



## **Analysis of stakeholder's perspectives towards conservation of Volcanoes National Park, Northern Province, Rwanda.**

Concorde NSENGUMUREMYI, Kampala International University (KIU), Maria MBATUDDE, Kampala International University (KIU),  
Festus MANIRIHO, University of Rwanda- College of Agriculture, Animal Sciences and Veterinary Medicine (UR-CAVM). Email; [nsecorde@gmail.com](mailto:nsecorde@gmail.com)

**Abstract:** The management and sustainable use of Protected Areas Management Policy in Rwanda is of great interest to many stakeholders. This study was conducted from May to July, 2016 to find out local communities and other stakeholders perceptions towards co-management of Volcanoes National Park (VNP). The sample size of the study was 81 respondents including neighbouring rural community from two sectors that depend on using VNP usually illegally and the key respondents from institutions and local leaders whose resources assist the VNP management. The findings indicated that stakeholders have different perspectives on co-management of VNP. Some of interviewed farmers showed negative attitude where they are not willing to perform agriculture on their lands because of crop destruction by wild animals from the park. Both level of synergy and approaches used were moderate by the scale used. The study findings indicated that there is no relationship between stakeholder's perspectives and co-management of VNP ( $r = 0.145$ ,  $P > 0.05$ ). It was noted that stakeholders express various challenges such as lack of enough alternative solutions to the problems met by rural community. There is a need to formulate Park-people policy guidelines that will define roles of local stakeholders in protected area activities and programs.

[Concorde NSENGUMUREMYI, Festus MANIRIHO. **Analysis of stakeholder's perspectives towards conservation of Volcanoes National Park, Northern Province, Rwanda.** *Nat Sci* 2023,23(8):38-47]. ISSN 1545-0740 (print); ISSN 2375-7167(online). <http://www.sciencepub.net/nature> 05.doi:[10.7537/marsnsj210823.05](https://doi.org/10.7537/marsnsj210823.05).

**Keywords:** Stakeholders; co-management; Volcanoes National Park, Rwanda.

### **1. Introduction**

Searching for viable and sustainable strategies of wildlife conservation in developing countries, which are typically rich in biodiversity, traces back to the times when the fence and fines approach, also known as American National Park model, was commonly being applied (Borrini-Feyerabend, et al.,1996). This led to the establishment of protected areas and reserves which did not condone wildlife consumptive utilization and entailed high management costs for governments, with majority of the benefits not count to local communities. To enhance the biological integrity of the parks, this model has been adjusted to the more attractive protected areas outreach model which encourages working and educating local communities about the benefits of wildlife conservation and sharing with them some benefits (Barrow and Murphee, 2001).

Centralized, top-down resource management is ill-suited to user participation, and it is often blamed for the increased vulnerability of resource dependent communities worldwide (Zerner 2000; Colfer 2005). In response, co-management arrangements have emerged to secure an expanded role for stakeholder and community participation in decision making. The co-management approach seeks to create negotiated agreements between the protected areas 'managers and

other interest groups, including local resource users. However, in the case of co-management, the extent of the arrangement is rather complex due to its multiplicity in participation as well as governance attributes i.e. accountability, transparency, fairness and lead (Hilhorst and Aarnink 1999; Borrini-Feyerabend et al., 2000). Though co-management can positively contribute towards successful achievement of goals of conservation and socio-economic development, co-management arrangements cannot be effective without an enabling political framework and favourable government policies. A strong political support and enabling policies would particularly create incentives for the local resource users to participate fully in management partnerships and afford them protection from powerful outsiders (Borrini-Feyerabend et al., 2000).

The management and sustainable use of Protected Areas Management Policy in Rwanda is of great interest to many stakeholders. Human-wildlife conflicts constitute one of the most serious threats to the continued survival of Rwanda's National Parks. Participation and partnerships are becoming increasingly important for wildlife management, and is an important pillar of Rwanda's overall development strategy. The wildlife conservation and VNP management goals set out are

closely harmonized with other national development goals as set out in Vision 2020 and the Economic Development and Poverty Reduction Strategy (EDPRS). VNP is buffered and hence local people have no access to the park and its resources, yet wild animals move out of the park into human settlements and kill livestock, and destroy crops making people to incur heavy costs in protecting their properties. In addition, rapid change of land tenure in areas neighbouring VNP, associated with land subdivision and conversion for other uses particularly for agriculture, infrastructure and urban development have exerted enough pressures on the park, limiting wildlife movement and creating serious human-wildlife conflicts (MINICOM, 2013).

