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Securing Effective Stakeholder Engagement to Restore Indigenous Forests in Kenya, Africa: Gwasi Forest Case Study

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Abstract

Indigenous forests, crucial to society's environmental, social, and economic aspects, have become a focal point for stakeholders. However, these stakeholders often hold divergent perspectives. The key players in these initiatives include the community, government institutions, and non-governmental organizations with a conservation focus. The study was designed to propose effective strategies for stakeholder engagement in reforestation initiatives. To achieve this, the research employed a qualitative approach using the case study methodology. Additionally, the research adopted semi-structured interviews to gather the stakeholders' perspectives. The study's findings revealed a knowledge gap in community-led forestry projects. However, community-led initiatives demonstrated a promising potential for success compared to government- and non-government-led projects. This emphasized the need for enhanced collaboration between government, community, and non-governmental organizations. The study underscores the importance of enhancing the literacy levels of the stakeholders, adopting an integrated approach, and implementing community-led initiatives.

Keywords: Indigenous Forest, Gwasi Forest, initiatives, perspectives, and Effective Stakeholder Engagement

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1. Introduction

1.1. Background to the Problem

There has been an increased call for sustainable use of natural resources in Kenya, Africa. As a result, various stakeholders are continuously involved in conservation initiatives to ensure that the current generation uses natural resources sparingly. Indigenous forests are some of the natural resources that have attracted the attention of stakeholders from different sectors since these forests have come under pressure from the increased human population and the desire to develop. Indigenous forests exist naturally in a given location; therefore, they are a source of livelihood for local communities with native knowledge about the resources. In this context, the number of local communities dependent on the exploitation of forests has increased considerably over the past few years. This has triggered calls to enhance reforestation initiatives to protect the indigenous forests in Kenya.

Indigenous forests have been assumed to regenerate themselves, representing an inexhaustible wood potential. However, according to Ghazoul et al. (2015), forest resources are diminishing alarmingly due to human activities, yet they play an integral part in human livelihoods. The assertions are supported by a report from Kim et al. (2015) that indicates that 89% to 100% of forest loss in the African Congo Basin is caused by increased human accessibility of forests, massive collection of wood, increase in population, and small-scale agriculture. Additionally, a study conducted by Teucher et al. (2020) in Kenya showed that 27.8% of the indigenous forest loss experienced in the country was due to high demand for timber, charcoal, and agricultural products.

As a countermeasure to restore the forests, different stakeholders have supported reforestation programs to curb the loss. Although the programs intend to restore this crucial ecosystem, some initiatives have been unsuccessful as the forests degrade. This has raised concerns about the effectiveness of the initiatives since, despite numerous resources being allocated for the program, the deforestation of indigenous forests is high (Teucher et al., 2020).

While numerous reforestation initiatives exist, tree planting, forest conservation, adoption, and natural regeneration are the most common practices in Kenya, and they receive immense support from the public. According to Martin et al. (2021), reforestation through the planting of trees and natural regeneration are popular initiatives widely used in parts of Kenya, such as Kakamega, Mau, Mount Kenya, and Taita Hills. Additionally, the Kenyan government has intensified and increased funding and community involvement in the restoration of forests by planting trees in all parts of the country. For instance, spearheaded by the president himself, the government of Kenya aims to plant 15 billion trees by 2032 through an initiative dubbed

the Tree Restoration Program (Chelangat, 2022). The First Lady's office also adopted a section of Kakamega Forest to plant 500 million trees by 2032 (Kinyanjui, 2023). Moreover, different county governments, such as Homa Bay County, have mobilised the local community to participate in tree-planting initiatives to restore indigenous forests (2023). The inclusion of the community in the program has made them a vulnerable group as their livelihoods depend on the forest resources; hence, they are the first people to receive the impact.

At the community level, tree planting and natural regeneration have emerged as popular reforestation initiatives that attract many locals as they are easy to implement. Although there are numerous positives of engaging the community in reforestation, especially in terms of environmental aspects, the social and economic aspects the initiatives have on the community have not been widely researched. Additionally, there is potential for conflict to arise between the community and other stakeholders due to the difference in interests. It is, therefore, crucial to understand the viability of the initiatives to make recommendations for securing effective stakeholder engagement on reforestation initiatives used to restore indigenous forests in Kenya.

1.2. Justification for the Research

The purpose of this study is to recommend ways to secure effective stakeholder engagement on the reforestation initiatives used to restore indigenous forests in Kenya and Africa. Over the recent past, several organisations have delved into restoring the lost indigenous forest areas. As a result, many reforestation activities, such as tree planting and natural regeneration, have been taking place. The restoration of the indigenous forests has attracted the attention of international and local stakeholders such as the United Nations Environmental Program (UNEP) and national and county governments. However, the stakeholders have varied perspectives on the issues of reforestation initiatives, which can cause conflict due to differences in interests. Therefore, while the focus is given to the restoration of the indigenous forests by previous studies, there needs to be more knowledge about the impacts the initiatives have on the stakeholders and the effectiveness of the initiatives overall in moving toward sustainability. The broad topic of the environmental effects of reforestation on indigenous forests has been researched; however, little focus is given to the social and economic impact of the initiatives on the stakeholders. Instead, while acknowledging that the stakeholders can also be impacted, the focus is mainly on the ecological aspects of the initiatives.

As much as the focus is on forest ecology, more attention needs to be given to the stakeholders involved directly and indirectly in the reforestation initiatives. Understanding how the stakeholders are impacted leads to successful project delivery (de Siqueira et al., 2021).

Decades ago, stakeholders were viewed as only participants and not key decision-makers who influenced the outcome of a project. However, de Siqueira et al. (2021) state that "the strategical planning of restoration should not be restricted to academia, but a network of stakeholders." Therefore, it is essential to investigate and determine how the stakeholders are impacted or how they can be brought aboard to ensure the initiatives succeed.

