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### Evaluating the impact of model village project in Nyamasheke district: Special references of Gihombo and Kirimbi sectors

Providence Sibomana<sup>1\*</sup>; Cissy Karungi<sup>1</sup>; Sylvestre Munyengabe<sup>1</sup>

<sup>1</sup>Kibogora Polytechnic

\*Corresponding author | address: [sibo.providence@gmail.com](mailto:sibo.providence@gmail.com)

#### HIGHLIGHTS

- From this research, beneficiaries' participation was extended to all phases of the project but not in all activities of the project, to some points beneficiaries were highly involved but to most of activities their participation was moderately appreciated.
- The sustainability of project results at output level was guarantee as most of beneficiaries received their deserved items in terms of material or trainings but the sustainability of the project at outcome level is criticized as most income generating activities set to sustain the outputs of the project are straggling and some of them are already down like livestock, market for cooking briquettes.

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#### ABSTRACT

Project sustainability depends upon beneficiaries' involvement in its operations which include but not limited to identification, planning, implementation, monitoring, evaluation, reporting etc. One of the most prominent issues of the present times to address is beneficiaries' involvement. The present study was conducted under guidance of an objective as to determine the extent to which beneficiaries participated in project management and to measure the relationship between beneficiaries' participation and project sustainability. The study targeted 500 households headed by vulnerable women located in Gihombo and Kilimbi sectors from Nyamasheke district. By using Slovin's formula a representative sample of 223 was drawn. The questionnaire was used as an instrument to collect data. The SPSS version 16 was used for descriptive and inferential statistical analyses. The study revealed that beneficiaries participated in all project phases but not in all activities. The beneficiaries' participation at the initiation phase their involvement in needs assessment was at 54.3%, into the project design, the setting of objectives included beneficiaries at 52.9%. Along the project implementation, the beneficiaries were poorly involved, only 23.8% were part of buying livestock, 83.4% in information sharing and 74% of the beneficiaries were included in the project reporting.

After calculating the Spearman correlation by using SPSS, the coefficient is 0.123 which indicates the positive correlation between the beneficiaries' involvement and project sustainability. The significant value of 0.067 is less than the Spearman correlation coefficient (0.123) which means that the correlation between the two variables is statistically significant.

The conclusion is that, beneficiaries' involvement was extended to all phases of the project but not in all activities of the project. Therefore, basing upon the typology of participation this project used the functional participation. The beneficiaries' involvement in all project phases and activities is highly recommended to enhance the after project sustainability towards the long term impact.

## 1. INTRODUCTION

Between 2010 and 2015 the Rwanda Red Cross Society conducted a model village project in Nyamasheke district in Rwanda's Western Province. The project was technically supported by the Belgian Red Cross, and financed by the European Commission, with the Italian Red Cross as co-financing partner. The project aimed to strengthen the capacity of 2,000 households in community health and environmental protection and to improve the living conditions of the population. Notably, 500 particularly vulnerable women heads of households received productive grants (livestock) to conduct income generating activities and were grouped in savings and loan groups to generate a modest income and savings. (Scholer, 2013)

This research is critically analyzing the beneficiaries' participation towards project sustainability.

The present study was conducted under guidance of three objectives which are as follow:

1. To determine the extent to which beneficiaries participated in project management.
2. To evaluate the sustainability of project results especially at output and outcome levels.
3. To measure the relationship between beneficiaries participation and project sustainability.

Sustainability was neglected for a long time, economic growth and profit was more important (Silvius and Schipper 2014b). Sustainability in general got more attention due to climate change and other happenings, but the topic sustainability in project management is quite new; the last 10 years more researches were conducted in this area. Projects are delivered using some kind of project management methodology; therefore, sustainability should be implemented, not only in the organization, but also in the practical

methodologies to address sustainability within projects (Martens and Carvalho, 2017).

Beneficiary involvement has become popular in international development generally, and it is an essential feature of sustainable development (Gaventa, 2003). Participatory working has grown because more and more organizations are finding that they can get significantly better results using participatory methods rather than traditional policy development and project management. Sometimes participation happens just because it is required (such as for regeneration funding), but more often these days, organizations are finding that participatory working fits very well with the idea of modern government 'enabling' as much as directly 'delivering', where consumers, citizens and communities all have a role to play in creating effective public services, alongside public bodies. (Gaventa, 2003)

Over the last decades of development, funders like the World Bank in Africa have demonstrated the failures of top-down approaches to development. Not only do the benefits of project implementation remain low in developing nations, most projects suffer from a lack of sustainability. Possible reason for these failures is attributed to the lack of local participation in planning and the implementation processes of the projects. Since the 1980s the new development slogan has been participatory and project implementation in community-led development and there has been a rush to jump on the participatory bandwagon. Such community based projects to development are among the fastest growing mechanisms for channeling development assistance and according to conservative calculations, the World Bank's lending for community driven development (CDD) projects has gone up from \$325 million in 1996, to \$2 billion in 2003 (Mansuri and Rao, 2003).