Low level of people involvement in the management of the park has impacted negatively on their attitudes and perceptions towards conservation development to the extent that the surrounding communities use illegally the VNP such as poaching, illegal trade of raw materials and overexploitation of biological resources. Further, it is documented that where local people have not been fully integrated in protected area management, this often leads to poor relationships and open resentments.

In response, co-management arrangements have emerged to address the human settlements, serious pressures and threats they face and to secure an expanded role for community participation in decision making. The current study was conducted to find out local community and other stakeholders perceptions towards co-management of VNP, for the provision of information on how different actors with a vested interest in VNP can recognize and accommodate different values, interests and concerns.

## 2. Literature Review

### 2.1. Generality on the analysis of stakeholder's perspectives

Stakeholder is any person, group or organization that is affected by the causes or consequences of an issue or individuals who affect, or are affected by the achievement of an organization's mission and while the perception is a way an individual analyses and responds to an idea Durrant et al. (2008).

The scholars Byrd, Cardenas and Greenwood (2008) identified stakeholder as any group of people, organized or unorganized, who share a common interest or stake in a particular issue or system. Furthermore, Garrod, B. (2007) noted that stakeholders are groups, constituencies, social actors or institutions of any size or aggregation that act at various and have a significant and specific stake in a given set of resources, and can affect or be affected by resource management problems or interventions.

Farrington (2006) found that stakeholder analysis has been developed in response to the challenge of multiple interests and objectives, such as the search for efficient, equitable and environmentally sustainable development strategies. Legitimacy is required to provide authority, such as in the right of a government to rule and make policy (Toteng, 2004).

This view agrees that all stakeholder groups can affect or be affected by an action. In addition, stakeholders can be used to illuminate the interests of all groups especially, the marginalized groups (Frooman, 2009). Stakeholder analysis has been widely used to improve the effectiveness of business organizations, enhance the understanding of the political ecology of water management and urban environmental management and identify stakeholder participation in trans-boundary natural resource management (Toteng, 2004).

### 2.2 The stakeholder's attitudes on co-management of national parks

#### 2.2.1 Conservation attitudes towards a co-management of national parks

Conservation is as old as the establishment of the first world known national park in the United States. This was aimed at mainly preserving wildlife for leisure and nature's beauty. The scholars Chanda et al. (2008) define attitude as a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour.

Clarkson, M. (2005) noted that if residents hold beliefs about the effects of tourism, they know if they like or dislike these effects the level of reaction is likely to depend on the importance that they place on the perceived impacts and the likelihood of it affecting their quality of life. Conversely, other studies have also shown that local residents were likely to indicate positive attitudes towards conservation and tourism, particularly when they were satisfied with accrued benefits (Toteng et al., 2006).

#### 2.2.2 Community concern and participation in co-management of parks

The increased positive relationship between people and the park in areas where projects have been operating over the past 10 years is a good sign, as seen in a recent experience from Bwindi, Uganda for example. Co-planning should take this into account and also contribute to the support of community-friendly law enforcement activities in parallel with supporting the local communities Andereck et al. (2006).

Visits to a national park environment are important because they give people the opportunity to interact with the natural environment through activities such as nature walks, horse riding, game drives, sightseeing and wilderness camping. Such activities provide experiences

that are emotionally and spiritually rewarding. However, lack of participation in park-resource management has had adverse effects on local individuals' perceptions and attitudes toward tourism development, subsequently leading to less support for parks. The level of support for park-based activities is related to increased participation in tourism and recreational activities Weaver, (2005).

### **2.2.3 Guided visioning and social network towards co-management of national parks**

Guided visioning is a building trust, view of the future on which the stakeholders are aware. When a conflict situation is especially adversarial, it is important to start with trust- and confidence-building measures. Build personal relationships, when interacting with stakeholders at a personal level can be an effective way to let people know that their interests are being heard and understood, how one individual, who does monumental work in this particularly trying situation, has made an impressive effort to know everyone around the protected area personally, the ability and willingness to invest the time to develop individual relationships with people of all points of view may be one of the keys to his accomplishments (Bodin and Ernstson, 2006).

It may be difficult of course to know everyone who has an interest in a protected area. An alternative to trying to reach every single person is to rely to a large extent on community leaders. This can be accomplished by building relationships and trust with stakeholders and other authorities that have authority and credibility in the community in terms of co-management process (Bramwell and Sharman, 2005).

