhotheni had 508 (eight homesteads being new arrivals).

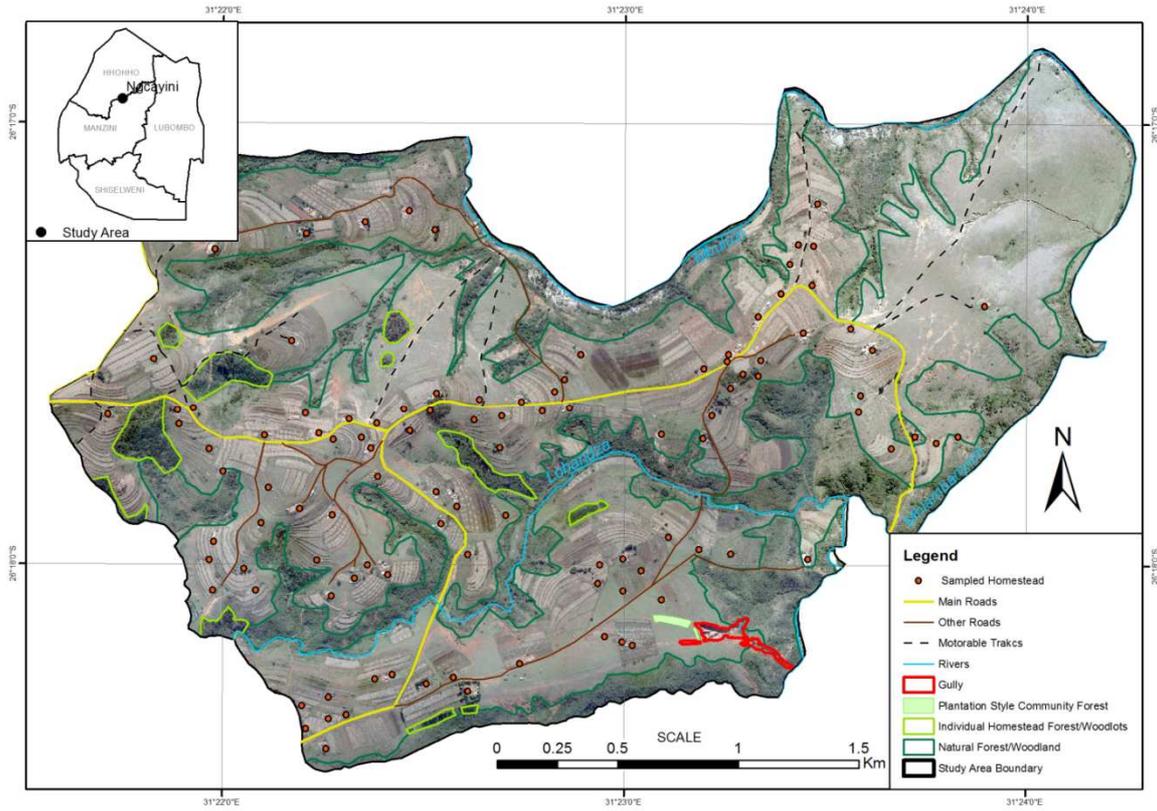


Figure 3. Ngcayini chiefdom.

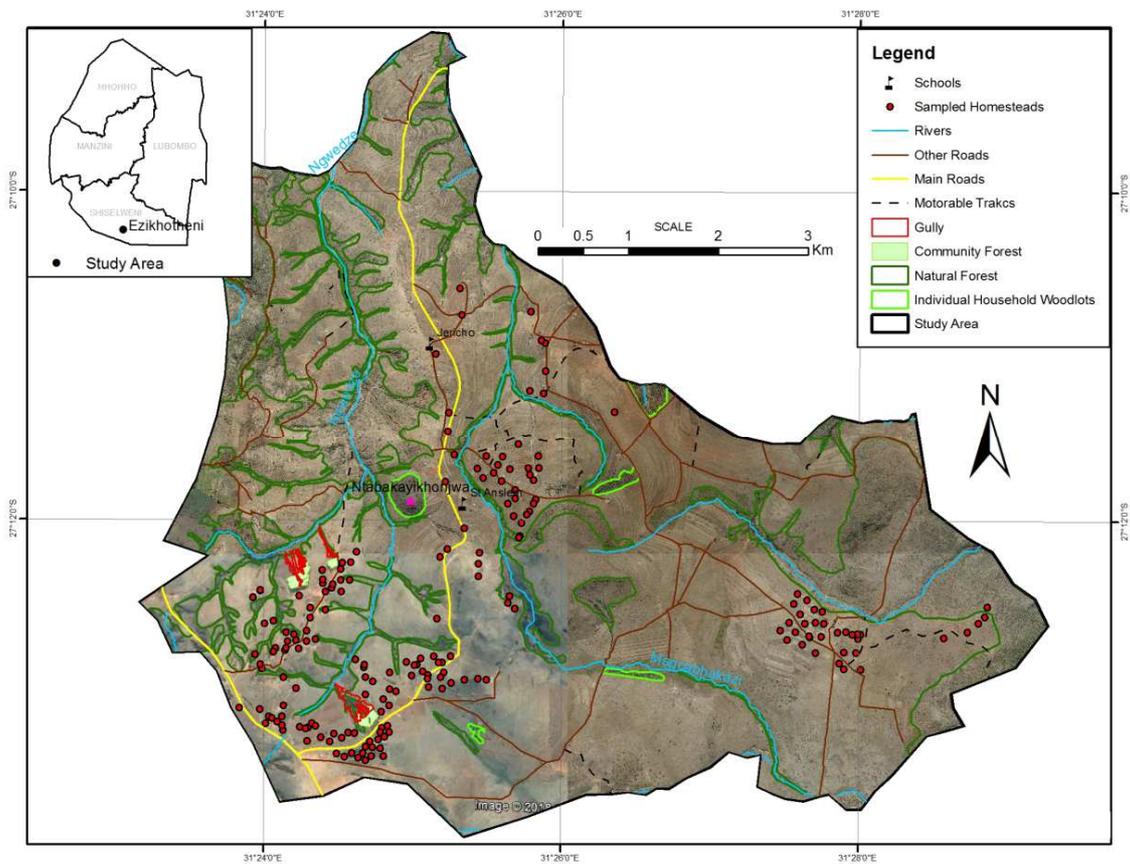


Figure 4. Ezikhotheni chiefdom.