Active community participation in project planning and

implementation may improve project design through the use of local knowledge; increase project acceptability; produce a more equitable distribution of benefits; promote local resource mobilization; and help ensure project sustainability. Community participation may also entail the following costs: delays in project start-up; necessary staff increases; and pressure to raise the level or range of services. Participatory approaches may also be more risky than bureaucratic/technical management as there is a danger of the co-option of the project by certain groups, the creation of conflicts, or losses of efficiency due to inexperience with the participatory approaches (Bamberger, 1986).

When communities are involved in project initiation and implementation, there is the assurance of sustainability subject to some conditions unlike when they have no idea about the project or when it is imposed on them. There ought to be genuine demand by a community or groups within it for all projects whether aided or non-aided by the government or any international agency. This eliminates the tendency to abandon the projects when they are halfway completed and sustains the interest of communities or groups within them in maintenance and protection of those projects. The project is not seen on a stranger (Ademola Olukotun, 2008).

Between 2010 and 2015 the Rwanda Red Cross Society conducted a model village project in Nyamasheke district in Rwanda's Western Province. The project was technically supported by the Belgian Red Cross, and financed by the European Commission, with the Italian Red Cross as co-financing partner. The project aimed to strengthen the capacity of 2,000 households in community health and

environmental protection and to improve the living conditions of the population. Notably, 500 particularly vulnerable women heads of households received productive grants (livestock) to conduct income generating activities and were grouped in savings and loan groups to generate a modest income and savings. (Scholer, 2013)

Among the activities undertaken by this project include improving the access of the population to safe drinking water, improving the hygiene, reducing the prevalence of transmissible diseases, by reducing the malnutrition and diarrhea among children, and strengthening the resilience of the community with regard to landslides through the implementation of anti-erosion measures.

Since the 1990s', participation has been seen as an antidote to the failure of development assistance, but it was only in the 1990s that multilateral agencies such as the World Bank placed greater emphasis on stakeholder participation as a way to ensure development sustainability (Gonzales, 1998). It is now regarded as a critical component which could promote the chances of development initiatives being sustainable through community capacity building and empowerment (Lyons, Smuts, & Stephens, 2001). Empowerment in this context means giving people who are marginalized, vulnerable and excluded from development, the ability to be self-reliant to manage their own resources. It is believed that participation would lead to empowerment through capacity-building, skills, and training (Lyons et al., 2001). By increasing the ability of people, projects, and/or communities to be self-reliant, they are then able to contribute towards the sustainability of development projects which in turn could contribute to the broader notion of sustainable national development.

With this study, the issue of beneficiaries' involvement

towards project sustainability comes for a critical analysis after completion of all phases in all targeted areas and in all intervention domains of the project.

Beneficiaries' participation in the management system means beneficiaries' involvement in the process of management activities which includes decision-making, implementation, monitoring, evaluation and management of the programs. The participation of the beneficiaries is necessary, because the beneficiaries are the key element to authentic analysis of the reality of their actual demand, problems and the means of solving them (JAMADAR, 2008).

Williams (2006) further informs that beneficiary participation is the direct involvement of the citizenry in the affairs of planning, governance and overall development programs at local or grass roots level. Beneficiary participation is perceived as an undertaking that results in the empowerment of the local population. However, it also has numerous non-benevolent political significances. It is referred to as a curious element in the democratic decision-making process. While the roots of beneficiary participation can be traced to ancient Greece and colonial New England, its significance reflects a contemporary recognition that societies are simply too remote to be truly "of, by and for the people" without their involvement in the development that affects them.

Nevertheless, in principle, beneficiary participation requires the involvement of local actors in the conceptualization, implementation, monitoring and evaluation of projects. In practice it sometimes tends to be confined to specific activities (Mafukidze & Hoosen, 2009).

"In essence, sustainable development is a process of change in which the exploitation of resources, the

direction of investments, the orientation of technological development; and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations" (Elkington, 1999).