### **2.3 Conservation of VNP**

For the conservation of VNP, RDB undertakes different activities through the different operational departments. Main activities at park level include. Firstly, the RDB combines activities of enforcing protection laws and monitoring of both illegal activities in the park and keeping healthy the fauna and flora of the park. Secondly regulated tourism concerns activities of organizing and keeping rules of tourism while entering the park for gorillas and other attractions. Organizing refers to the customer care and giving information on important sites inside and outside the park. Thirdly, the community aims to ensure an active and effective participation of neighbouring communities in the conservation of VNP.

## **3. Methodology**

### **3.1 Research Design**

The study used the exploratory research design to generate the required information. This design gives a

description of variables based on field generated data and literature reviews. According to Burns (2000), an exploratory design allows the researcher to make a comprehensive inference about the investigated variables in the target population. It also allows an analysis of results with a view of generating new ideas about phenomena like perceptions of local people towards conservation and the overall management of wildlife resources.

### **3.2 Study area description**

The VNP geographically covers two parts: the western made of two volcanoes, Karisimbi (4507m) and Bisoke (3711 m), and the eastern part made of Sabyinyo (3634 m), Gahinga (3434 m) and Muhabura (4127 m).

There are a number of caves in the Park and also in the neighbouring environment. Based on the topographic map details (Campbell, 2010), the highest altitude of the zone outside the park is 2400 m, 2550 m, 2600 m, 2800 m and 2850 around Gahinga, Sabyinyo, Muhabura, Karisimbi and Bisoke volcanoes, respectively.

There is rainfall throughout the year but with two heavy rain seasons; the longest being from February to June with a peak in April while the shortest is from September to December with a peak in November.

The volcanoes chain in Rwanda is endowed with three permanent lakes such as Bisoke, Ngezi and Malalo. In addition, some swamps and wetlands exist between volcanoes. The VNP vegetation, litter and porous sub-soil are very important in water movement control. The VNP is considered as the Water Tower for the neighbouring region due to abundant precipitations that are received almost throughout the year. There is a mean of 220 million m<sup>3</sup> of water per year over the 16000 ha of the Park (Weber et al., 1987 in Plumptre et al., 2004).

### **3.3 Sampling**

#### **3.1 sampling design**

Purposively, targeted 2 sectors which have in total 792 households have been selected. They include Kinigi (512 households), and Shingiro (280 households). These two sectors are the neighbouring rural community that depend on using the VNP usually illegally and so are subject to the park outcome. The key respondents (institutions and local leaders: 18) stakeholders whose resources assist the VNP management were also interviewed.

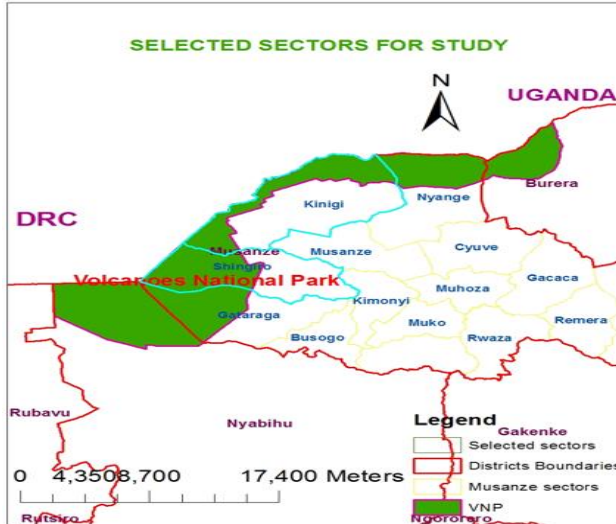


Figure 1: Selected sectors during sampling

3.3.2 Sample size and sampling procedures

A) Purposive sampling

This study adopted purposive sampling procedure. A sample of n households of peasants has been selected by using the formula of KOTHAR (2006):

$$n = \frac{z^2 \times p \times q \times N}{d^2(N - 1) + z^2 \times p \times q}$$

Where: n= sample size, N= size of population (number of households), Z= coefficient normal distribution, q= probability of failure, d= margin error, p= probability of success.

After, a cluster and purposive sampling method has been used at all selected sectors and a proportionate allocation sampling method have been used to know the number of population to be interviewed in each sector.