In terms of selecting respondents, since at Ngcayini there were 100 eligible homesteads, they were all included in the study. At Ezikhotheni on the other hand, where there were 500 eligible homesteads 40 per cent, which is 200 homesteads were selected through simple random sampling for inclusion in the study. Simple random sampling technique was used to ensure that all homesteads in this case had an equal chance of being selected for the sample in accordance with Strydom [16].

In the quest of implementing simple random sampling a list of the homesteads was solicited from the traditional authorities through the *Bucopho*. Then the homesteads were numbered from the first to the last. At that juncture, the table of random numbers was used to come up with the homesteads which participated in the study. Worth noting is that in some homesteads there were more than one household, in such cases only one head of household was interviewed. The reason for interviewing one instead of all the heads of households is because of the homogeneity of households in the sense that by virtue of belonging to the chiefdom they are bound to participate in the management of the community forests. In the household, the interview was administered to either the man or woman as a head of the household. In the event of their unavailability however; the eldest household member responsible for making decisions was interviewed as suggested by Marambanyika and Beckedahl [17]. It must be noted that, in the event that a selected respondent refused to participate in the study another homestead was selected until the intended sample size was attained. All in all, the sample comprises 300 homesteads with 100 from Ngcayini (Figure 3) and 200 from Ezikhotheni (Figure 4).

Regarding selection of key informants in the study they were purposively selected for in-depth interviews based on their role in the communities regarding development and governance of community forests. Key informants in this study comprise the following:

- i. three (3) NRMC members from each chiefdom who were selected through convenience sampling;
- ii. Headman (*Indvuna*);
- iii. three (3) inner council members and three (3) ward elders from each chiefdom who were selected through convenience sampling;
- iv. *Inkhundla* Local Government Council (*Bucopho*);
- v. Four (4) officers from the Forestry Department in the Ministry of Tourism and Environmental Affairs (MTEA);
- vi. Four (4) officers from Eswatini Environment Authority; and
- vii. Livelihoods Manager from *World Vision* and the Director of Environment from *Conserve Eswatini*. These are Non-Governmental Organizations (NGOs) which are active in the study sites. It must be noted that *Yonge Nawe* used to be one of the most active NGOs in Eswatini, but it ceased operations (defunct) in the country, hence it could not be part of the study.

The data in this study is presented as narratives, crosstabs

and graphs. Responses were coded and inputted for analysis using the Statistical Package for Social Scientists (SPSS) program version 20. In this study cross-tabulation was used to depict frequencies of responses from heads of households and key informants for various attributes across the two chiefdoms (Ezikhotheni and Ngcayini). Moreover, Chi-square (χ^2) statistical analysis was employed to determine the level of significance in the difference between the two chiefdoms regarding aspects of the management of community forests.

3. Findings and Discussion

The main concern for this study is governance of community resources in particular community forests by community members. Community members in this case include; individuals, traditional authorities (headman, inner council and ward elders' members), NRMC members, as well as *Inkhundla* Local Government council (*Bucopho*). The study however, included the views of officers from organisations (governmental and NGOs) that work closely with communities on issues concerning management of forest resources.

3.1. Rules Governing the Management of Community Forests in the Specific Chiefdoms

Management of community forests is normally governed by rules to ensure sustainability of the resources; hence the heads of households were probed regarding existence of such in their chiefdoms. Evidence from the findings, depicts that there are rules governing management of community forests at Ezikhotheni (90%) and at Ngcayini (88%) chiefdoms. Nonetheless, there were some heads of households (10% at Ezikhotheni and 12% at Ngcayini) who negated existence of rules governing management of community forests in their chiefdoms. Regarding the actual rules, the findings from both the heads of households and community leaders indicate that at Ngcayini there was only one inclusive rule which covered both natural forests and the plantation-style community forests. Here, community members have to seek permission from the headman (100%) for cutting any live tree which includes fruit trees and royal trees from the natural forests save only for alien invasive tree species (Figure 5). Notably, for other resources derived from natural forests; community members only needed permission from the headman otherwise they were not expected to pay for them. In the case of the plantation-style community forests, community members buy forest resources from the headman (100%) (Figure 6).

At Ezikhotheni, natural forests are very scarce especially in the immediate precinct of the plantation-style community forests save only for woodlands dominated by scattered shrubs. Therefore, there were a number of rules governing management of community forests with the major rule from the viewpoint of the heads of households being prohibited

cutting of trees without permission of the NRMC and protection of forests by all community members (67.2%) (Figure 5). Other rules highlighted by the heads of households include: prohibited cutting of fruit and royal trees, as well as live trees for fuel wood. At the same time, there is a rule that compel all community members to participate in community forest work (5.6%) (Figure 5) and (9.1%) (Figure

6). From the community leaders' side, the main rule was buying forest resources from NRMC members (72.7%) (Figure 6). A most significant aspect of this rule is that the income generated through selling forest resources was used to fund other community projects (9.1%) such as a water project as well as a Neighbourhood Care Point (NCP) at Ezikhotheni (Figure 6).