McKenzie (2004) identifies several attempts to define social sustainability and concludes it generally to be, "a positive condition within communities, and a process within communities that can achieve that condition."

According to Araújo and Mendonça (2009), the concepts of sustainable development and sustainability are distinct. Sustainable development is commonly associated with the expectation of a country entering in a growth phase and remain so over time, and sustainability is the ability to self-sustaining itself and self-remaining.

Defining sustainability is the starting point from the understanding and implementation of the concept. In some cases authors refer to a comprehensive definition that incorporates the project management angle, although the initial definition is referred to the Brundtland report, "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This concept might include many different aspects, although the basic components are commonly defined by the triple bottom line, which aims to include social, environmental and economic goals. Once this concept is understood, then it is translated by the organizations into concrete actions and well-defined operational terms (Silvana, 2013).

According to Abraham (2004), participation is a process of equitable and active involvement of all stakeholders in the formulation of development policies and strategies and in the analysis, planning and implementation, monitoring and evaluation of development activities. To allow for a more equitable development process, disadvantaged stakeholders need to be empowered to

increase their level of knowledge, influence and control over their own livelihoods, including development initiatives affecting them. The term participation has recently come to play a central role in the discourse of rural development practitioners and policy makers. At the same time, people's interpretations of the term and criticisms of other people's interpretations have multiplied, and the intentions and results of much participation in practice have been questioned or even denounced. In other words, participation has become a hotly contested term, in a debate with deep implications for the ways in which community, society, citizenship, the rights of the poor and rural development itself are conceived, and for the policies that are formulated about and around some of these concepts and the social realities to which they refer (World Bank, 2002).

There are many logical arguments for beneficiary participation in development projects. First are the economic justifications. Public participation will mobilize greater resources and accomplish more with the same project budget. It is also economically efficient in that it uses generally under-utilized labour and, to a lesser extent, can build upon indigenous knowledge which also tends to be underutilized. Thus more services are provided at less cost. Another benefit of participation is better project design. Participation ensures that felt needs are served. Presumably beneficiaries will shape the project to their specific needs in ways that outside planners cannot. A sense of immediate responsibility and ownership by beneficiaries puts pressure on a project to be truly worthwhile (KURT, 1987).

From their study Mapping the Outcomes of Citizen Engagement Gaventa and Barrett (2012) found that of

830 outcomes (of the four types above) in the 100 case studies, about 75% were positive, and around 25% were negative. Citizen engagement through local associations was identified as having the highest proportion of positive outcomes, with both local associations and social movements scoring more highly than participation through formal governance structures. After more than two decades of support in international development for greater citizen participation, the issue is not simply to ask "what difference does it make?" but to understand further the conditions under which it makes a positive difference. Benefits and outcomes are often confused with each other. Whilst connected they are different. For example, if an outcome of IT project is that personnel are able to do their work more quickly, freeing up time, then the ensuring benefit is "what is actually done with the time that is freed up, since clearly if managers do not find ways to utilize the time released then no benefit will materialize". "Only with the conscious intervention of managers" will an outcome yield business benefits (Ward, et. all. 2004); with the benefit only be able to be realized as result of an "observable outcome"- "the outcome is needed for benefit to be realized". Following on from this, Simon recommended that the re-investment of expected benefits also be considered at the start of a project (Simon, 2003). Outcomes are not always expected and positive, they may also be negative and/or unexpected, with the combination of these two factors potentially leading to disbenefits. Therefore, responsible managers need to consider outcomes in terms of them being expected or unexpected, positive or negative. It can be assumed that expected-negative outcomes (and associated disbenefits) exist in all situations except the most simple. When considering expected negative outcomes managers need to agree that "they are a price worth paying to obtain the positive

benefits". Risks associated with unexpected-negative outcomes can be mitigated "by employing risk assessment techniques and the learning from earlier projects or earlier phases of the same project" (Ward, et. all. 2004).

The sustainability of Asian Development bank (ADB) projects is an issue that has been raised in several independent evaluation department (IED) reports over the years. For example, the 2000 Review of Evaluation Activities stated "The projects evaluated in 2000 showed less than satisfactory achievements in ensuring sustainability. Overall, 11 of the 21 evaluated projects (52%) were rated either less likely or unlikely to be sustained. The proportion was higher for those projects rated partly successful and those rated unsuccessful." The 2000 report also stated: "the scope of project completion report (PCR) assessments needs to be extended, especially in relation to an assessment of project/program purpose, design, and sustainability" (Suganya, et. al., 2010).

