EXAMINING THE IMPACT OF PARTICIPATORY COMMUNICATION ON ENVIRONMENTAL CONSERVATION IN RWANDA: A CASE STUDY OF THE GISHWATI-MUKURA NATIONAL PARK

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Abstract: Over the past few decades, environmental practitioners and activists have increasingly recognized the importance of a strong communication mechanism with lay communities as a way of educating them on the necessity to protect the environment and win their support and participation. However, in some areas, such efforts have done little efforts to change the behaviors of local communities. In the areas around Rwanda's fourth and latest National Park – The Gishwati-Mukura – the situation is no different. Ongoing human encroachment in the form of grazing, tree cutting, illegal mining and hunting, among others, meant that the Park's biodiversity was for long threatened with extinction despite the efforts led by several organizations and institutions to educate local people on the necessity to preserve this natural mountain forest. Efforts from environmental practitioners to solve this negative trend have mostly focused on addressing the complicated forces they perceive to be the main drivers behind the degrading environment: lack of proper education, severe poverty, lack of farmland and economic hardships, among others. The adoption of participatory communication approaches is the latest of the strategies used to encourage communities to adopt environmental-friendly practices. However, there have been few studies on the role of participatory communication in environment conservation. Therefore, this study seeks to understand how participatory communication approaches are used to stimulate environment conservation actions, investigate the existing challenges that are blocking environmentally positive behavior changes and how participatory communication can be better applied to address them within communities around the Gishwati-Mukura National Park. The study used a descriptive research design and stratified random sampling to determine the sample size. Questionnaires were administered to respondents to generate primary data necessary to draw conclusions on the topic of this research. Data generated was analyzed using the Statistical Package for social Sciences (SPSS) software and the results were presented in form of tables and graphs. The results show that the most frequently used communication methods were interest groups (85%; mean = 3.55), face-to-face (84%; mean = 3.47), council for ethnic relations office (86%; mean = 3.46), letters (79%; mean = 3.23), telephone (73%; mean = 3,21), organized groups (66%; mean = 2,91), and citizen information office (62%; mean =2.76). Adjusted R squared is called the coefficient of determination which indicates how the environmental conservation with variation in Areas of local communities' participation, Modes of community participation, challenges of community participation. From table above, the value of adjusted R squared is 0.632. This implies that, there was a variation of 63.2% of environmental conservation varied with variation at a confidence level of 95%. The ANOVA results for regression coefficients showed that the significance of the F statistics is 0.000 which is less than 0.05. This implied that there was a significant relationship between Areas of local communities' participation, Modes of community participation, challenges of community participation affecting the dependent variable the Environmental conservation. The study concludes that most of the residents of Gishwati-Mukura National Park have not been adequately involved in significant areas that local communities ought to be involved in. Thus, majority are only left to participate in the programme during the budget speech by being spectators as the budget is read. The only other significant area in which the residents were involved was in the monitoring of service delivery where about half of the residents had participated.

Keywords: Participatory management, Environment conservation, Gishwati-Mukura National Park.

1. INTRODUCTION

1.1 Background:

Participation is what happens when members of a community themselves become part of the process of change. Participatory communication appreciates a dialogical approach to development rather than an anti-dialogical banking model. The notion of participatory communication stresses the importance of cultural identity of local communities at all levels international, national, local and individual (Servaes, 2008). Participation is- significant in any decision making for development. Participation is a principle in development with support coming from many different stakeholders: governments, donors, civil society and ordinary citizens (Mefalopulus & Tufte, 2009). In all development projects, there are change agents (the outsiders) and the local people (the beneficiaries) who come together in order to share knowledge and trust.