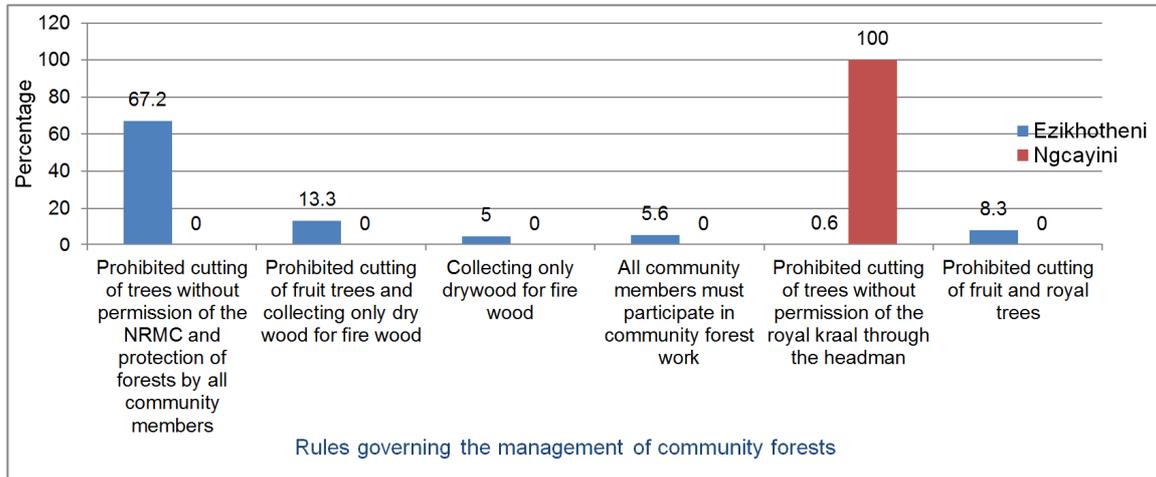


Figure 5. Heads of households' views on the rules governing management of community forests in the case study chiefdoms.

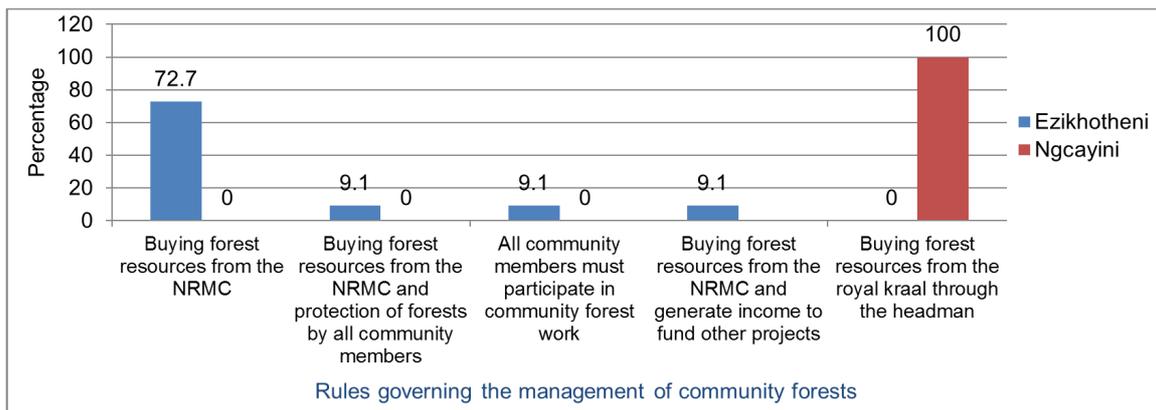


Figure 6. Community leaders' views on the rules governing management of community forests in the case study chiefdoms.

When applying the chi-square (χ^2) test on the findings concerning the rules governing management of community forests at Ezikhotheni and Ngcayini chiefdoms to establish the level of significance, a p value of 0.000 is attained on the views of both the heads of households and community leaders. These values depict that there is a high level of significance in the difference between Ezikhotheni and Ngcayini chiefdoms concerning the rules governing management of community forests. The difference is largely due to the manner in which forest resources are administered in the chiefdoms.

The findings indicate that there are rules governing management of community forests at both Ezikhotheni and Ngcayini chiefdoms. The findings are in agreement with the observations made by Sithole who states that community and non-community members access forest resources through acquisition of permission from the traditional leaders [13].

The findings regarding seeking permission also support those of Mogotsi, Lendelvo, Angula and Nakanyala in Namibia, where access to resources in community forests is authorized by the local leadership [18]. Basically, asking for permission from community leaders is the main rule governing the management of community forests in the case study sites which is meant to control illegal harvesting by both community and non-community members. It must be noted that asking for permission may also be unsustainable if the condition of the resources is not well monitored. Therefore, it is necessary that the NRMCs monitor the condition of the resources and advise accordingly on whether they can be exploited or not. Furthermore, community members are prohibited from cutting live trees for fuel wood and cutting fruit and royal tree species. In addition, community members are prohibited from exploiting natural forests for sale. Despite that this rule is also a provision in the environmental

legislation of the country, people persist in the sale of handicrafts and fuel wood derived from natural forests particularly in the Lowveld region. This is mainly due to the high rate of poverty (63% of people living below the poverty line) as noted by the World Food Programme [19].

The study endeavoured to investigate on issues surrounding formulation of the rules governing management of community forests in the chiefdoms under study. Findings from heads of households reveal that the rules were mainly formulated by the community members (77.3% at Ezikhotheni and 20.5% at Ngcayini), and community leaders (18.3% at Ezikhotheni and 47.7% at Ngcayini). At Ezikhotheni, 0.6% of the heads of households pointed out that, NRMC members were behind the formulation of the rules. Nonetheless, there were heads of households who claimed to be ignorant on the formulation of the rules (3.8% at Ezikhotheni and 31.8% at Ngcayini). Community leaders indicated that rules were formulated by community members (54.5% at Ezikhotheni and 100% at Ngcayini) and community leaders (45.5% at Ezikhotheni).