The overview of the sustainability ratings for the same projects shows that the majority of the PCR sustainability ratings are most likely or likely. Excluding PCRs with no sustainability rating from the totals, 65% of 491 projects with PCR sustainability ratings are rated most likely or likely, and 7% are rated unlikely. All project performance evaluation reports (PPERs) contained a rating for sustainability as well as for overall success. Of the 97 PPER sustainability ratings, 66% are most likely or likely, almost equal to the overall success rate in PPERs, and only 1% is unlikely (Suganya, et. al., 2010).

The Bank's poverty-focused lending in the 1970's stressed the access of low income beneficiaries to the benefits of development projects. There was an

explicit emphasis on equity, and on community participation as the sharing of benefits by the poor. Policy statements and sectoral priorities provided institutional support for the participation of the poor in the benefits of development projects. For example, the Bank's Operations Policy Notes (OPN) reflects the equity concerns of the "new style" projects of the 1970's. Specific guidelines were evolved for reporting and monitoring the poverty alleviation impact of the rural and urban sector projects. Local involvement could lead to a simpler, less costly operation as well as greater commitment to implementing the project and achieving its objectives. Moreover, the publication of an annual report on the Bank's impact on poverty alleviation ensured institution-wide monitoring of the equity effects of Bank lending (World Bank, 1987).

The correlation coefficient for the relationship between beneficiaries' participation and project sustainability was found to be 0.082. This infers a positive relationship between beneficiaries' participation and success of the school water tanks, this relationship was found to be significant with a level of 0.025. Therefore it can be concluded that, there is a relationship between beneficiaries' participation in the project and success of a project (MUTULILI, 2005).

There are several problems that have hindered community participation in the Johannesburg Alexandra Urban Renewal Projects and which must be avoided in order for future projects to be successful in South Africa: lack of clear objectives linking the short and long-term visions of the program, and lack of pilot projects with extensive training programs or lead-in time to allow for proper planning at a national scale. These would have allowed sufficient time to develop the necessary technology, establish training programs, and develop both

institutional and the individual capacities. In the past, projects have seldom been scaled to the magnitude of national manpower needs, and often they have been introduced in an unsystematic and fragmentary style. This often leads to technical hastiness, compounded by incompetence and inappropriate technology selection. There have also been organizational infirmities and inappropriate administrative arrangements, an imbalance between centralization for higher level coordination and decentralization for local decision-making and execution of works, and inadequate post-project maintenance arrangements have often undermined the efficacy of the projects (Gauteng Provincial Government, 2004).

The study about Challenges and Opportunities for Community Participation in Monitoring and Evaluation of Government Projects wanted to find out if there were any challenges of involving community in Monitoring and evaluation (M&E).

Almost all (52) 95 percent out of 55 of the respondents indicated that there were challenges in participating in M&E, while (3) 5 percent indicated that they did not

know if there is challenge or not. However, those respondents who indicated that for them to participate on monitoring and evaluation faced with challenges 53 percent out of 55 of the beneficiaries argues that time and money is a big challenge to them in monitoring and evaluation of the subprojects. Participation in M&E takes much time because it needs people to participate in all stages; planning, implementation and monitoring and evaluation. The findings indicate that most of the beneficiaries live in scatted rural areas which sometimes they need to travel up to the district headquarters. About 30 percent of the respondents argued that lack of literacy skills in M&E is among the challenges. Lastly, it indicated that 16 percent of all respondents argued that complexity of data analysis of collected information is a challenge. The respondents lamented that they had no enough knowledge and skills in analyzing the information they had collected. They added that trainings which were provided but not adequately to help them in analyzing the collected information (Bakari, and Said, 2018).

## Typology of participation

Types of participation	Features
Manipulative participation	Pretense, with nominated representatives having no legitimacy or power
Passive participation	Unilateral announcements without listening to people's responses
Participation by consultation	External agents define problems and information gathering processes and so control analysis
Participation for material incentives	People participate by contributing resources (labour) in return for material incentives
Functional participation	External agencies encourage participation to meet predetermined objectives
Interactive participation	People participate (as a right) in joint analysis, development of action plans and formation or strengthening of local institutions
Self-mobilization	People take initiatives independently of external institutions to change systems

**Source:** Cornwall (2008)

## METHODS

The study targeted 500 households headed by vulnerable women located in Gihombo and Kilimbi sectors from Nyamasheke district. By using Slovin's formula a representative sample of 223 was drawn. The study considered the period of eight years starting from 2010 up to 2017. The Kilimbi sector has 300 households' beneficiaries while Gihombo has 200 only as indicated in project document.