Moreover, despite restoration initiatives attracting the attention of many stakeholders, it is unclear how the stakeholders can be involved to ensure that the initiatives become successful. Additionally, there are limited resources that demonstrate how stakeholders' empowerment and commitment to the reforestation programs can be achieved in both the short and long term. Therefore, the study is valuable as it seeks to unearth ways the stakeholders can be involved and recommend methods for securing stakeholder engagement.

1.3. Aim and Objectives

The research aims to give recommendations for securing effective stakeholder engagement on the reforestation initiatives used to restore indigenous forests in Kenya, Africa. The objectives are:

- To map and conduct stakeholder analysis of the reforestation initiative's beneficiaries and losers.
- To understand the economic, social, and environmental perspectives of the stakeholders.
- To examine the community's understanding of the reforestation initiatives as a means of restoring indigenous forests.
- To examine stakeholder perceptions of problems in implementing reforestation initiatives.
- To explore stakeholder views concerning the benefits and opportunities of the reforestation initiatives.
- To recommend actions for securing effective stakeholder engagement in the initiative to restore indigenous forests in Kenya.

1.4 Literature Review

1.4.1 Benefits of Reforestation as an Initiative to Restore Indigenous Forest

According to Brancalion et al. (2019), despite the reforestation initiative displacing the locals, the initiatives can enhance the sustainable livelihoods of the community because of the initiative's capability to restore the hydrological environment. Despite most indigenous forests being categorised as evergreen forests due to the extent of rainfall they receive, forest degradation has made the rains unreliable. Brancalion et al. (2019) illustrate that reforestation of indigenous forests minimises the siltation of water bodies and soil erosion; it also enhances

the recharge of the water table and aquifers. As a result, it makes water, an essential commodity, available for the local community as the water table is quickly recharged. Therefore, the community's livelihoods are greatly enhanced as the community spends less funds on getting water, an essential commodity.

Based on Di Sacco et al. (2021), reforestation initiatives encourage community engagement and offer employment diversity. For a successful reforestation initiative, community members should be involved from planning to implementation. Through engagement, the community members are on the project and actively participate in the initiative. This implies that new job opportunities are offered to the locals, hence diversifying employment in the region. Moreover, through engagements, the sharing of knowledge and information is enhanced, and the community's well-being is also increased. This provides an opportunity for the community's economic sustainability, and forest sustainability increases as the locals acquire information about the importance of conserving the forests.

1.4.2 Adverse Impacts of Reforestation as an Initiative to Restore Indigenous Forest

Based on Brancalion and Chazdon (2017), although reforestation initiatives are meant to recover the lost forest cover and enhance soil fertility and hydrological cycle, the initiatives often adversely affect the livelihoods of the stakeholders, such as the locals. For instance, according to Brancalion and Chazdon (2017), community members often use degraded land to establish cattle ranches. However, restoring these areas requires the ranches to be relocated to create space for restoration interventions. Moreover, the local community members who may have settled in the cleared parts of the forests may be displaced or forced to relocate to other areas regarded as inhabitable. Additionally, the reforestation initiative of tropical forests may cause a conflict of interest among the local and international stakeholders. Since indigenous forests are a sensitive component of the environment, they attract the attention of international stakeholders such as the United Nations Environmental Program. As a result, Brancalion and Chazdon (2017) demonstrate that international stakeholders can have a global perspective on restoring the forest to mitigate climate change. The local stakeholders, such as the community members, can, however, have the perspective of a source of fodder and firewood for the locals. In other words, reforestation as an initiative can create a loss of livelihoods.

The assertions are also supported by Brancalion et al. (2019), who illustrate that reforestation initiatives displace a large population of people, especially in populated areas. As a result of the displacement, land opportunity costs decline. This, therefore, implies that the investors shy away from investing in the local community as the value of their investments

diminishes. Moreover, the community's local economy is wholly interrupted because some people may rely solely on land sales as an economic income. Brancalion et al. (2019) further stress that agricultural lands have high opportunity costs, attracting more investors who can develop different initiatives to raise the locals' living standards. However, reforestation initiatives deprive the community of such benefits as they are required to relocate from the areas that are to be reforested.

According to Holl (2017), the reforestation of indigenous forests requires the large-scale planting of trees. As a result, intensive capital resources are needed to meet this large-scale demand. However, due to insufficient funding for reforestation activities, most forest management organisations have resorted to having tree nurseries to minimise the cost (Holl, 2017, p. 243). Moreover, Wang et al. (2013) demonstrate that tree nurseries are composed of species that mature fast and can be logged to offset the costs. The introduction of such tree nurseries, however, can adversely affect the community that depends on the forest. For instance, Kituyi et al. (2018) assert that introducing Bischofia javanica in Kakamega Forest spread to other areas, establishing plant dominance in the forest. Although the tree species enhanced their evenness, it lowered the species diversity in the woods. As a result, the local community that depended on products from the initial forest composition was affected since they lost their source of livelihood. Furthermore, the national and international stakeholders who initiate the restoration initiative can be vilified as people lose trust in their actions (Holl, 2017). This can create tension between government-led initiatives and local community actions.

Furthermore, Elliott et al. (2023) demonstrate that reforestation initiatives involve intensive capital, which may fail to yield the expected return. At times, it changes the social-cultural aspect of the community. Since reforestation initiatives are often carried out on a large scale, enhanced management activities are usually undertaken. In addition, the financial constraints associated with the large-scale plantation of trees often lead to poor maintenance of the resources. For instance, Elliot et al. (2023, pg. 1) demonstrate that large-scale planting leads to neglect, as there needs to be more fertiliser application and post-planting weeding. This implies that the amount invested in the project may yield little results.