For KOTHAR (2006) the margin error varies between 5 % and 10 %. I used the margin error of 10 %, then the confidence level of 90 %, our probability of success is p=0.5, failure probability of q=0.5, as  $Z_{0.25}=1.65$  The total households to be interviewed on these selected sectors are:

$$n = \frac{(1.65^2) \times 0.5^2 \times 792}{(0.1^2) \times (792 - 1) + (1.65^2) \times 0.5^2} = 6274 = 63$$

b) Proportionate sampling

After a proportionate sampling at sector level, a proportionate allocation sampling was used to determine the number of households to interview in each sector. The following formula was used:

$$n_i = \frac{N_i \times n}{N}$$

Where:  $n_i$  = the sample size proportion to be determined,  $N_i$ = the population proportion in the stratum,  $n$ = the sample size,  $N$ = the total population. Then, the proportion of population in each sector is shown in table 1:

Table 1: The proportion of population in each sector

Sector	Number of households	The proportion of population interviewed per sector
Kinigi	512	41
Shingiro	280	22
Total	792	63

Apart from the 63 households selected by focusing on 2 sectors bordering the VNP, other 18 key respondents from local leaders and managers whose resources assist the VNP conservation were interviewed and they have been identified by conducting a focus group discussion with the members of RDB which is a partnership of organizations in VNP. The RDB was chosen to take part in this initial focus group discussion because it is national board that has already brought together many of the key stakeholder organizations as part of their partnership, including International Gorillas Conservation Project(IGCP), Diany Fossey International Gorillas Fund (KARISOKE), Mountain Gorillas Veterinary Project(MGVP) and Gorillas Organization(GO). The aim of the focus group interviews was to evaluate and to adapt the proposed objectives of the research if it was focusing on relevant issues and categorize stakeholders. Three individuals from each category of the key respondents were interviewed which makes 18 interviewees from different organizations. In total, 81 representing all categories including both the surrounding riparian communities (63) and key respondents (18) stakeholders were interviewed.

3.4 Data collection

During data collection, the secondary and primary sources were used. Secondary data involved different reports at the park levels, especially those from community partnership ranger based monitoring programs. Primary came from households survey and Institutional stakeholders included local leaders and employees of governmental and nongovernmental organizations, Community based organizations and park managers, working with RDB in the conservation of VNP. The used questionnaire was divided into two parts. The first part concerned the households' survey that was translated in the mother language of Kinyarwanda and the second part which was for Institutional stakeholders but established in English which is officially spoken in

Rwanda. Both structured and unstructured questionnaires have been used.

### 3.5 Data analysis

Once the measuring instrument has been administered, the raw data was systematically organized through coding to facilitate analysis. Inferential statistics have been used to make inferences about the influence of the stakeholder's perspectives to the co-management of VNP. This helped to generalize the findings of the study to the stakeholders. Using the statistical package for social sciences [SPSS] version 16, data collected from different interviewees have been used to analyse according to different variables. We used Friedman test to characterize the stakeholders perspectives on co-management of Volcanoes National Park; to evaluate the synergy among stakeholders we used descriptive statistics including mean, frequencies, percentages, and standard deviation. To analyse the relationship between stakeholders' perspectives and co-management activities, we used correlation analysis in order to predict the dependent variable from the knowledge of independent variables. For interviews and field observation notes, qualitative analysis was used. Arc map software has been used to localize the study area. To test the hypothesis, I examined P value at 0.05 level of the significance.

## 4. Results

### 4.1 Stakeholders' perspectives on co-management of VNP.

The first objective of the study was to characterize stakeholders' perspectives on co-management of VNP and the objective was analyzed using the Friedman test.

**Table 2: Stakeholders' perspectives on Co-management of VNP**

The Stakeholders perspectives on co-management of VNP	Mean rank
Conservation attitude	2.43
Participation	3.09
Community concern	3.04
Guided visioning	3.00
Social network	3.44

Table 2 gives the summary of objective one which was to characterize stakeholders' perspectives on co-management of VNP. There are some perspectives highlighted by the stakeholders on co-management of VNP where they expressed that conservation attitude with 2.43 mean rank as the more appreciated perspectives among others. Some of interviewed farmers especially those bordering VNP in Kinigi and Shingiro sectors showed negative attitude where they are not willing to perform agriculture on their lands because of crop destruction by wild animals from the park. The farmers allege that no action is taken when

they report such incidences to the Park Authorities. The farmers around VNP, who are the majority of the local population around VNP, believe that the park is not an asset to them and they should devote their energies to agricultural production which yields direct economic returns. This has not happened because wild animals have always destroyed their crops. Their perceptions towards VNP conservation are negative because they are not compensated for such losses. These sentiments concurred with the views and observations of park management. The entire VNP has been buffered and protected using different structures such as stone walls and trenches, an intervention that can be effective in mitigating human wildlife conflict. Despite this, the effectiveness of those structures as a conflict mitigation measure, with a view to changing local people's attitudes is limited because animals like monkeys can easily cross the buffer.