Sample size for this study is calculated using Slovin's formula which is as follow:

$$n = \frac{N}{1 + N * e^2}$$

Where;            n = Number of sample size  
                       N = Total population  
                       e = margin error is 5%

Given: N = 500 beneficiaries/ households

e = Confidence level is 95%.

$$n = \frac{500}{1 + 500 * 0.05^2} = 222.2, \text{ the sample becomes } 223$$

The total sample from both sectors is distributed as presented in the table one.

**Table 1: Sample distribution**

Sectors	N	n
Kilimbi	300	134
Gihombo	200	89
<b>Total</b>	<b>500</b>	<b>223</b>

**Source:** Primary data, April 2018

The questionnaire was used as an instrument to collect data and Statistical Package for Social Sciences (SPSS) version16 was used for descriptive and inferential statistical analyses.

For descriptive statistics the measures of frequency like count, percent, frequency and measures of central tendency as mean have been used. To measure the dispersion, the standard deviation was used. The inferential statistics were used and those include one sample hypothesis test, T-test and Pearson Correlation.



## **RESULTS AND DISCUSSIONS**

### **1. Beneficiaries participation in project management**

Around 57.8% of the participants revealed that they were agreed on their involvement in process of identification of causes and effects of the problem while 42.2% were on the side of disagreeing to the participation at this stage. In developing the project objectives and performance indicators 52.9% of the beneficiaries revealed that they contributed while 47.1% of them were totally disagreeing about their contribution.

The beneficiaries' participation in buying livestock was deplorably represented by 23.8% of the total beneficiaries which means that 76.2% of the beneficiaries were not part of the buying process of livestock deserved to them. Most of participants as presented by 85.7% confirmed that the due contribution was given at regular basis contrary to 14.3% who said that the contribution in terms of finance was not given as required. The information sharing as practice of involving beneficiaries was acknowledged by 83.4% of the participants contrary to 16.6% opposing the idea.

The beneficiaries' participation in process appraisal was accepted by 76.7% of the participants contrary to 23.3% who were not involved in that exercise.

The outputs appraisal work was done under the involvement of 59.2% of the beneficiaries while 40.8% claimed the non- involvement in that stage.

The participation in influencing changes was acknowledged by 53.8% and participation in reporting was confirmed by 74%. The opposing ideas were 46.2% and 26% to influencing changes and reporting respectively.

### **2. Sustainability of project results at output and outcome levels**

The results on sub variables under social sustainability indicate that 93.3% of participants are applied in community based health, 83.9% of respondents are applied in first aid, 91.5% of respondents are applied in sanitation transformation and 96.4% are applied in participatory hygiene. The project social sustainability was also evaluated by application in nutrition and balanced meals where 90.1% of respondents were agreeing by being fully informed and able in nutrition and balanced meals. Among the participants 93.3% of respondents confirmed that they used clean water from their dairy activities. The payment of health insurance fees and school fees are still at satisfactory level as they stand at 63.7% and 66.4% respectively. Among the participants 81.6% confirmed that after the project they reduced the frequencies to health services. The results on fruits and vegetable production indicate that the zero production has reduced from 50.22% to 30.94% and the production of more than 20 kg per season had risen from 7.62% to 27.35%.

**Table 2: Mean and standard deviation for vegetables and fruits production**

	Cabbages production before the project	Cabbages production after the project	Carrots production before the project	Carrots production after the project	Onions production before the project	Onions production after the project	Passion production before the project	Passion production after the project
N Valid	223	223	223	223	223	223	223	223
Mean	11.2242	45.1749	7.8744	24.9776	13.9193	37.8879	10.0448	15.1211
Std. Deviation	43.35018	132.1622	49.83326	84.85289	110.8429	151.1786	103.9854	63.69203

**Source:** Primary data, April 2018

As presented in table two, the mean production to all vegetables and fruits before the project have been increasing compared to the mean of production to all vegetables and fruits after the project which indicates the positive change brought by the project.

The standard deviations to all vegetables and fruits production before the project and even after the project indicate that the production was not normally distributed to all project beneficiaries. The decrease of standard deviation was observed to passion fruit production before and after the project (103.9854 and 63.69203 respectively) but still the distribution was not normal.