It is important to note that, rules are only effective if there is a mechanism to enforce them. Therefore, the study also probed both the heads of households and community leaders on issues pertaining to enforcement of the rules. In that regard, the heads of households revealed that enforcement was through reporting and fining all people who break the rules (92.2% at Ezikhotheni and 84.1% at Ngcayini). Perpetrators were reported to the headman, inner council members and NRMC members. Notably, some heads of the households claimed to be uninformed on how the rules were

enforced (7.8% at Ezikhotheni and 15.9% at Ngcayini). Community leaders on the other hand, disclosed that enforcement was solely through reporting and fining all people who break the rules (100% at Ezikhotheni and 100% at Ngcayini).

Regarding the authority responsible for enforcing the rules the findings from both the heads of households and community leaders depicts that at Ngcayini it was mainly the inner council and the headman (90%) (Figure 7) and (81.8%) (Figure 8). At Ezikhotheni on the other hand, enforcement was mainly undertaken by the inner council and NRMC members (43.9%) (Figure 7) and (81.8%) (Figure 8). Notably, at Ngcayini the NRMC members were not active in the management of community forests instead it was a prerogative of the headman and inner council members. Contrariwise, at Ezikhotheni the NRMC was very active in the management of community forests but it collaborated with the inner council members. It is worth noting that, at Ezikhotheni community police (9.1%) were part of the authorities responsible for enforcing rules governing management of community forests (Figure 8). Community police are normally very instrumental in ensuring peace and safety in communities if they get a good backing from community members.

Considering effectiveness of the rules in the management of community forests, findings from the heads of households depict that they were effective in both chiefdoms (72.8% at Ezikhotheni and 79.5% at Ngcayini). There were however, some heads of households who negated the effectiveness of the rules in both chiefdoms (27.2% at Ezikhotheni and 20.5% at Ngcayini).

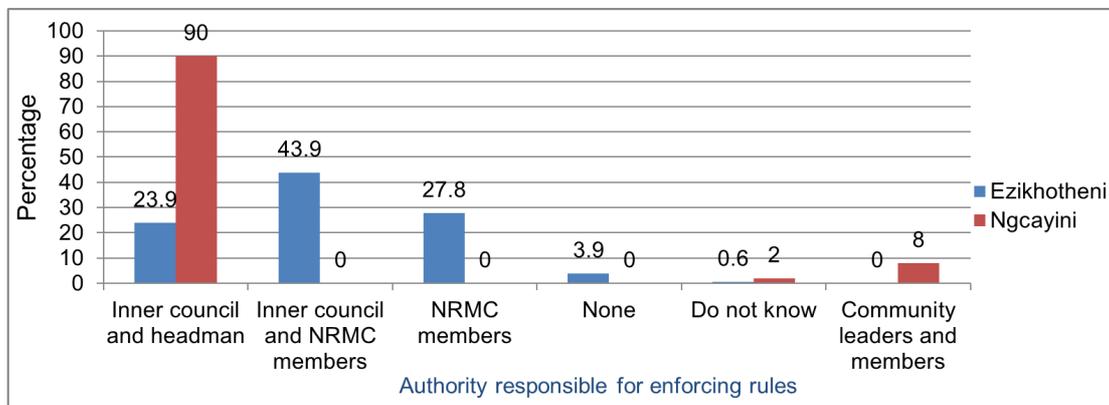


Figure 7. Heads of households' views on the authority responsible for enforcing the rules governing management of community forests in the respective chiefdoms.

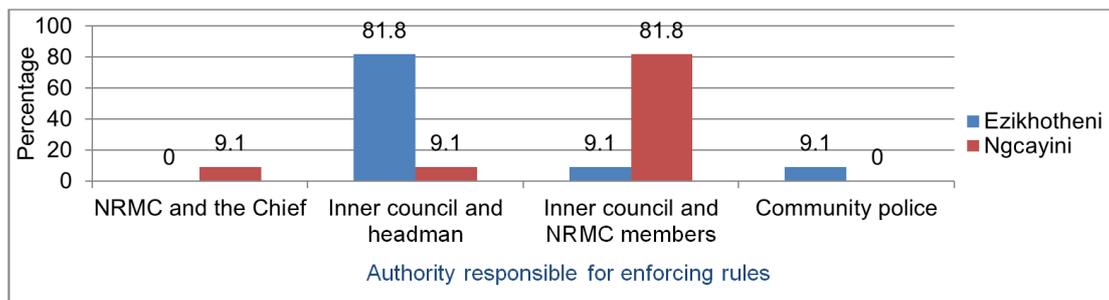


Figure 8. Community leaders' views on the authority responsible for enforcing the rules governing management of community forests in the respective chiefdoms.

In terms of indicators for effectiveness of the rules in the management of community forests the findings from both the heads of households and community leaders reveal that the major indicator was that most community members comply with the rules and thus forests were developing (93.1% at Ezikhotheni and 90% at Ngcayini) (Figure 9) and (90.9% at Ezikhotheni and 81.8% at Ngcayini) (Figure 10). Other noted indicators include; that there were few cases of rule breaking that had been reported to the inner council, as well as that people caught cutting trees illegally were fined to discourage others from committing similar offences (Figure 9 and Figure 10). On the other hand, the indicators for ineffectiveness of the rules from the point of view of the heads of households, were that some people illegally harvest forest resources

deliberately (38.8% at Ezikhotheni and 100% at Ngcayini), as well as that some people illegally cut fruit and royal trees and also wet trees for fire wood (61.2% at Ezikhotheni).

Applying the chi-square (χ^2) test on the findings concerning indicators for effectiveness of the rules in the management of community forests at Ezikhotheni and Ngcayini chiefdoms to establish the level of significance, yield a p value of 0.056 for the views of the heads of households and a p value of 0.591 for the views of community leaders. These values depict that there is no significant difference between the Ezikhotheni and Ngcayini chiefdoms regarding indicators for effectiveness of the rules in the management of community forests.