The emphasis of participatory communication is on the exchange of information between the outsider and the beneficiaries rather than on persuasion in the diffusion of innovation model by Everett Rogers. There is a new awareness now that no expert has the solutions to poverty in the world. All affected by poverty may have valuable information to contribute in poverty reduction and we need dialogue to draw valuable insights from all who are affected. Therefore, the participation of the local people is crucial for effective and sustainable development (Mulwa, 2008)

Tam and Tong (2011) argue that, the strength of participatory communication lies in the ability to share perceptions, world views, knowledge and a common purpose within and across communities. Temirkulov (2014) points out that comprehensive, effective end to end participatory communication entails the identification of the societal issue, engagement of the stakeholder groups and follow-through during pre- and post-implementation of the social change initiatives. Stakeholder engagement is usually by way of empowerment, consultation, collaboration and passively through mass media. Stakeholders can include individuals, groups and institutions involved in the social change process (Mutanda, 2013; Benoliel and Somech, 2010).

This emphasis calls for a two-way interactive process in which all participants both encode and decode information (Muturi & Mwangi, 2009). Dialogue-based, participatory communication allows the sharing of information, perceptions, opinions, ideas and experiences among the various stakeholders and thus facilitates their empowerment. However, it is important to note that participatory communication does not merely imply the exchange of information and experiences but rather is also the exploration and generation of new knowledge aimed at addressing situations which need to be improved through partnerships and teamwork. The participatory process has long been recognized as a tool for social change (Irvin & Stansbury, 2014) in a way that it helps communities reach better and informed decisions, transcend existing barriers and adopt new behaviors in a democratic process.

A big challenge of the new millennium consists of activating a large mobilization of society toward concrete, efficient and efficacy actions which promote awareness of the problems and their solutions for a sustainable environment (Grifoni *et al.,* 2014). Such challenge has led to attempts and initiatives to involve local communities in conservation efforts. Communication is a powerful tool that enables the interaction between communities and conservationists. Governments, Non-governmental organizations and companies are increasingly addressing problems related with environment and in particular, they accepted the challenge of mobilizing citizens and more generally society to act towards sustainable societies and environment conservation (Grifoni et al., 2014).

The participatory communication model stresses the importance of cultural identity of local communities and of democratization and participation at all levels-international, national, local and individual (Servaes 2008). It also highlights the importance of concerted action and dialogue, local knowledge and stakeholder participation for any action. Such a participatory model grounds developmental process at local level (in its own culture, intellect, and environment) through the active participation of ordinary people (Vatikiotis 2015). Such a development process emphasizes the power of people to contribute to taking better decisions for themselves and the environment.

Mefalopulos (2008) notes that once participatory communication is used and applied in a genuine and consistent way, decisions that have traditionally been taken by outsiders (i.e. foreign experts, development actors) are gradually be made by insiders (Like local communities) in collaboration with other stakeholders. Patrizia Grifoni et al. (2014) argue that public involvement implies the active involvement of people in planning processes, in decision-making and activities towards environmental conservation and preservation. Such a process is essential in ensuring proper environmental action and – as stated by Irvin R.A. & Stansbury J. (2004)- it helps to inform leaders to win the support of communities. This is a democratic and transparent process that lead to higher compliance since citizens accept the outcomes as a product of the democratic values (Ananda & Herath, 2003)

The Gishwati-Mukura is Rwanda's fourth – and the latest- National Park with a total surface of core forest equivalent to 3 558 hectares shared between the Gishwati and Mukura Natural reserves. Located in Rutsiro and Ngororero Districts, Western Province, the Gishwati-Mukura National Park has faced many threats linked to human activities including but not limited to illegal mining, forest clearing for agricultural land, settlements, and animal grazing (REMA& RDB, 2017; FHA, 2015). The combined effects of these threats have been the continuous degradation and reduction of the size of these two forests over the last few decades (MINIRENA, 2010 in REMA&RDB, 2017). In 2007, a programme named Gishwati Area Conservation Programme (GACP), implemented by the Great Ape Trust, an American organization, started conservation and protection activities for Gishwati forest. In a period of less than five years, the programme succeeded to reverse the deforestation process in the area, stopped illegal activities in the forest and rallied neighbouring communities around the area in conserving this vitally important forest block (REMA&RDB, 2017) though some threatening activities continued. The Forest of Hope Association (FHA) was born out of the need to build from the successes of GACP as well as to sustain the gains made and address the remaining challenges. Created with a mission to engaging local communities in conservation and restoration of the Gishwati Forest Reserve, the organization has managed to mobilise communities around the cause of environment protection. Special focus is being put on school-based environmental-clubs in some selected schools with a view of educating younger generations on the necessity toprotect the Natural forests and the environment at large (FHA, n.d.)