2. Material and Methods

2.1 Material

Google Earth Software

2.2. Methods

Due to the complexity of the issue under investigation, such as securing stakeholder engagement, case study methodology was used to understand the social, economic, and environmental impacts instigated by the reforestation initiatives to restore indigenous forests in Kenya. As a result, the empirical data was collected by semi-structured interviews.

2.2.1. The Case Study Method

In the context of this research, the case study seeks to unearth how the stakeholders are impacted by initiatives adopted to restore indigenous forests. The research method helps answer the questions of how and why stakeholders are affected in the context of implementing reforestation initiatives to restore indigenous forests in Kenya, Africa. The group involved in the study are people directly associated with the Gwasi Forest in Homa Bay County.

2.2.2. Research Techniques Selected

The research technique used semi-structured interviews to collect data. The technique facilitated the collection of data from expert knowledge and the insights of stakeholders. Semi-structured interviews enabled the interviewer to ask stipulated questions while also allowing the interviewee to provide insight into the issue being investigated. The answer provided by the interviewee was then explored further with a set of probing questions, which enabled the interviewer to understand the case being studied in detail (Adams, 2015). In other words, it is an open-ended interview where the respondent is allowed to answer questions in their own words and free from having to respond formulaically or be guided and constrained by categories of thought suggested by the interviewer. According to Adams (2015), semi-structured interviews have the merits of both structured and unstructured interviews, which makes the technique effective in obtaining reliable data. Despite the merits associated with this research technique, it also has an array of demerits. Adams (2015, pg. 493) states, "Semi-structured interviews are time-consuming, labour intensive, and require interviewer sophistication." Additionally, this technique sometimes requires intensive analysis of vast volumes of notes and transcription. These limitations are, however, experienced mainly where there are many interviewees.

Therefore, a few key stakeholders are needed to overcome these limitations. In this case, stakeholders with experience in forest reforestation were involved. The stakeholders included in the interview included the Gwasi forest manager, one representative from the CFAs, CBOs, and NGOs present, the area chief, and a few permanent residents of Suba Sub-county.

2.2.3. Area of the Case Study

The case study was undertaken in the County of Homa Bay. According to the population census taken in 2019, Suba Sub County had a population of 122,383 based on the 2019 census, and it occupies an area of 634.1 km² (KNBS, 2019). Therefore, for the purposes of this study, the stakeholders were grouped into three main categories: local community, government institutions, and non-governmental organizations or community-based organizations. This helped to determine how each group was impacted. The stakeholders are distributed in a study, as illustrated in Figure 1.

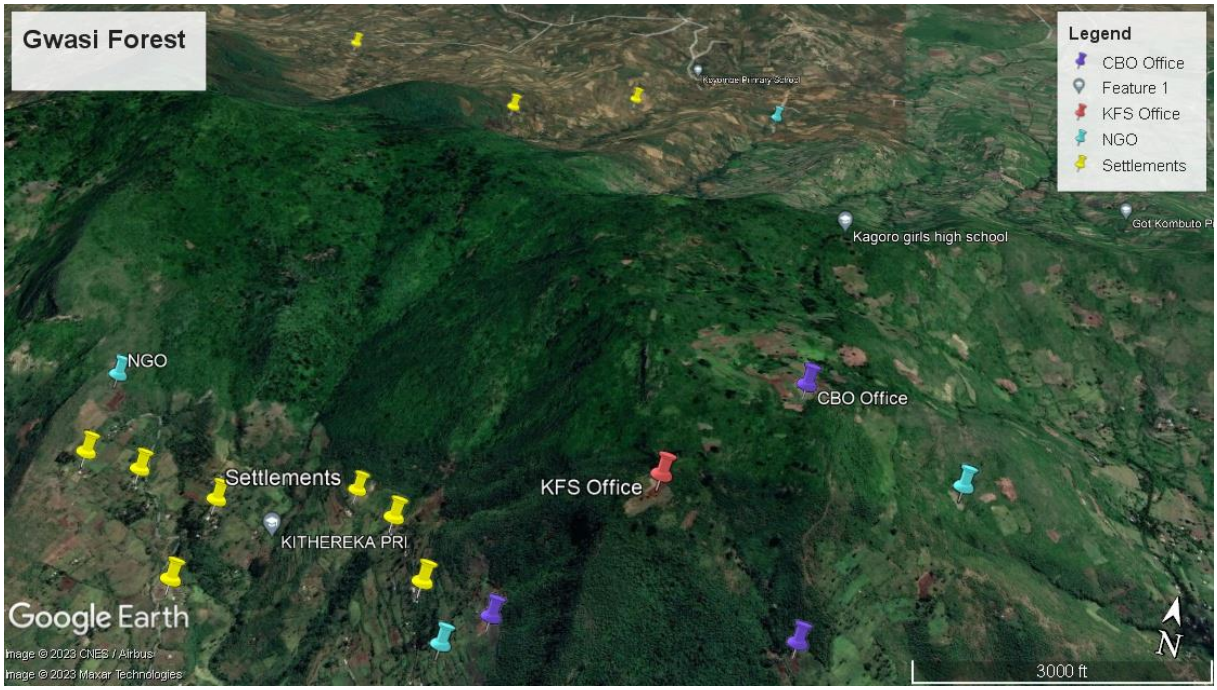

Figure 1: The Stakeholders in the Gwasi Forest Reforestation Initiatives (Source: Google Earth)

The yellow pins in the figure above identify the local community that directly or indirectly participates in restoration initiatives. The government entities are those institutions created by the government to manage the forest, and the red pins represent them. However, NGOs have been at the forefront of promoting reforestation initiatives in the forest. The NGOs are represented with cyan pins.