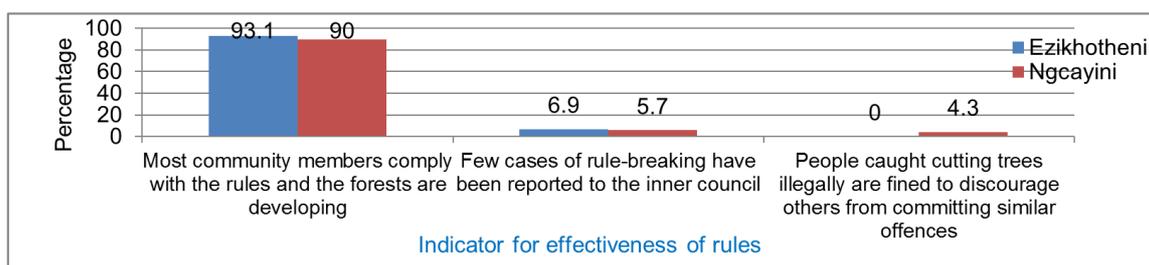


Figure 9. Heads of households' views on the indicators for effectiveness of the rules in the management of community forests in the case study chiefdoms.

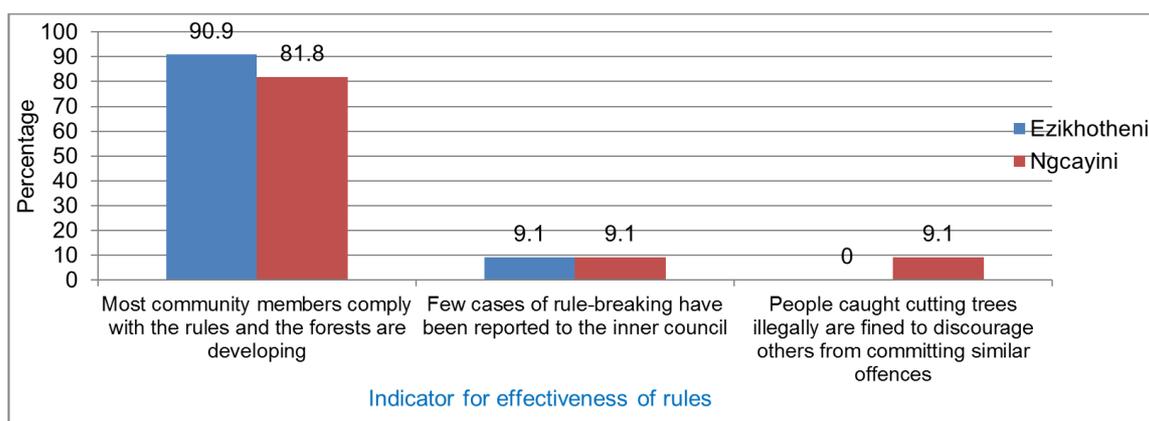


Figure 10. Community leaders' views on the indicators for effectiveness of the rules in the management of community forests in the case study chiefdoms.

On the other hand, when applying the chi-square (χ^2) test on the findings relating to indicators for ineffectiveness of the rules governing management of community forests at Ezikhotheni and Ngcayini chiefdoms to establish the level of significance, a p value of 0.000 is attained. This value depicts that there is a high level of significance in the difference between Ezikhotheni and Ngcayini chiefdoms with reference to indicators for ineffectiveness of the rules governing management of community forests. This indicates that there is remarkable degree of ineffectiveness of the rules governing management of community forests in the respective chiefdoms.

Generally, the rules were considered to be effective since there was generally community-wide compliance from community members, depicted through developing forests and few cases of rule breaking reported to the inner council, as well as that people caught cutting trees illegally were fined

to discourage others from committing similar offences. The findings are corroborated by Magagula, who consents that the role of traditional authorities in forest resource management is to ensure that there are effective rules and strategies for enforcing the rules [2]. It is important to note that lack of enforcement of existing rules by traditional leaders in the management of natural forests promotes the practice of illegal harvesting as observed by Sithole at Mpolonjeni [13]. Despite that the rules were generally observed to be effective in the case study chiefdoms there were some cases of illegal harvesting of forest resources by both community and non-community members. The isolated cases of illegal harvesting are a testimony to that access to community resources is controlled in the respective chiefdoms. All in all, there is illegal harvesting only because access is controlled.

3.2. Community Members’ Knowledge on Laws and Policies Governing the Management of Forest Resources in Eswatini

Management of resources is not just a concern at the community level; rather it is a countrywide as well as worldwide concern. It is on that basis, that this study probed community members on their knowledge on laws and policies governing management of forest resources in Eswatini. The findings on the one hand depicts that a majority of the heads of households at Ezikhotheni (76%) claimed to have knowledge on laws and policies governing management of forest resources in Eswatini compared to those at Ngcayini (45%). On the other hand, some the heads of households in both chiefdoms refuted having knowledge on laws and policies governing management of forest resources in Eswatini (24% at Ezikhotheni and 55% at Ngcayini). From the standpoint of the community leaders, they have knowledge on laws and policies governing management of forest resources in Eswatini (81.8% at Ezikhotheni and 90.9% at Ngcayini). There were however, some community leaders who did not have knowledge on laws and policies governing management of forest resources in Eswatini (18.2% at Ezikhotheni and 9.1% at Ngcayini).

When asked to outline the laws and policies both heads of households and community leaders highlighted the National Forest Policy and the Environment Management Act. For instance, 52.6% of the heads of households at Ezikhotheni and

95.6% at Ngcayini indicated that they know the National Forest Policy (NFP). Contrariwise, 47.4% of the heads of households at Ezikhotheni and 4.4% at Ngcayini pointed out that they know the Environment Management Act (EMA). Findings from the community leaders reflect that 100% at Ezikhotheni and 100% at Ngcayini claimed knowledge of both the National Forest Policy and the Environment Management Act.

To validate the knowledge of both the heads of households and community leaders, they were probed to state the provisions of the identified law and policy. The heads of households indicated that the provisions include; that people must prevent forest fires and avoid cutting fruit and immature tree species (30.3% at Ezikhotheni and 55.6% at Ngcayini) (Figure 11). Other provisions were that people must cut and replace trees, as well as refrain from unnecessary burning and cutting of trees (11.2% at Ezikhotheni and 33.3% at Ngcayini) (Figure 11).