Meanwhile, Mukura Forest reserve continued to suffer from acute illegal mining activities and encroachment despite dedicated effort by local authorities and other stakeholders that were engaged in the area. Considering the need to enhanced protection of these two important forests, the government of Rwanda decided to gazette the two forests as one national park through the law No 45/2015 enacted on 15th October 2015 and a dedicated project called the Landscape Approach to Forest Restoration and Conservation (or LAFREC) is currently leading efforts to rehabilitate it (REMA&RDB, 2017). Despite the efforts to restore and rehabilitate the park's ecosystem and the many interventions made to seek people's involvement, threats remain against the park. The main ones include illegal mining activities inhabitation, and exotic species, grazing of animals, wood cutting, poaching and other forms of human encroachment on the Park (REMA, 2017).

1.2 Statement of the Problem:

The complex and dynamic nature of environmental problems requires flexible and transparent decision-making that embraces a diversity of knowledges, values and behaviors. For this reason, citizens participation in environmental decision-making has been increasingly sought and embedded into national and international policy and action (Reed, 2008). Researchers have concluded that communication promotes change while the lack of participation in the decision-making process leads to failure (Bessette, 2014). As a result, participation and communication have been adopted as key elements in environment conservation. It is, however, quite important to note that, as proven by research, the results of participation deeply depend on the used participatory methods and by other factors, such as the expertise of facilitators, the participants' level of education, their knowledge (Reed 2008).

In the areas bordering the Gishwati-Mukura National Park several communication initiatives have been undertaken to promote sustainable management and conservation of the park's natural resources. To achieve a sustainable environment management, specific actions for improving consciousness, awareness and participation are necessary. Consciousness and awareness of risks related to environment degradation and a decrease in biodiversity, for example, facilitate behavioral changes both at individual and collective level. To achieve this goal, it is useful to stimulate a democratic participation in decision making processes related to the improvement of life conditions. But, despite these efforts there remains serious gaps and challenges vis-à-vis environment conservation. Issues such as human encroachment in the form of grazing, tree cutting, illegal mining and hunting, among others, means that the Park's biodiversity continues to be threatened (REMA,2017). Through this study, I seek to investigate the role of participatory communication approaches to stimulate individual action towards environment conservation.

1.3 Objectives of the study:
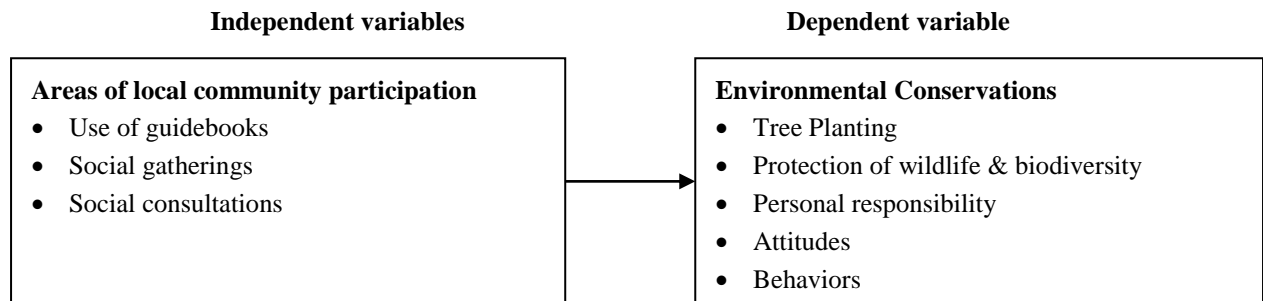
1.3.1 General objective:

The general objective of this research was to examine the impact of participatory communication messages on environment conservation in Rwanda.