3. Results

3.1 Data Collection

Eight participants were interviewed during the research. Six were interviewed using English language, while two were interviewed using the local Dholuo language. Those interviewed

using English were the representatives from the government, CBOs, and NGOs, who were mainly educated and well-informed. Table 1 below shows some raw data from the interviews.

Interviewee	Stakeholder Category	Response
Area Chief	Government	• Gwasi forests are currently being restored using tree plants and natural regeneration. Some initiatives, such as forest adoption, are also used in some parts. • Reforestation has enhanced livelihoods for the community. • The government allocate financial resources to conserve the forest.
Village Elder	Community	• Only the government regularly plant trees around this area. • Our views are rarely considered when implementing activities started with NGOs and national and county governments. • The activities have created a vibrant economy as we sell our commodities, such as foodstuffs, to the community.
GFSI General Manager	NGO	• We try to create public awareness by organising annual meetings with the community. • Reforestation activities are working, though the community still lacks the technical know-how of some methods used to restore forests. • Reforestation initiatives employ the community members either directly or indirectly.

***Table.* 1. Raw Data From The Interviews Conducted**

3.2 Data Analysis

3.2.1 Demographic Composition

The socio-economic composition of the study population, such as the educational level, age, and tenancy, was investigated to determine the nature and insight into the study sample. A total of eight participants were interviewed. This included three (37.5%) residents who represented the community, two (25%) government representatives, and three (37.5%) representatives of non-governmental entities. Of the eight participants, one (12.5%) was female, while seven (87.5%) were males. The participants were grouped into children (<17 years), youths (18 – 35 years), and elderly (>35 years). However, all the participants were between 36 to 55 years of age. Above all, all the participants (100%) had acquired primary and secondary formal education. Four (50%) participants had secondary education, while the other four (50%) had tertiary education. All the participants were either residents of the area or had organizations that had existed there for more than five years. Six (75%) of participants had permanent residency in the area, while two (25%) came to the area because of work. The participants (100%) were primary stakeholders in the reforestation of Gwasi Forest, as illustrated in Table 2.

Socio-Demographics											
Stakeholders (N = 8)			Residency (years of existence)	Gender (N = 8)		Education level (N = 8)			Age Group (N = 8)		
				Male	Female	Primary	Secondary	Tertiary	<17 yrs	18 -35 yrs	>35yrs
Community	37.5 %	Village elder Residents	>5 years	87.5%	12.5%	0%	50%	50%	0 %	0%	100%
Government Institutions	25%	Area Chief KFS Represe-ntative	>5 years								
Non-governmental Institutions	37.5 %	NGOs CBOs CFAs	>5 years								

Table 2: Demographic Composition

3.1.1. Knowledge of The Existing Initiatives Adopted to Restore Gwasi Forest

Types of Existing Initiatives

Of the eight respondents, seven (87.5%) identified replanting and natural regeneration methods. However, only one (12.5%) respondent identified natural regeneration as an initiative for reforestation. This makes tree replanting the most popular type of initiative among the stakeholders. Although natural regeneration was also a popular initiative, it was popular among the seven experienced stakeholders (87.5%). Despite this discovery, the knowledge of types of reforestation initiatives was excellent, as all (100%) interviewees had an idea of one of the initiatives used to restore the forest, as illustrated in Figure 2 below.

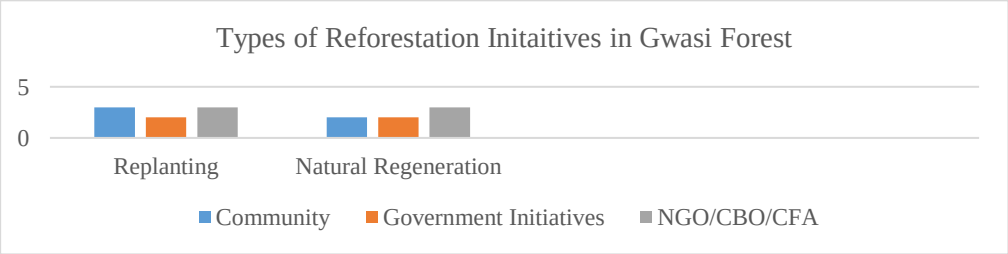

Figure 2:. Types of reforestation initiatives in Gwasi Forest

Initiators of the Initiatives

All the respondents interviewed identified restoration initiatives that were later grouped into three categories: government, community, and non-government-led initiatives. Three (37.5%) respondents representing the community were only familiar with the government-led and NGO-led initiatives. One of the respondents stated that "*only governments regularly plant*

trees around this area." The five (62.5%) respondents representing the government and the NGOs were familiar with all three categories of initiators of the reforestation programs in Table 3.

Stakeholders	**Number of respondents (N = 8)**	**Leaders of the reforestation initiatives**		
Community	3	Government-led		
Government	2	Government-led	Community-led	NGO-led
NGOs	3	Government-led	Community-led	NGO-led

Table 3: Initiators of Reforestation Initiatives

According to the respondents, government-led initiatives were the most popular among the stakeholders, as all interviewees identified them, as stated in Table 3 above. All the stakeholders identified government-led initiatives as the common practice in restoring the Gwasi Indigenous Forest. However, only interviewees representing government and NGOs identified community and NGO-led initiatives as methods of restoring the forests, as indicated in Figure 3.