From the viewpoint of community leaders, people must prevent forest fires and avoid cutting fruit and immature trees (88.9% at Ezikhotheni and 10% at Ngcayini) (Figure 12). Another provision highlighted in both chiefdoms, is that it is prohibited to unnecessarily cut trees (11.1% at Ezikhotheni and 20% at Ngcayini) (Figure 12). Notably, the heads of households in both chiefdoms (21.1% at Ezikhotheni and 2.2% at Ngcayini) (Figure 12) and community leaders at Ngcayini (40%) (Figure 12) highlighted a very crucial provision of conserving the environment for future generations. This basically implies sustainable management of the environment in general and forest resources in particular.

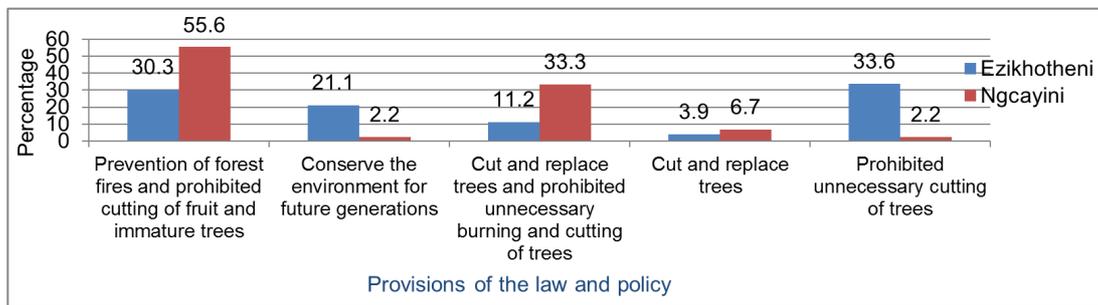


Figure 11. Ezikhotheni and Ngcayini heads of households’ views on the provisions of the law and policy governing the management of forest resources in Eswatini.

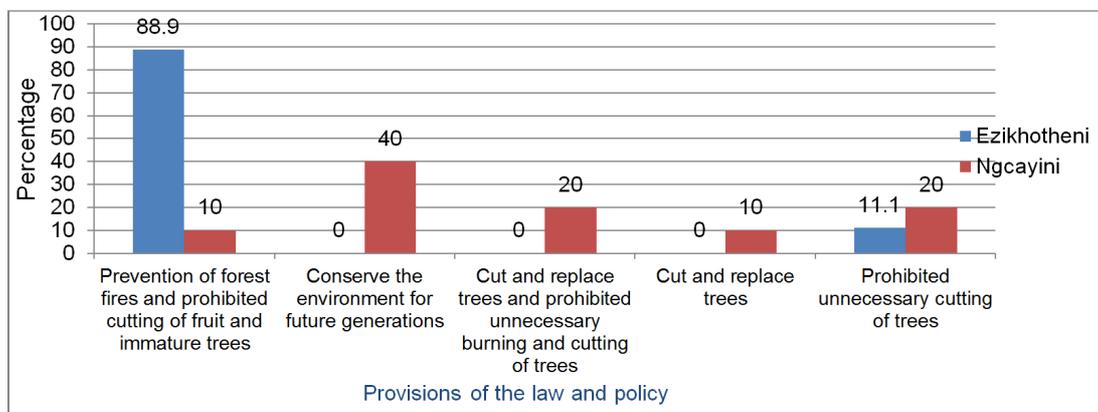


Figure 12. Ezikhotheni and Ngcayini community leaders’ views on the provisions of the law and policy governing the management of forest resources in Eswatini.

When inquired on the source of knowledge in relation to laws and policies governing management of forest resources in Eswatini, the heads of households and community leaders identified the radio and training as their key sources. For instance, 48% of the heads of households at Ezikhotheni and 66.7% at Ngcayini identified the radio as their source of

information (Figure 13). Moreover, 17.8% of the heads of households at Ezikhotheni and 24.4% at Ngcayini were in favour of training as their source of information relating to laws and policies governing management of forest resources in Eswatini (Figure 13).

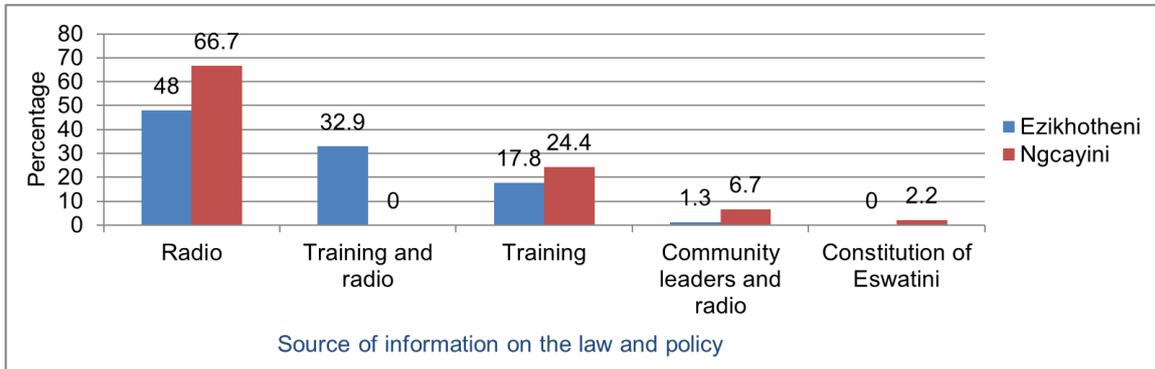


Figure 13. Ezikhotheni and Ngcayini heads of households' views on the source of information on the law and policy governing the management of forest resources in Eswatini.