Frequency trends to health centers for medication, range of one to five times per year have been increased from 55.6% to 70.8% after the project. The frequencies in the range of 16 to 20 per year had reduced from 4.9% to 1.8% after the project.

The economic sustainability has been evaluated by making comparisons of various situations before and after the project.

The fields considered by this economic sustainability are expenses on health services, number of livestock reared and the average monthly incomes. The comparison made between the expenses relating to health services is to ensure the economic development and savings for future investment or refinance the project activities.

Considering the payment per annum of up to 1000 Rwf before the project only 31.4% of beneficiaries should have access to health services while after the project this percentage increased to 51.1% representing a half of total beneficiaries. Before the project, 4501-5000 Rwf were used by 3.6% of beneficiaries but after the project this amount was used by 0.9% means no needs for too much money to have access on health services. The beneficiaries who paid between 100001 and 150000 Rwf before the project were 1.3% contrary to the after project where this percentage falls down to 0.4%. Before the project the payment of health services should be even more than 150000 Rwf as 0.4% but the situation after is null.

**Table 3: Visits and expenses for health services**

		Visits to health center per year before the project	Visits to health center per year after the project	Health services expenses per year before the project	Health services expenses per year after the project
N	Valid	223	223	223	223
Mean		7.3318	5.0314	15943.14	5370.493
Std. Deviation		8.33625	6.28124	35309.68	12722.04

**Source:** Primary data, April 2018

The information provided indicates that the mean of visits to health center has been a little bit decreased before the project and after the project but the related expenses have reduced at about one third of the expenses before and after the project. The standard deviations of both visits and expenses had moved in the similar variations like their related mean.

The livestock as one of the economic assets has been promoted to enhance the income generating activities. The 70.9% of beneficiaries of those who had zero livestock before the project have decreased to 48% after the project. Before the project only 5.4% had two livestock and after the project the percentage is more doubled and represented by 11.7%. Livestock before the project Mean is 0.3991 and Std. Deviation of 0.73362 then the livestock after the project the mean became 1.6143 and Std. Deviation of 13.38125. The mean of livestock reared before was low and compared to the one of after the project. The standard deviation of the livestock before the project was somehow reasonable. The standard deviation of livestock reared after the project indicates that the distribution is not normal.

The income is one of the indicators of economic development which facilitate the beneficiaries to pay for primary needs and reinvest in more generating activities like business. The income of project beneficiaries before and after changed as the rate of those who earned between 500 Rwf and 5000 Rwf decreased from 25.6% to about a half of 13.9%. The rate of those who earned between 35001 Rwf and 40000 Rwf has been increased from 0.8% to 5.2% which indicate the positive variation in monthly incomes of project beneficiaries. The mean of the monthly income of beneficiaries before the project (Mean: 18408.0717) was increased compared to the mean of after the project (Mean: 23383.8565). The standard deviations of the beneficiaries' monthly income before (Std. Deviation: 18941.18273) and after (Std. Deviation: 26435.33006) the project indicate that the distribution is somehow normal.