Findings support from different scholars indicated that the lack of clear communication channels between park staff and leaders at the local and national levels was also attributed to failure of conserving biodiversity in National Parks co-management where, (Mallya, 2006) found that miscommunication amongst stakeholders of the Serengeti National Park coupled with the conflicting laws and regulations from local and national leaders and park staff led to improper investment agreements that resulted in inadequate benefits from investors to local communities. This has in turn aggravate negative attitudes and perceptions towards the conservation of VNP. Whereas the Park Authority may actually mean well by enforcing the law, it is apparent that there is need to treat the local people fairly and with respect as key stakeholders in conservation development. Efforts must be made to improve communication between the local people and the Park Management regarding benefits, their roles and responsibilities in conservation development in the area.

A major theme that emerged from the data was that all stakeholders, including both the institutional and surrounding rural community, believed that VNP should be conserved to provide economic, social, and environmental benefits to local communities. Though co-management can positively contribute towards successful achievement of goals of conservation and socio-economic development, co-management arrangements cannot emerge or be effective without an enabling political framework and favorable government policies. A strong political support and enabling policies would particularly create incentives for the local resource users to participate fully in management partnerships and afford them protection from powerful outsiders. Certain resources may be needed at the local level that user groups cannot provide. These may include technology and scientific expertise. At the same time users have resources based on local knowledge,

such as information about harvests or the status of the resource, which may be needed for central administration. Efficiency may be increased as specialization is enabled by the division of labor. This may also occur through linking different types and levels of organization so that the flow of information can be accelerated and problems can be addressed at their appropriate level.

**4.1.1 Change in attitude towards conservation of VNP**

**Table 3: Test statistics**

N	63
Chi-Square	21.848
Df	4
Asymp. Sig.	.000

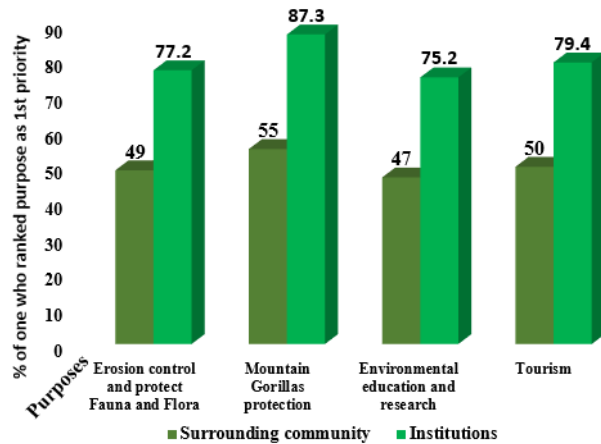
**a. Friedman Test**

The results given by Friedman test, that the P-value < significance level ( $0.000 < 0.05$ ), therefore we rejected the hypothesis stated that conservation attitude towards the conservation of VNP is not the main conservation stakeholder's perspective on co-management of VNP, so that rejecting the hypothesis conducted us to conclude that there is a statistical significance of 5%, and as shown by the mean ranks above, we concluded that conservation attitude is the major perspectives of stakeholders on co-management of VNP.

The co-management of protected areas have been developed and supported in many countries through international and national approaches and practices as well as legal, policy and institutional frameworks. Many international standards, guidelines and best practices are non-binding principles (soft law) in international regimes, yet they have become embedded in national legal and policy frameworks in forest and PA management.

**4.2 Stakeholders prioritization of management purposes on VNP**

For all institutional and surrounding riparian community stakeholders, the protection of Mountain Gorillas is the main purpose on co-management of VNP as indicated by the results on the figure below with 87.3 and 55 % for both managers and local community respectively. Respondents felt the all given goals because they could help them to demonstrate the social and economic values of conservation.



**Figure 2: Stakeholders prioritization of management purposes on VNP**

Protected areas have long been the most effective and widespread measure for conserving nature and natural resources. Well our planet's land surface has been allocated for conservation purposes, in virtually all countries. These areas are important tourist attractions, protect watersheds, help define national identity, and conserve biological diversity. Our societies would be much poorer if protected areas had not been established. The majority of the stakeholders saw the benefits from tourism since it would provide jobs to the community as park rangers, trackers, guides and it is the one which generate more foreign earnings to the country. Although VNP is the smallest national Park in Rwanda, it represents a real economic resource in the real sense. Gorilla visits generate several millions of dollars every year directly or indirectly and Gorilla trips develop the whole sector of travel agencies, hotels, restaurants, and different tourist operators essentially contributing to the national economy (ORTPN, 2005). VNP is very important to the neighbouring communities. It provides them with vital ecological services ranging from watershed protection through erosion control, rain formation, climate change control etc.