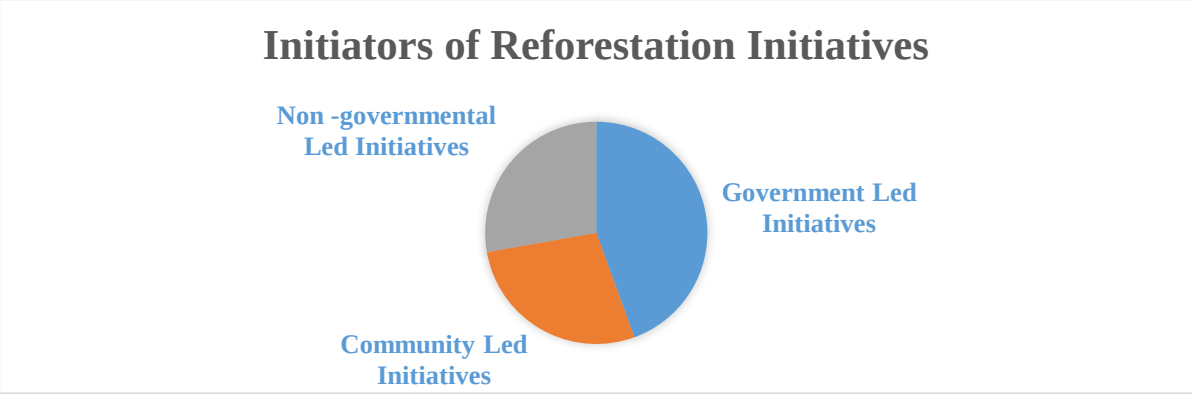

Figure 3: Initiators of Reforestation Initiatives

3.1.2. The Impacts 0f Reforestation Initiative on The Stakeholders

Respondent responses regarding the impact of reforestation initiatives revolved around the issues of the types of impacts, nature of effects, and understanding the interactions of the impact with stakeholders is illustrated below.

	Types of Impacts			Nature of Impacts		Understanding the Interactions of Impacts With Stakeholders		
	Social	*Economic*	*Environmental*	*Positive*	*Negative*	Local Community	Government	NGO/CBO /CFA
Impacts of Reforestation Initiatives on Stakeholders	Enhance conflict	Create employment	Enhance hydrological system	- Promotes education and training. - Enhance livelihoods. - Create employment. - Enhance local money circulation. - Promotes economic diversification. - Enhance vegetation cover. - Environmental conservation. - Enhance biodiversity.	- Enhance conflict. - Displacement and migration of people. - Financial intensive. - Promotes health issues	***Positive*** - Literacy levels enhanced. - Improved social livelihoods. - Job opportunities - Enhanced local economy. - Enhanced natural resources. - Environmental conservation ***Negative*** - Conflict creation - Displacement and forced migration. - Health issues	***Positive*** - Source of revenue - Improved vegetational cover - Enhanced biodiversity ***Negative*** - Increased conflict - Resource intensive	***Positive*** - Increased financial resources. - Improved vegetational cover - Job creation - Enhanced environmental sustainability. ***Negative*** - Conflicts - Resources intensive
	Causes displacement and migration	Enhances local money circulation	Enhance vegetation cover					
	Promotes education and training	Economic diversification	Environmental conservation					
	Enhance livelihood	Requires financial resources	Enhance biodiversity					
	Promotes health issues							

Table.4. 4. The Impacts of Reforestation Initiatives on the Stakeholders

Types of Impacts

Although the respondents did not categorize the impacts, the researcher grouped the responses into three main categories: social, economic, and environmental, as indicated in Table 4.4. The researcher then listed impacts in each category and calculated the percentage of each category. Based on the list, the researcher identified social impacts as common since it had five impacts (38%). However, only four impacts (31%) were associated with the economic and environmental aspects, as illustrated in Figure 4 below.

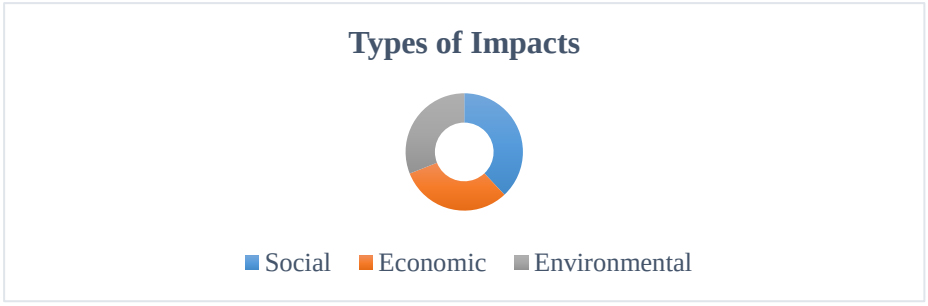

Figure 4: Types of Impacts

Nature of Impacts

The nature of the impacts was also determined when the respondents were asked to identify the nature of the impacts they experienced. Although the respondents identified several positive effects, there were also negative impacts associated with reforestation initiatives, as indicated in Figure 5 below. Of the feedback provided by the respondents, eight (67%) represented positive impacts, while four (33%) were negative feedback.