The community leaders (77.8% at Ezikhotheni and 30% at Ngcayini) cited the radio as their source of information (Figure 14). Furthermore, 22.2% of the community leaders at Ezikhotheni and 40% at Ngcayini, regarded training as their source of information pertaining to laws and policies governing management of forest resources in Eswatini (Figure 14). The popularity of the radio as a source of information indicates that people take their time to listen to programs aired in their national broadcasting service station. At the same time, training was also considered a prominent

source of information, which depicts that people are ambitious to know more about their environment, hence they maximize training opportunities. It is worth noting that 2.2% of the heads of households at Ngcayini identified the Constitution of Eswatini as their source of information regarding laws and policies governing the management of forest resources in the country (Figure 13). This is a crucial finding as it reveals that people take their time to read their country's constitution, which reduces the problem of ignorance of the law.

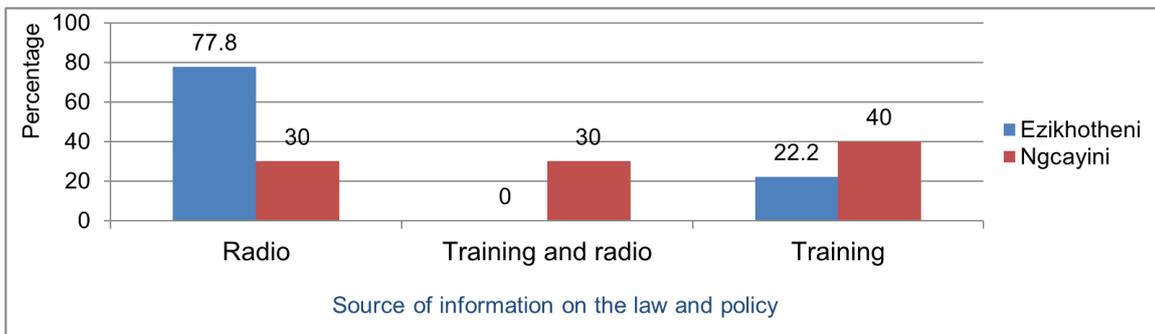


Figure 14. Ezikhotheni and Ngcayini community leaders' views on the source of information on the law and policy governing the management of forest resources in Eswatini.

When applying the chi-square (χ^2) test on the findings concerning knowledge on the laws and policies governing management of forests resources in Eswatini to establish the level of significance, yield a p value of 0.000 for the views of heads of households and a p value of 0.013 for the views of community leaders. These values depict a high level of significance in difference between the Ezikhotheni and Ngcayini chiefdoms regarding knowledge on the laws and policies governing management of forests resources in Eswatini.

Since knowledge of environmental policies and

legislations is gauged on actions towards the environment, the findings reveal that there were actions taken towards enforcement of the legislations. These include in-service training for Royal Eswatini Police Service (REPS), as well as raising awareness and fining offenders. In the in-service training, the REPS are specifically trained by Eswatini Environment Authority (EEA) on how to enforce environmental legislations. A classic example of enforcement is that of the EEA, which is already fining people who violate environmental legislations. Indeed, enforcement of environmental legislations is a mandate for EEA. These

findings are however, contested by Dlamini who argues that over exploitation of resources in Eswatini is catalysed by the combined factors of a lack of a land policy to provide overarching land management regulations; failure to enforce existing legislation; unsuitable land use patterns; poor environmental awareness countrywide which results in poor planning; lack of accountability on (Swazi Nation Land) SNL; conflicts over land resources; incapacity to integrate land use planning and landscape management [20].

3.3. Assistance from Organizations in the Governance of Forest Resources

Government organizations and Non-Governmental Organizations (NGOs) also assist community members in formulating rules governing the use of forest resources. For instance, *World Vision* collaborates with the community members on approving the stocking rate, rotational grazing, cutting and replacing of trees, and forest fire prevention; whereas *Conserve Eswatini* assists on specifying when and how to harvest natural resources on degraded land, as well as in protecting project sites from people and animals. Eswatini Environment Authority (EEA) plays a key role in formulating Community Development Plans (CDPs), as well as on formulating rules on how to harvest resources and which part to harvest as well as when to harvest to ensure sustainability. The Forestry Department emphasizes on ensuring that; all community members benefit from resources, and that Royal Kraals and the Forestry Department are involved when

harvesting and selling resources (Figure 15).

Besides assisting communities in formulating rules governing management of community forests and controlling land degradation, the organizations also educate communities on the environmental legislation governing management of the environment in the country. The environmental legislation on which they emphasize include: Environment Management Act (EMA) No. 5 of 2002, Flora Protection Act (FPA) No. 5 of 2001, National Forest Policy (NFP), Natural Resources Act (NRA) of 1951, Bio Safety Act, Strategy on management of Invasive Alien Plants Species (IAPS), Game Act of 1993, Litter and Stream Bend regulations, Swaziland Environment Authority Policy, Grass Fires Act, The Control of Tree Planting Act of 1972, as well as the Constitution of Eswatini (Table 1). Reasons advanced for emphasizing on these environmental legislations include to conserve and protect the environment, enhance resource and environmental management, as well as to ensure sustainable use of indigenous trees. Moreover, other reasons for emphasizing on these legislations are to control deforestation, forest fires, IAPS, and bio-trade in rare and protected plant species. It is important to note that, emphasizing on environmental legislation without enforcement is a fruitless effort; hence the organizations were probed regarding what is being done to ensure enforcement of the legislation. All the institutions except for *World Vision*, affirmed that there are actions taken regarding enforcement of the environmental legislation.