**4.6 The synergy among stakeholders on VNP and approaches used on co-management of VNP conservation**

The second objective of the study was to evaluate the synergy among stakeholders on VNP and approaches used on co-management of VNP conservation. The objective was analyzed using the mean and standard deviation; the mean portrays the occurrence of the response and the standard deviation portrays the extent to which scores deviate from the mean.

**Table 4: The level of synergy among stakeholders on VNP conservation**

Items	Mean	Std. Deviation
We work in team as the best results to be very productive	3.6	1.24
We combined power of a group of things when we are working together	3.27	1.25
We work separately in our activities of co-management of VNP conservation	3.43	1.13
We have participated in the negotiation process for conserving the VNP.	3.42	1.25
We work as a team sprit born	3.44	1.26
	3.43	1.27

Table 4 gives the summary of objective two which was to evaluate the synergy among stakeholders on VNP and approaches used on co-management of VNP conservation, where the findings results indicated that the level of synergy among stakeholders is moderate as per the scale used in the study which indicated a mean of (3.43). This can also be observed from the standard deviation of (1.27). This may also be captured from the production of interview guide where the respondents expressed their advantages in terms of communion and the approaches used because, they involve local communities inclusively in participation due to the decision making, which enabled their level of synergy among them with their approaches used. If affected groups are included, their interests and concerns can be known or considered. If significantly affected stakeholders are excluded from attempts to address the conflict, they are likely to remain disgruntled over time, because they believe their interests are ignored and because they have no ownership in the outcome. Mainly inclusion or stakeholder's participation also gives people a sense of ownership, which is a precursor to stewardship and belongingness at VNP.

**Table 5: The level of the approaches used by stakeholders in co-management of VNP**

Items	Mean	Std. Deviation
Revenue sharing	3.28	.81
Group discussion	3.32	.91
To establish a buffer zone around VNP	3.28	.83
Gardians	3.35	1.00
People mobilisation	3.03	1.09
People involvement in Conservation of VNP	3.36	.95
	3.27	.931

The findings from table 5 indicated that the level of approaches used by stakeholders in co management is moderate as per the scale used in the study which indicated a mean of (3.27). This can also be observed from the standard deviation of (.931). This is confirmed

by the interview guide where the stakeholders of different institutions, 17(94.4%) said that buffer zone protection, implementing compensation law, ensure the capacity building of stakeholders, carrying out a study for critical animals, training on co-management and sharing of benefits from VNP should be a positive way of VNP co-management. Another important strategy as highlighted by respondents is the compensation to properties and crops by park wildlife. The involvement of community based organizations in conflict resolution is highly benefiting both sides because members have been involved in illegal activities against VNP but now they are currently involved in the process of problem solving without special need.

Revenue sharing was gazetted by the Government of Rwanda in 2005, with objectives of conserving the park, livelihoods promotion and conflicts reduction (RDB, 2011). The stone wall and trenches digging were among others the very important measures put in place to control park animals especially buffaloes and other small mammals (RDB, 2011). However, some critical animals such as primates' mountain gorillas inclusive cannot be controlled by these types of physical measures (Kwizera, J. (2011).

Revenue sharing serves alternatives to local communities' economic losses, increases household income and thus reduces resentment of victims who may have been mostly affected by wildlife problems. Revenue sharing provides benefits as opposite to costs of living near the park as results of efforts made by local communities in the conservation of VNP. If it was successfully executed, revenue sharing could play an integral role in improving and changing local peoples' perceptions towards park conservation and hence building a strong community and conservation relationship that would benefit community people and the conservation area (Richard, H. 2001).

#### 4.7 The Relationship between stakeholder's perspectives and Co-management activities in VNP

Objective three was to find out if there is significance relationship between stakeholder's perspectives and Co-management activities in VNP conservation. The objective was analysed using Pearson correlation analysis. Pearson correlation moment coefficient ( $r$ ) provides the measure of linear relationship between stakeholder's perspectives and co-management of VNP, while coefficient of determination ( $r^2$ ) indicates the amount of variation of co-management explained by stakeholders' perspectives.

**Table 6: Relationship significance of stakeholders' perspectives and co-management activities of VNP**

Descriptive	Measures
Pearson Correlation	.145**
Sig. (2-tailed)	0.258
Coefficient of Determination $r^2$	0.021
N = 63	
**. Correlation is significant at the 0.05 level (2-tailed)	

According to table 6 of bivariate correlation analysis, the P-value > the significance level ( $0.258 > 0.05$ ), we failed to reject the hypothesis stated that there is no synergy among stakeholders and no differences in approaches used by different stakeholders of VNP conservation.