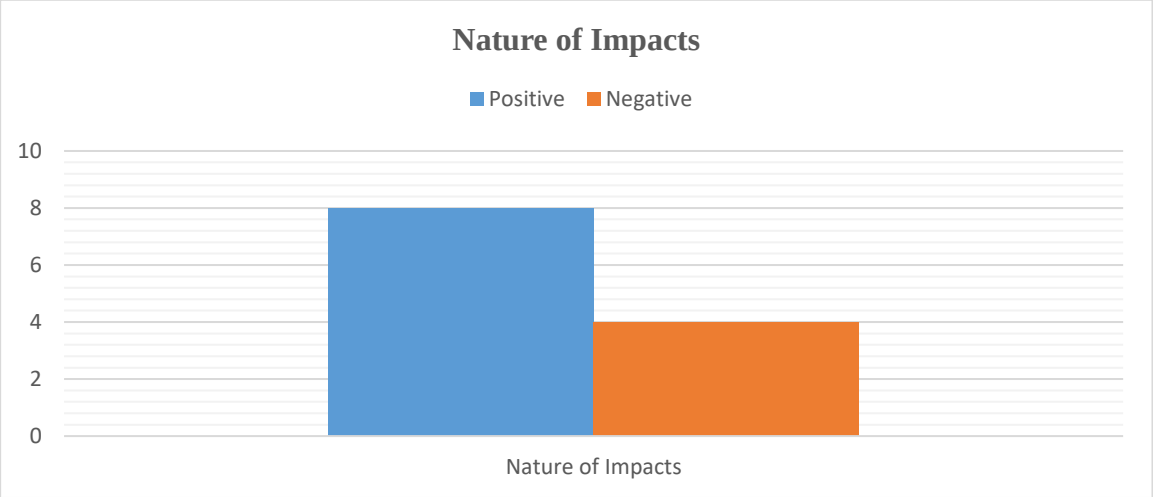

Figure 5. Nature of Impacts

Understanding The Interactions of Impacts With Stakeholders

The interaction of impacts with stakeholders is critical as it links stakeholders and the initiatives adopted to restore indigenous forests. In this context, impacts are regarded as experiences that stakeholders encounter when implementing reforestation initiatives. Therefore, the key stakeholders, community, government, NGOs/CBOs/CFA, had various experiences with the impacts. This implies that every stakeholder was impacted differently, as illustrated in Figure 6 below. The beneficial interactions with the stakeholders were considered positive, while those with adverse effects were regarded as negative. The local community had six (67%) positive interactions, while three (33%) had negative results. However, an interaction of impacts with the government yielded three (60%) positive and two (40%) negative results. Finally, an interaction with NGOs/CBOs/CFAs produced four (67%) positive results, while negative interactions yielded two (33%).

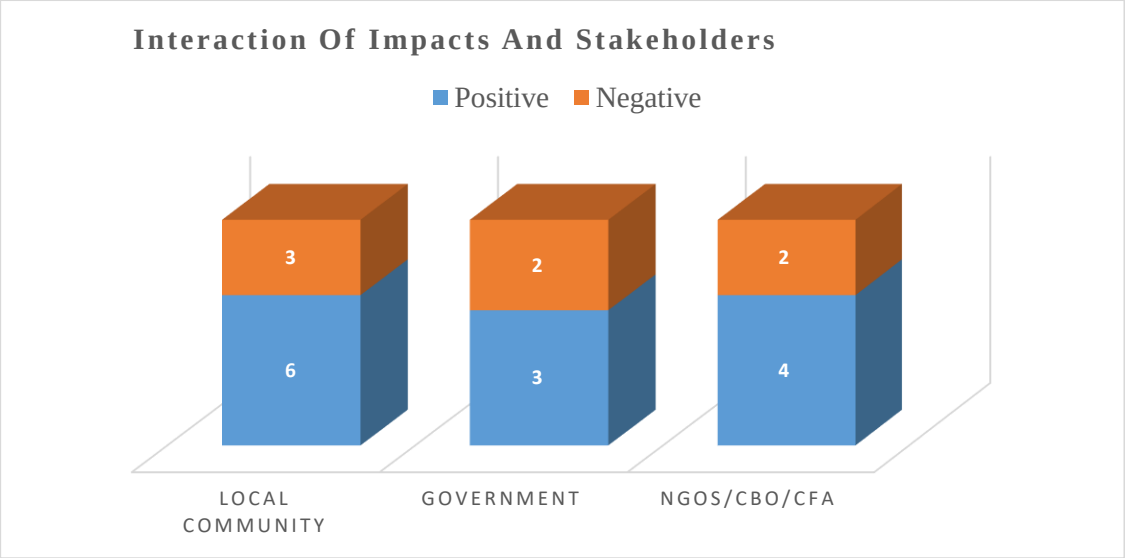

Figure 6. Interaction of Impacts and Stakeholders

3.1.3. Proposed Initiatives

The respondents suggested that stakeholder engagement processes required streamlining around the issues of natural regeneration, tree replanting, forest adoption, nature trees, and forest conservation, as indicated in Figure 4.6 below. The initiatives were proposed based on the stakeholders' popularity and acceptance levels.