1.3.2 Specific objectives:

The specific objectives were:

1. To identify the key areas in which participatory management is sought on environment conservation in the Gishwati-Mukura National Park

2. CONCEPTUAL FRAMEWORK

Independent variables   **Dependent variable**

Areas of local community participation	Environmental Conservations
• Use of guidebooks • Social gatherings • Social consultations	• Tree Planting • Protection of wildlife & biodiversity • Personal responsibility • Attitudes • Behaviors

Figure 2.1: Conceptual framework

3. TARGET POPULATION

Target population in statistics is the specific population about which information is desired. According to Ngechu (2014), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. This definition ensures that the population of interest is homogeneous. And by population the researcher means the complete census of the sampling frames. According to Mugenda and Mugenda (2008), target population in statistics is the specific population about which information is desired.

This study worked with communities and environment actors around the Gishwati-Mukura National Park in order to effectively analyze the role of participatory communication in environment conservation. The population of this study compriseed of staff of the Forest of Hope Association (FHA) as well as members of the local communities who have been participating in the outreach campaigns led by the conservation organization. FHA was chosen as the case for this study because it is the pioneering organization which introduced participatory communication approaches in trying to address the negative human impacts on the Gishwati-Mukura National Park. FHA has mostly been working with schools around the Gishwati-Mukura National in trying to encourage communities to adopt environmental-friendly practices.

Table 1: Distribution of the study population

Group	Population	Percentage of Population
FHA	2	0.1
Students	390	27.8
Teachers	13	1
Communities	1000	71.1
Total population	1405	100

Sampling is defined as the process of selecting several individuals for a study in such a way that they represent the larger group from which they are selected (Mugenda & Mugenda, 2013). In this study, the proportionate stratified random sampling was used which was based on the stratum's share of the total population to come up with the sample in each stratum. The actual SMEs interviewed were arrived at using simple random procedures to draw the sample from each stratum. A total of 300 respondents with owners, managers and senior employees, distributed proportionately was carried out for this study.

4. RESEARCH FINDINGS AND DISCUSSION

4.1 Areas of Local Community Participation:

The study intended to determine the areas of local community participation as regards the environmental conservation project. Table 2 shows the results on the some of the aspects in which the county council involved the citizens actively

Table 2: Respondents views on areas of local community participation

	D	N	A	SA	M	SD
Complaints/suggestions schemes: e.g. complaint	9 (10%)	12 (13%)	24 (25%)	48(52%)	4.288	.837
Service satisfaction surveys: asking citizens to fill some satisfaction rating questionnaires	3(3%)	12 (13%)	40 (43%)	36(39%)	4.036	.867
Interactive web-site: Frequently asked questions, inviting email, Facebook, tweeter messages from citizens	6 (7%)	15 (16%)	30 (31%)	40(43%)	4.180	.904
Referendums: These allow citizens to vote on policy-specifications	9 (10%)	12 (13%)	24 (25%)	48(52%)	4.174	.990
Community plans/needs analysis: asking the community to set out their priorities for local service provision	3(3%)	12 (13%)	40 (43%)	36(39%)	4.000	.865
Co-option/Committee Involvement: inclusion of people to represent a community/group on council committees or working parties	11(12%)	22 (23%)	20 (22%)	40(43%)	3.990	.862
Question and answer sessions: Press/public briefing at the end of councilor committee meetings and field questions on resolutions	9 (10%)	12 (13%)	24 (25%)	48(52%)	4.288	.837
Public meetings: seeking public views or facilitating debate on service or policy	3 (3%)	12 (13%)	40 (43%)	36(39%)	4.036	.867
Focus groups: groups involving a particular citizen group discussions specific needs of that groups	6 (7%)	15 (16%)	30 (31%)	40(43%)	4.180	.904
Service User Forums: bodies meeting regularly to discuss issues relating to the management and development of a particular service e. g. leisure center or park, public schools	9 (10%)	12 (13%)	24 (25%)	48(52%)	4.174	.990
Issue forums: bodies with regular meetings but focusing on a particular issue (e.g. community safety or health promotion).	3 (3%)	12 (13%)	40 (43%)	36(39%)	4.000	.865
Area/neighborhood forums: forums of a particular geographically -defined area or neighborhood dealing with a specific service area e.g. housing, refuse management, estate	11(12%)	22 (23%)	20 (22%)	40(43%)	3.990	.862