Accepting the hypothesis led to the conclusion that there is no statistical significance association between stakeholder's perspectives and co-management of VNP conservation, due to the following constraints such as low participation in the planning and decision making process which should be based on the trust, mutual learning, knowledge and capabilities of stakeholders. Therefore, co-management should be enhanced by the sharing of authority and decision-making, making it more responsive to a wider range of needs. Thus the idea of co-management is to take advantage of the complementary knowledge of different stakeholders.

The scholars (Bramwell and Sharman 2005) said that sharing of ideas among different stakeholders in a long time period can result in a deeper understanding of the issues, and should result in more legitimate and sustainable policies of their collaborative management or co-management. Moreover, the legal framework on buffer zones has tended to expand the authority of the state by imposing restrictions in populated areas formerly under the control of park officials and the management authority largely remains top down from the standpoint of local users.

This can be further evidenced that challenges faced by stakeholders come from different purposes and approaches of institutions that are involved in VNP conservation, low level of awareness between VNP stakeholders, lack of enough alternative solutions to the problems met by community and the community around VNP is not involved in all process leading to decision making. Due to the results generated by the interviews from the local leaders and managers of different institutions confirmed that the little knowledge with lack of affected stakeholders inclusion in decisions affecting the management of the area are major sources of poor relationship between local community and park managers. If affected groups are not included, their interests and concerns cannot be considered. Therefore, the protected area managers may create conflict out of

ignorance about how their decisions may adversely affect others. If significantly affected stakeholders are excluded from attempts to address the conflict, they are likely to remain disgruntled over time, because they believe their interests are ignored and because they have no ownership in the outcome, whereas, if their interests are explicitly considered in the process, they will be more inclined to support a proposed solution to the conflict.

## 5. Conclusions and recommendations

### 5.1 Conclusion

With regard to the findings, it was concluded that generally, stakeholder's perspectives on co-management of VNP showed positive perceptions where the results revealed that the perspectives of stakeholders on co-management were found moderate as per scale used in this study.

The results on evaluation of synergy and approaches used among stakeholders on co-management of VNP conservation are both moderate which indicated by a mean of (3.43) and (3.27) respectively. The local leaders and managers of different institutions expressed their advantages in terms of communion and the approaches used because, they involve local communities in decision making, which enabled them to produce more in their combined efforts. Therefore low level of affected stakeholders' inclusion in the establishment and design of a protected area and in decisions affecting the management of the area after are major sources of conflicts.

Coming to the findings, which was to find out whether there is a significant relationship between stakeholder's perspectives and co-management activities in VNP, the results from the local community revealed that bivariate correlation analysis, the P-value > the significance level ( $0.258 > 0.05$ ), we fail to reject the hypothesis. Accepting the hypothesis leads to the conclusion that there is no statistical significance association between stakeholder's perspectives and co-management activities of VNP conservation, due to the following constraints such as low participation in the planning and decision making process which should be based on the trust, mutual learning, knowledge, insights and capabilities of stakeholders. Therefore, co-management should be enhanced by the sharing of authority in terms of participation to the interests of VNP and decision-making, making it more responsive to a wider range of needs.

Furthermore, it has been concluded that the emphasized awareness and collaborative actions among stakeholders should lead to the improved conservation and development of co-management success.

### 5.2 Recommendation

The conservation process of VNP needs to support the hopes and aspirations of the local communities and thus needs to be broader in magnitude with other



stakeholders adjacent to national parks and strengthen the relationship between people and protected area staff; protect and restore the ecology within national parks and strengthen local economies through ecotourism development.

There is a need to avail enough alternative solutions to the problems faced by local community, training on co-management, strengthening sharing of benefits from VNP and expropriation for damaged items. Increased capacity building and formal education about conservation, Community Based Organization development should be encouraged so that all stakeholders can work cooperatively towards the same goal for sustainable tourism development and co-management of VNP.

There is a need of greater involvement in decision making and planning development in order to have a stronger synergy and approaches in terms of co-management of VNP in order to create awareness of conservation.