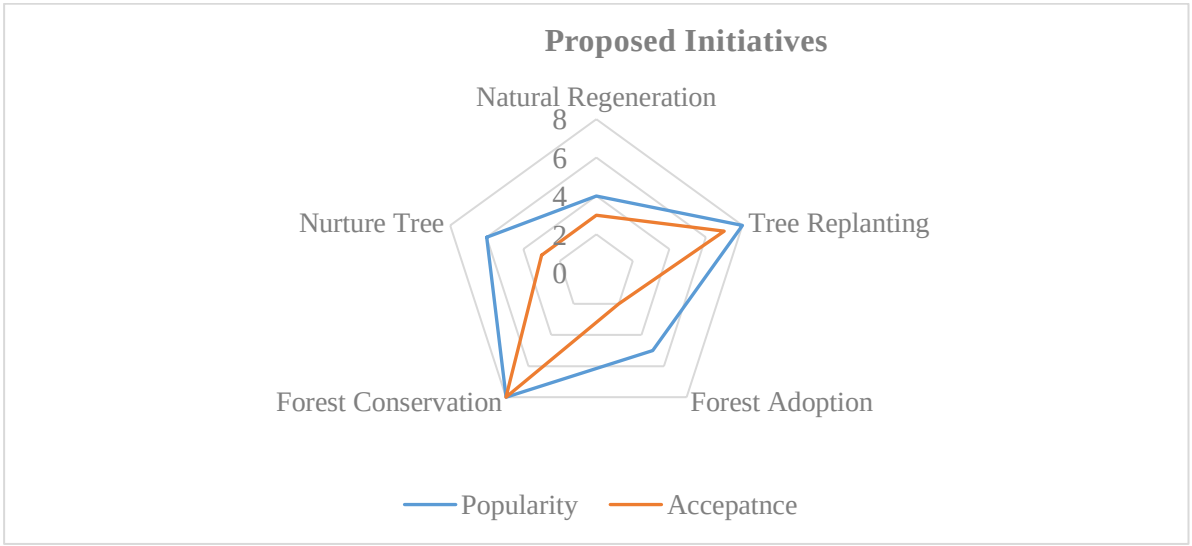

Figure 4. 1. Proposed Initiatives

Natural Regeneration: The interviewees reported that letting the forests regenerate naturally was a significant issue. This was associated with relocating the people from the forested areas and educating the public on the importance of letting the forest lands grow by

themselves. Natural regeneration was fairly popular among the respondents as it was proposed by four (50%) of the eight interviewees. However, it had a low acceptance level since it was only accepted by three respondents (37.5%). The community members ' lack of knowledge of natural regeneration was the leading cause of the initiative's lowered popularity and acceptance rate.

Tree Planting: This is the most popular initiative, as proposed by all eight (100%) interviews, as the appropriate method to restore indigenous forests. It also had high acceptance levels of 87.5% (seven out of eight respondents). All the stakeholders were active members of tree-planting programs. As a result, they associated with the program and regarded it as a viable program that could be successful if correctly implemented by involving all the stakeholders. However, the respondents acknowledged that it required intensive resources, especially labor. It also needed enhanced public awareness through advocacy since the initiative created a feeling of boredom among the community members and the primary stakeholders.

Forest adoption: This is where the community or other stakeholders claim ownership of a section or an entire forest to conserve the adopted area. Five (62.5%) of the respondents proposed the initiative, making it popular. However, it was only accepted by two (25%) of the respondents. The low acceptance rate was mainly attributed to low awareness of the initiative and the intensive resources required to implement the initiative. The initiative required a clan living near the forest to adopt a section of the forest to preserve the area.

Forest Conservation: The stakeholders illustrated this as an initiative where the forest resources are used sparingly, such as cutting trees. This initiative was popular among the respondents. It was also widely accepted, and eight respondents (100%) of the interviewees provided positive feedback regarding the initiative.

Nurture Tree: It is described as an initiative where individuals plant and nurture trees until maturity. This activity is mainly performed to commemorate important events, such as birthdays and deaths. Individuals celebrating the event plant a specified number of trees, and they monitor the trees' progress until they reach maturity age. The Nurture Tree Initiative was popular among six (75%) respondents, and three (37.5%) interviewees accepted it. The local community, the CFA, and CBOs widely used the initiative. Even though the respondents recorded that the initiative had a high success rate, they acknowledged that it was time-consuming and had minimal impact on the environment since only a few trees were planted and nurtured to maturity.

4. Discussion

Effective stakeholder engagement is essential in implementing a successful reforestation initiative. The study's findings unearthed important areas that can be used to fulfil the research objectives, as illustrated below.

4.1. Stakeholder Analysis and Beneficiaries and Losers

Successful reforestation initiatives require an integrated approach where all the stakeholders are involved. As a result, the study found that community, government, and non-governmental organizations are the primary stakeholders in initiating reforestation initiatives, and they are impacted directly or indirectly. Therefore, they should work collaboratively to restore indigenous forests. Notably, the study found that all the stakeholders were beneficiaries and losers of the initiatives. These findings are supported by de Jong et al. (2021), who illustrate that reforestation initiatives of the indigenous forests impact all sectors of society equally. However, the community had more benefits than the government and non-governmental organizations.

4.1.1. The Economic, Social, and Environmental Perspectives of the Stakeholders

The study revealed that the primary stakeholders involved in the reforestation of the indigenous forests have diverse perspectives regarding the economic, social, and environmental aspects of initiatives adopted. In terms of financial aspects, the communities view the initiatives as a source of employment and diversification of their local economy. The government, however, regards the initiatives as generating national revenue. The NGOs view the initiatives as a source of finance and job creation. Nevertheless, the findings indicated that all the stakeholders had similar perspectives on the social and environmental aspects. Osborn et al. (2015) affirmed the findings by indicating that although stakeholders are distinct, they have universal opinions regarding reforestation programs. However, results from Lazos-Chavero et al. (2016) contradict this analogy by showing that stakeholders have different views on reforestation programs since they are impacted differently.

4.2 The Community Understands of the Reforestation Initiatives as Means of Restoring Indigenous Forests

The study showed that the community was well conversant with the reforestation initiatives such as tree planting, tree naturing, and forest conservation. However, they needed more knowledge on forest adoption and natural regeneration. Therefore, communities should be subjected to training on diverse reforestation initiatives. This finding is supported by a study conducted by Sattayapanich et al. (2022), which illustrates that when communities are equipped

with knowledge, they tend to be aware of their surroundings and conserve it for future generations.

4.3. Stakeholder Perceptions of Problems in Implementing Reforestation Initiatives

Based on the stakeholders' perceptions, the study indicated that conflicting views, inadequate knowledge, and inadequate finances are the main challenges affecting the implementation of the reforestation initiatives. These challenges can, however, be overcome through an integrated approach. Additionally, stakeholder conflict decreases when they work together. The assertions are supported by Brancalion and Holl (2020), who demonstrated that despite the severity of the challenges experienced when implementing reforestation initiatives, they can be solved by working together since every stakeholder has its weaknesses and strengths.