Majority 52% of the respondents agreed Complaints/suggestions schemes: e.g. complaint book, telephone line, suggestion box, were used while, 25 percent equally concurred strategic planning was systematic. A total of 77 percent had positive views that Service satisfaction surveys: asking citizens to fill some satisfaction rating questionnaires was highly systematic. This was also confirmed by the high mean shown (4.2883), a minority (10%) disagreed or highly disagreed, that such a situation prevailed in the firm's 90 percent were of the opinion that Interactive web-site: Frequently asked questions, inviting email, Facebook, tweeter messages from citizens. This was attested to by 43% of the respondents showing a mean score of 4.030. The participants who strongly disagreed or disagreed, that Community plans/needs analysis: asking the community to set out their priorities for local service provision was rarely carried out comprised 43% of the total respondents. These respondents expressed counter opinion on the statement that Referendums: These allow citizens to vote on policy-specifications was probably not carried out carried out in 65.5% of the firms. As indicated by the high mean score of 4.03, 83.7% of the respondents agreed that Co-option/Committee Involvement: inclusion of people to represent a community/group on council committees or working parties. That Question and answer sessions: Press/public briefing at the end of councilor committee meetings and field questions on resolutions was confirmed by 78.3% of the participants with a mean of 4.0. There is regular Focus groups: groups involving a particular citizen group discussions specific needs of that groups, this was verified by 43% of the subjects. That managerial actions on Public meetings: seeking public views or facilitating debate on service or policy was corroborated by 39% of the respondents, while Issue forums: bodies with regular meetings but focusing on a particular issue (e.g. community safety or health

promotion).was supported by 43% of the respondents. That Area/neighborhood forums: forums of a particular geographically -defined area or neighborhood dealing with a specific service area e.g. housing, refuse management, estate was verified by 39% of the participants.

Table 3: Correlation between Area of local community participation and environment conservation

		Area of local community participation	Environment conservation
Area of local community participation	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	91	
Environment conservation	Pearson Correlation	.518**	1
	Sig. (2-tailed)	.000	
	N	91	91
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 3 indicate that Area of local community participation is significantly correlated to the Environment conservation (r=0.518, p<0.01). This implies that the increasing the Area of local community participation would result to increased Environment conservation

5. CONCLUSIONS

The study concludes that most of the residents of Gishwati-Mukura National Park have not been adequately involved in significant areas that local communities ought to be involved in. Thus, majority are only left to participate in the programme during the budget speech by being spectators as the budget is read. The only other significant area in which the residents were involved was in the monitoring of service delivery where about half of the residents had participated.

The study also concludes that the most significant mode of participation by the citizens was communication through interest groups. Other significant participation methods were face-to-face communication, use of council for ethnic relations office, letters, and telephone. Therefore, the citizens were more involved using traditional communication avenues as opposed to new media or electronic means.

5.1 Recommendations:

The study first recommends that the management of Gishwati-Mukura National Park should involve communities in implementation of policy in environment conservations as this has not been adequately done. This must be done especially when identifying projects in the communities as well as in the budgeting process.

The study also recommends that the management of Gishwati-Mukura National Park should improve on the modes of communication by allowing more channels of communication between the community and the management. Currently there are limited ways in which the communities can engage the management therefore changes must be made with the new county governments to engage the locals more than before.

5.2 Areas for further research:

The study suggests that similar studies be replicated in other environmental conservation areas in order to determine how management under NEEMA practice participatory management.

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