#### References

- [1]. Andereck, K., & Jurowski, C. (2006). *Tourism and quality of life*. In G. Jennings & N. P. Nickerson (Eds.), *Quality tourism experiences* (pp. 136-154). Boston, Elsevier.
- [2]. Anderson, T.L and James, A. (2007). Introduction: Parks, politics, and property rights. In Anderson, T.L. and James, A. (eds). *The politics and economics of park management*. INC, USA: Rowan and Littlefield Publishers.
- [3]. Borrini-Feyerabend G., (1996). *Collaborative Management of Protected Areas: Tailoring the Approach to the Context*. *Issues in Social policy*, IUCN, Gland, Switzerland.
- [4]. Borrini-Feyerabend G., Farvar T. M., Nguinguiri C. J., and Ndangang A. V., (2000). *Co management of Natural Resources: Organising, Negotiating and Learning-by-Doing*. GTZ and IUCN, KasperekVerlag, Heidelberg, Germany.
- [5]. Bramwell, B. & Sharman, A. (2005). Approaches to sustainable tourism planning and community participation: the case of the Hope Valley. In: Richards, G. & Hall, D. (eds.). *Tourism a Sustainable Community Development*. Routledge, London-New York. p. 17-35.
- [6]. Byrd, E. T., & Cardenas, D. A. (2006, March). Elements of stakeholder support for tourism in rural communities: The case study of eastern North Carolina. *Southeastern Travel & Tourism Research Association Reserach symposium*. Sarasota, Florida
- [7]. Byrd, E., Bosley, H. E., & Dronberger, M. G. (2009). Comparisons of stakeholder perceptions of tourism impacts in rural eastern North Carolina. *Tourism Management*, 30, 693-703.
- [8]. Byrd, E., Cardenas, D. A., & Greenwood, J. B. (2008). Factors of stakeholders' understanding of tourism: The case of eastern North Carolina. *Tourism & Hospitality Research*, 1-13.
- [9]. Campbell, (2010). *Local attitudes and perceptions toward crop-raiding*, James Carrey, London.
- [10]. Carlson and Berkes, 2005; Borrini-Feyerabend, 1996; Borrini-Feyerabend et al, 2004 IUCN, 1994. *Guidelines for Protected Areas Management Categories*. IUCN, Cambridge, UK and Gland, Switzerland.
- [11]. Chanda, R., Totolo, O., Moleele, N., Setshogo, M., & Mosweu, S. (2008). Prospects for subsistence livelihood and environmental sustainability along Kalahari rangelands. *Journal of Arid Environments*, 54, 425-445.
- [12]. Clarkson, M. (2005). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of Management Review*, 20, 92-117.
- [13]. Crona, B. and Bodin, O. (2006). What you know is who you know? Communication patterns among resource users as a prerequisite for co-management. *Ecol. Society* 11.
- [14]. Durrant, M. B. and Durrant, J. O. (2008). The influence of location on local attitudes toward community conservation on Mount Kilimanjaro. *Society and Natural Resources*, 21, 371-386.
- [15]. Frooman, J. (2009). Stakeholders influence strategies. *The Academy of Management Review* 24(2), 191-205.
- [16]. Garrod, B. (2007). Local participation in the planning and management of ecotourism: A revis model approach. *Journal of Ecotourism*, 2(1), 33-53.
- [17]. Kothar, C.R. (2006). *Quantitative Techniques*, New Delhi, Vikas Publishing House Pvt. Ltd., p.64, 1978.
- [18]. Kwizera, J. (2011). *Engaging local communities in the conservation of national parks in Rwanda*. A case of Volcanoes National Park, Kigali, Rwanda: ISAE Busogo,
- [19]. ORTPN (2005), General Management Plan of Volcanoes National Park. Musanze, Rwanda Government of Rwanda.
- [20]. Toteng, E. N. (2004). The Private sector, urban water conservation and developing countries: A stakeholder theory-driven perspective from Botswana. *South African Geographical Journal*, 86(2), 113-121.
- [21]. Toteng, E., Mbaiwa, J. and Moswete, N. (2006). Community attitudes and perceptions towards urban ecological issues in Maun and Gaborone,

- Botswana. *Botswana Notes and Records*, 37(1), 108-124.
- [22]. Varvasovszky, Z. and Brugha, R. (2000). How to do (or not to do): A Stakeholder Analysis. *Health policy and planning* 15, 338-345.
- [23]. Weaver, D. B. (2005). The encyclopedia ecotourism. Australia: John Wiley & Sons
- [24]. Weber, (1987). Ruhengeri and its resources. An Environment profile of the Ruhengeri. Ruhengeri, Rwanda: Government of Rwanda.
- [25]. Zerner, C., ed. (2000). People, plants, and justice: The politics of nature conservation. New York: Columbia University Press.

5/25/2023