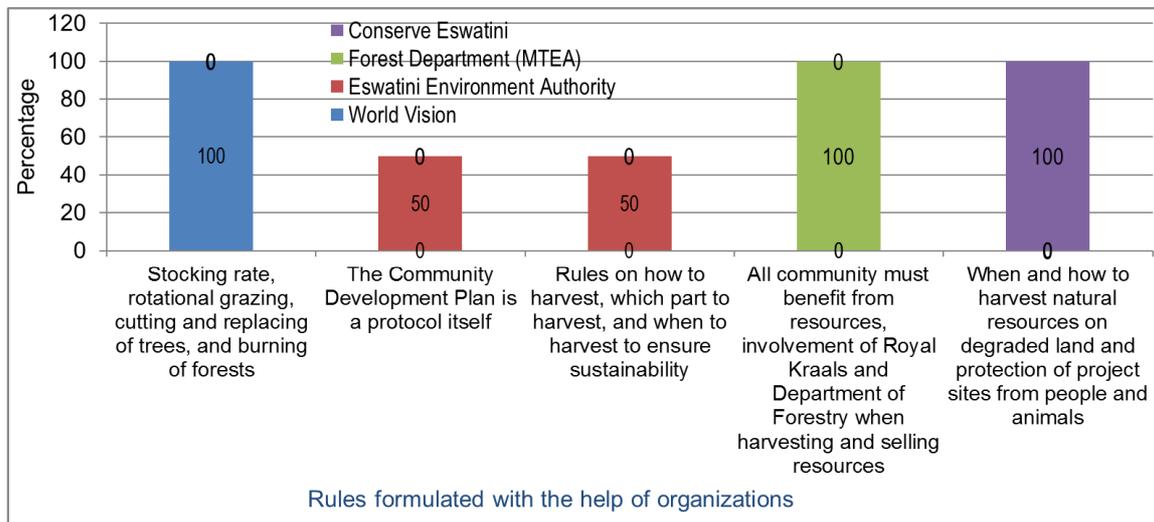


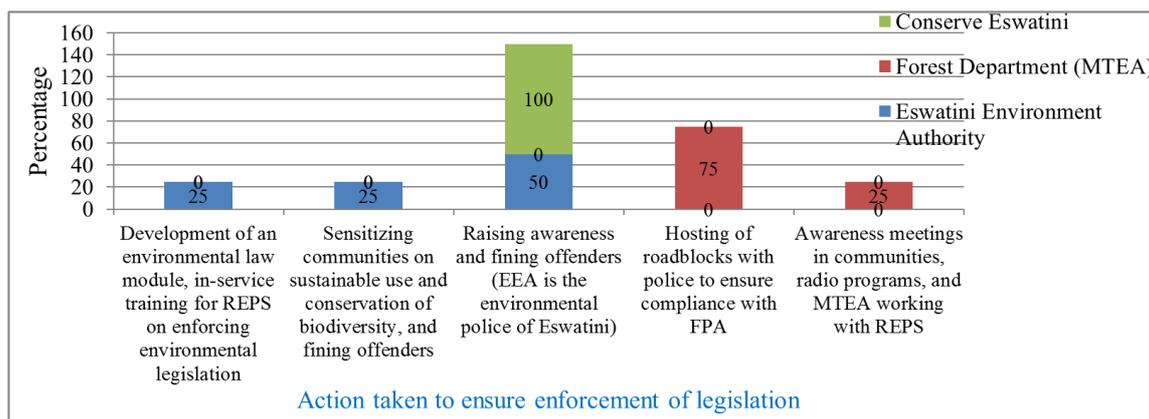
Figure 15. Rules formulated by communities members with the help of organizations working with communities on management of community forests and control of land degradation.

Actions taken by EEA include: development of an environmental law module, in-service training for Royal Eswatini Police Service (REPS) on enforcing environmental legislation, as well as sensitizing communities on sustainable use and conservation of biodiversity, and fining offenders (Figure 16). Moreover, EEA and *Conserve Eswatini* shared the same sentiments regarding raising awareness and fining

offenders (Figure 16). Notably, EEA is the environmental police of Eswatini. Furthermore, the Forestry Department enhances enforcement through; hosting roadblocks with Royal Eswatini Police Service (REPS) to ensure compliance with the FPA, raising awareness during community meetings, radio programs, and MTEA working with REPS.

Table 1. Environmental legislation and policies that communities learnt about, and organization that taught them.

Environmental legislation and policies	World Vision		Eswatini Environment Authority		Forest Department (MTEA)		Conserve Eswatini	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Swaziland Environment Authority Policy	1	100	0	0	0	0	0	0
EMA, FPA, NFP, Natural Resources Act, Bio Safety Act, Strategy on management of AIPs, Game Act, litter and stream bend regulations	0	0	4	100	2	50	1	100
Constitution of Eswatini, and FPA	0	0	0	0	1	25	0	0
FPA of 2001, Grass Fires Act, The Control of Tree Planting Act of 1972	0	0	0	0	1	25	0	0
Total	1	100	4	100	4	100	1	100

**Figure 16.** Actions taken by organizations to ensure enforcement of environmental legislation.

The study also investigated the number of officers responsible for enforcing environmental legislations in each organization, and it transpired that *World Vision* had 12 officers, whereas EEA had four comprising three directors and a legal advisor. The Forestry Department on the other hand, had six officers responsible for enforcing environmental legislation, while *Conserve Eswatini* had only two officers.

4. Conclusion

Management of community resources is essentially governed by rules such as seeking permission from community leaders to cut live trees as well as fruit and royal trees from natural forests. Other rules include purchasing resources in plantation-style community forests through community leaders. Failure to adhere to the rules attracts a fine from community leaders. This is solely done to control access to resources. Notably, royal tree species are customarily well protected where there is a Chief than where there is no substantive Chief. Nonetheless, access to resources in natural forests such as fuel wood and Non-Timber Forest Products (NTFPs) is free for community members, since they do not pay for them. Despite the free access, community members are as a rule expected to seek permission from community leaders to extract the resources. This is a strategy for controlling over-exploitation of resources and extraction by non-community members. In addition to complying with community rules, community members were also knowledgeable on the National Forest Policy and Environment Management Act. The main source

of knowledge on the policy and legislation was the radio.

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