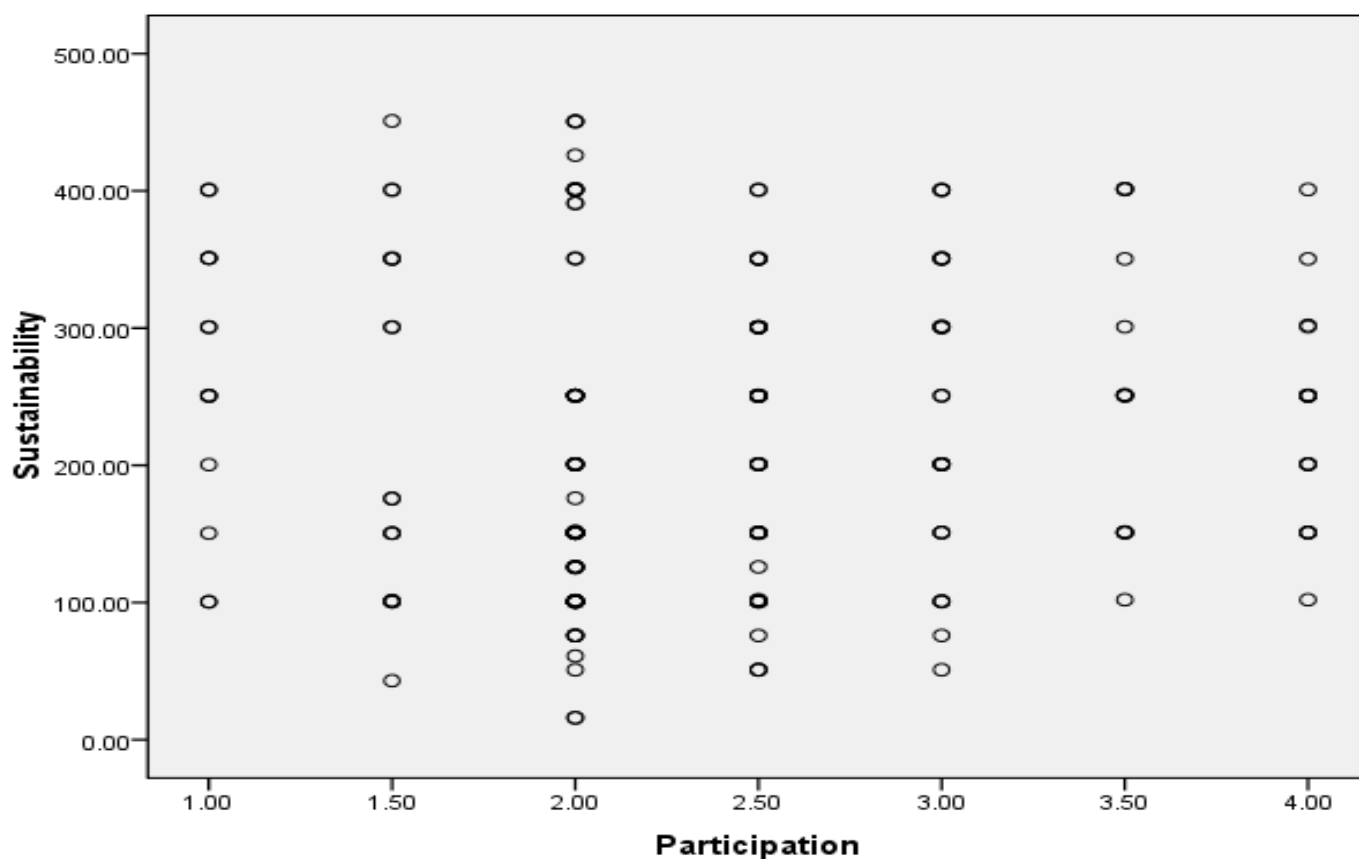
### **3. Beneficiaries involvement and project sustainability**

To evaluate the relationship between the independent and dependent variables, the Spearman correlation was calculated by using SPSS and the results are presented in table four and the related scatter graph.

**Table 4: Correlation between beneficiaries’ involvement and project sustainability**

			Participation	Sustainability
Spearman's rho	Participation	Correlation Coefficient	1.000	.123
		Sig. (2-tailed)	.	.067
		N	223	223
	Sustainability	Correlation Coefficient	.123	1.000
		Sig. (2-tailed)	.067	.
		N	223	223

Source: Primary data, April 2018



**Figure 1: Scatter graphs**

According to the information provided in table four and figure one, the correlation coefficient is 0.123 which indicates the positive correlation between the two variables which are beneficiaries’ participation and project sustainability. The significant value of 0.067 is

less than the Spearman correlation coefficient (0.123) shows that the correlation between the two variables is statistically significant.

**4. Hypothesis testing**

In this study two hypotheses were set. The null hypothesis and alternative hypothesis, the testing is based on computing of groups statistics.

**Table 5: Group Statistics**

	codes	N	Mean	Std. Deviation	Std. Error Mean
Marks	1	89	62.88474	11.00794	1.064178
	2	134	49.34944	10.38677	0.633292

**Source:** Primary data, April 2018

To reject or retain the null hypothesis we used a table of statistical metrics below:

**Table 6: Statistical metrics of independent samples t-test**

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Marks Equal variances assumed	2.455	0.118	11.21	374	0.000	13.53529	1.207698	11.16056	15.91002
Marks Equal variances not assumed			10.93	185.19	0.000	13.53529	1.238359	11.09219	15.9784

**Source:** Primary data, April 2018

Since we don't know the population variances of both two groups but thinking that they are not equal, we used a non-pooled t-test which is highlighted by the word "Equal variances not assumed" and in this regard, the corresponding test statistic is  $T = 10.930$  with 185.187 degrees of freedom corresponding to a

probability value;  $p - value = Sig. (2 - tailed) = .000 < .05$  and thus the null hypothesis is rejected saying that there is enough evidence that there is a significance difference in participation of beneficiaries and project sustainability. Further support to this conclusion of rejecting the null hypothesis can be

revealed by having a look at the confidence interval computed in the analysis and it does not include zero and then summary statistics from the output is as follows:

**Table 7(a): Summary Data**

	N	Mean	Std. Deviation	Std. Error Mean
Sample 1	89	62.885	11.008	1.064
Sample 2	134	49.349	10.387	0.633

Source: Primary data, April 2018

**Table 7(b): Statistical metrics of the Independent Samples t-Test**

	Mean Difference	Std. Error Difference	t	df	Sig. (2-tailed)
Equal variances assumed	13.535	1.208	11.208	374	0
Equal variances not assumed	13.535	1.238	10.93	185.188	0

Source: Primary data, April 2018

**Table 7(c): 95.0% Confidence Intervals for Difference**

	Lower Limit	Upper Limit
Asymptotic (equal variance)	11.168	15.902
Asymptotic (unequal variance)	11.108	15.962
Exact (equal variance)	11.161	15.91
Exact (unequal variance)	11.092	15.978

Source: Primary data, April 2018

The 95% C.I (confidence interval) from the analysis is (11.092, 15.978) does not include zero and thus the null hypothesis has been rejected and retain the alternative hypothesis.

## DISCUSSION

There seem to be three main values underpinning current participatory practice in the UK: People have the right to participate in the decisions that affect their lives. Beneficiaries of public policy can add value to its development and implementation (and similarly in voluntary and private sector policy and practice). Participation should lead to change for the better. The purpose of participation is to achieve change in relation

to the purpose identified; it may also make a difference to all those involved in terms of learning, confidence and sense of active (Gaventa, 2005).

In this study 57.8% of the participants revealed that they were agreed on their involvement in process of identification of causes and effects of the problem, the beneficiaries' participation in process appraisal was accepted by 76.7% of the participants and most of participants as presented by 85.7% confirmed that the due contribution was given at regular basis. This confirms the common principle of beneficiaries' participation.

Social sustainability highlights the unity and continuity

of the society with practices that allow people to work towards shared goals. Individual's existential needs of health and well-being, nutrition, safety, educational and cultural expression should be met (Gilbert, 1996). Economic sustainability can be interpreted in terms of present generations performing economic activities without burdening future generations through the creation of liabilities (Schieg, 2009).

Current study revealed that the rate of those who earned between 35001 Rwf and 40000 Rwf has been increased from 0.8% to 5.2% which indicate the positive variation in monthly incomes of project beneficiaries before the project, the payment of health services should be even more than 150000 Rwf as 0.4% but the situation after is null. For social sustainability, the study indicates that 93.3% of participants are applied in community based health, 83.9% of respondents are applied in first aid, 91.5% of respondents are applied in sanitation transformation and 96.4% are applied in participatory hygiene. This indicates that the findings are closer to international intention. This indicates that the social and economic sustainability is ensured.

Another dimension of sustainability considered for project management practices is transparency and accountability. Transparency refers to the avoidance of a black-box methodology and disclosure of the policies, decisions, activities and the subsequent environmental and societal impact of these. It also involves a "clear, accurate and complete portrayal, to a reasonable and sufficient degree", of all the above (Hemphill, 2011). This allows stakeholders to evaluate and address any arising potential issues thereby contributing to an adherence to sustainable practices (Silvius & Schipper, 2014).

The correlation coefficient of 0.123 indicates the

positive correlation between the two variables which are beneficiaries' participation and project sustainability. The significant value of 0.067 which is less than the Spearman correlation coefficient (0.123) shows that the correlation between the two variables is statistically significant.

According to Okafor (2005) what we observe when communities participate in their own projects include the empowering communities improve efficiency; local participation yields better projects, better outcomes; greater transparency and accountability enhances service delivery; community participation can kick start local, private contractors, service providers; and finally encourages donors' harmonization.

Since we don't know the population variances of both two groups but thinking that they are not equal, we used a non-pooled t-test which is highlighted by the word "Equal variances not assumed" and in this regard, the corresponding test statistic is  $T = 10.930$  with 185.187 degrees of freedom corresponding to a probability value;  $p - value = Sig. (2 - tailed) = .000 < .05$  and thus the null hypothesis is rejected saying that there is enough evidence that there is a significance difference in participation of beneficiaries and project sustainability.

The 95% C.I (confidence interval) from the analysis is (11.092, 15.978) does not include zero and thus the null hypothesis has been rejected and retain the alternative hypothesis.

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