4.4 Stakeholder Views Concerning the Benefits and Opportunities of the Reforestation Initiatives

Reforestation initiatives benefit the stakeholders in different ways. These assertions are supported by the research's findings, which showed that the community, the government, and the NGOs benefitted from the programs. The results show that the community's economic and social livelihoods, as well as knowledge of technical processes, increase. The government, however, benefits from the initiatives by generating revenue and improving community-government relationships. The NGOs, however, benefit from the initiatives as a source of income to finance their activities and as an employment opportunity. In general, all the stakeholders benefit from the initiatives in one way or another. The discovery is supported by research conducted by Castro (2021), which concluded that despite some stakeholders being impacted negatively by some reforestation initiatives, overall, the benefits outweigh the demerits.

The reforestation initiatives, however, have an opportunity to promote public participation. According to the study, government-led initiatives are the most popular, followed by community and NGO-led initiatives. This, therefore, creates an opportunity for the government to engage the community and other stakeholders through public participation. These findings are supported by the evidence from Kiss et al. (2022), which indicated that government-led initiatives should be subjected to public scrutiny through public participation to raise the level of acceptance from the community.

4.5 Recommendation of Actions for Securing Effective Stakeholder Engagement in the Initiative to Restore Indigenous Forests in Kenya

Based on the study's findings, three main recommendations stand out: improving the integrated approach, enhancing education and training, and promoting community-led initiatives.

According to the study, stakeholders often experience conflict from different perspectives when implementing the initiatives. Although government initiatives are the most popular, they are prone to resistance from the community. The opposition is mainly linked to the weak integrated approach. Therefore, a robust integrated system is recommended where all the stakeholders are fully involved and own the program. This aligns with the findings of Chazdon (2019) in their research Towards More Effective Integration of Tropical Forest Restoration and Conservation.

Enhanced education and training are also crucial recommendations based on the study's findings. The literacy levels, especially among the community, are very low. Therefore, this makes it difficult for initiators to promote their programs as there is a lack of adequate personnel to assist in the implementation. For instance, the study revealed that the community was unaware of community-led reforestation initiatives, yet they are the primary stakeholders. Therefore, through interrogation of the findings, it is recommended that all stakeholders, especially the local community, be educated and trained to enhance levels of awareness. This finding is supported by the results of Evans et al. (2018), which highlighted that awareness creation through training and education of the local community is critical to the successful implementation of a project within the community.

Finally, based on the study's findings, effective stakeholder engagement can be secured by promoting community-led initiatives. Therefore, it is recommended that community-led initiatives be promoted to attract more members to participate in reforestation programs. Community-led initiatives will allow the community members to own the program, hence attracting their full participation. The findings, however, contradict the research conducted by Ota et al. (2020), which indicated that government-led initiatives are likely to succeed owing to their enormous financial and skilled human resources.

5. Conclusions

The study has indicated that successful stakeholder engagement on matters concerning the reforestation of indigenous forests is possible. The primary stakeholders: community, government, and non-governmental organizations, are beneficiaries and losers in equal measure

when implementing reforestation initiatives to restore indigenous forests. The initiatives' social, economic, and environmental aspects impact the stakeholders differently. Indeed, stakeholder engagement is critical to the success of reforestation initiatives. However, an integrated approach should be adopted, incorporating all the stakeholders into the initiatives. As a result, further research may be needed to explore how this might be achieved. This can help minimize conflict as all the stakeholders' perspectives can be considered.

Additionally, the research aimed to propose recommendations for securing effective stakeholder engagement when implementing the reforestation of indigenous forests in Kenya. Based on the research findings, the primary data supports the secondary data in proposing recommendations for enhancing stakeholders' knowledge of technical processes surrounding reforestation, adopting a collaborative approach where all stakeholders work together with a common goal of ensuring that the reforestation initiatives are implemented successfully, and enhancing community-led initiatives.

The primary and secondary data indicate that community members, primary stakeholders in the reforestation of indigenous forests, lack knowledge of the critical technical processes that are useful in implementing reforestation initiatives. As a result, their views can be overlooked by other stakeholders, such as the government and NGOs, who may feel entitled to take the lead in the initiative. Equipping the community members with technical knowledge makes them actively participate in the project, enhancing its successful implementation. Based on the study findings, a collaborative approach where the stakeholders work together with a common goal is critical to securing effective stakeholder engagements. Through an integrated and collaborative approach, the stakeholder works together where all their perspectives are considered when implementing the projects. Moreover, promoting community-led initiatives ensures that reforestation initiatives are given a local-based solution spearheaded by the community, enhancing effective stakeholder engagement.

5.1 Future Direction

This study proposed three main recommendations that are not widely used when restoring indigenous forests. However, more studies should be conducted in this area to propose additional recommendations. Additionally, the study mainly adopted a qualitative approach to produce results. In the future, researchers should adopt the quantitative approach to gain more insight into the issue and complement the qualitative research with an exploration of quantitative dimensions of the situation.

5.2 Implications of the Research

The research is valuable in exploring what makes for successful collaboration between stakeholders in important environmental management matters. For several years, reforestation initiatives have solely been left to the government, especially in the Kenyan context. As a result, conflict has always occurred, especially when the government implements reforestation initiatives. The study has shown how various stakeholders can be engaged to enhance the successful implementation of reforestation initiatives.

Additionally, the implications of this research apply to all African countries that seek to restore their dwindling forest cover. They can all benefit from the recommendations of this study because of the similarities in the culture and nature of forests. However, since only one region was covered in the research, the findings may offer a general recommendation that may not reflect the true situation in other areas. Nevertheless, the recommendations are valid and offer a general view that allows the comparison of Gwasi Forest with other forests in Kenya and Africa.

Moreover, other scholars can use the research to offer insight into the issue for future studies. The findings can be compared with other studies to determine if the results corroborate, ensuring that effective recommendations for the issue are made.

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