# CONTRIBUTION OF MICROFINANCE LOAN ON SOCIO-ECONOMIC DEVELOPMENT OF ITS BENEFICIARIES - A CASE STUDY: DUTERIMBERE MFI (MICROFINANCE INSTITUTION) RWANDA

**Ellen Mushimiyimana,** Departement of Logistics Management, School of Economics & Management, Beijing Jiaotong University, Beijing, China

**Nkundukozera Janvier,** Key Laboratory of Intelligent Perception and Image Understanding of Ministry of Education, Xidian University, Xi'an, China

**Emmanuel Dushimire,** Mechanical Engineering, University of Rwanda, College of Science and Technology, Rwanda

**Abstract:** *The study set to assess the contribution of Microfinance Institutions on socio – economic development of beneficiaries specifically in Nyarugenge District. A cross section research design was used to reach the respondents. The target group for the present study was the Duterimbere' beneficiaries in which a sample size of 150 was used to select respondents. Primary data were collected by using, questionnaires, and observation and focused group discussion while secondary data were obtained from documentary sources such as magazines, books, newspapers, manual files and journals. Quantitative data from structured and semi-structured questionnaires were analyzed using Excel and Statistical Package for Social Sciences (SPSS). The results obtained were used to make correlation between Microfinance Duterimbere and socio – economicdevelopment of beneficiaries. The findings shown that the correlation of 0.64 (68%) was located in the interval [0.50 – 0.75] and categorized as a positive and high correlation.As the significant level is at 0.01(1%), the p – value of 0.000 (i.e. 0.0%) is less than 1% .These findings led to confirm that there is a relationship between microfinance Duterimbere and socio – economic development of its beneficiaries. The study recommends that, MFI should continue considering thetraining of its beneficiaries in creating business activities and the government should strengthen the MFI to be able to operate like banks and loan opportunities be channeled through them.*

***Keywords:*** *Microfinance, socio-economic, Rwanda development, contribution, microfinance loan*

## 1. INTRODUCTION

Rwanda is a small landlocked country, situated in east-central Africa. It is often called The Land of a Thousand Hills because of the innumerable rolling hills that cover the entire landscape, in Rwanda, 90% of the population is engaged in subsistence agriculture[1]. One study in 2010 showed that the ratio of the income between the 5% richest and 5% poorest of the population is 74 to 1 as compared to the ratio in 2006, which was 30 to 12[2].

To reduce this poverty, the Government of Rwanda announced its millennium development goals, aimed to eradicate poverty[3]. In this regard, microfinance is the form of financial development that has its primary aim to alleviate the poverty [4].

Microfinance is the provision of a broad range of financial services to poor low-income households and micro enterprises [5]. According to Bakhtiari[6] in the recent days, microfinance schemes have been proliferating in all parts of the world. Although the impact of those schemes on the borrowers' businesses and household welfare is widely contested, the number of borrowers has been on sharp increase [7]. So farBakhatiari[8] argues that since, microfinance has proven to be an effective tool for poverty reduction it is argued that microfinance can be considered an important element for an effective poverty reduction strategy. It shows that access and efficient provision of microfinance can enable the poor to smooth their consumption, better manage their risks, gradually build their assets, develop their micro enterprises, enhance their income earning capacity, and enjoy an improved quality of life[9].

Gurses[10]Conducted a study in Turkey and mentioned that microfinance especially micro credit is a powerful tool to reduce poverty. The author has mentioned that one fifth of the population of Turkey was at risk due to the poverty even though it is not a poor country according to global standards. Moreover, the author mentioned that the poverty, both in turkey and all over the world, is not only a function of microcredit but a political problem and political intervention of the state holds the ultimate resolution to struggle against poverty.

A great number of African countries have a problem of serious and worsening poverty. This is a very tremendous problem for the continent especially sub-Saharan countries, therefore, it shouldn't be the task of the government alone to alleviate such financial and institutional

crisis. Hence, there should be a holistic approach to eradicate the poverty in the region and MFIs have an essential role in addressing such challenge appropriately [11].

Furthermore, Morduch and Haley[12] showed that there is evidence to support the premise that it is possible for a microfinance institution to serve the poorest and also achieve financial sustainability. However, Swain [13] states that microfinance is better used as an instrument along with other policies for poverty alleviation rather than poverty reduction strategy in isolation. Numerous institutions in many parts of developing world have been providing micro-credit and recovering their loans. The Grameen Bank's group lending methodology became widely adopted by institutions in many parts of the world [14].

Moreover, in both underdeveloped and developing economies, microfinance has vastly and increasingly been seen as a driving force for fast socio –economic development. Nevertheless, the belief that microfinance is a major tool for enhancing socio-economic development have been a subject of a lot of critics. The significant impact of microfinance is generally low for the beneficiaries and is still low in business development of beneficiaries [14].

The economies with positive growth rate of Gross National Product (GNP) were measured by their poverty reduction scale. The acquisition of wealth and technology achievements is considered as an ideal path for development and improvement of lives for all [15].

Numerous scholars and NGOs have been working to take microfinance within the reach of poor people, who are still not benefited by the conventional financial system, although definitive scientific evidence of impact of microfinance on poverty is not available [16], [17].

In this research, we try to show the contribution of microfinance in hastening socio – economic development in Rwanda by fostering income generating activities, helping poor people to have access on development services such as health and education, and reduction in vulnerability. Much

In this research we try to present evidences of microfinance in socio-economic development in Rwanda by increasing the income generating activities, empowerment of poor people to access development services such as health and reduction in vulnerability, much empirical evidence argues that MFIs have helped their clients promote employment opportunities, improve income, accumulate assets and deal with risks and vulnerability [18]–[21], [29].

In this regard, the study focused on microfinance contribution to the socio –economic development of beneficiariesliving in Nyarugenge district, Kigali city, Rwanda with reference to the selected households living in different sectors including Gitega, Rwezamenyo, Nyakabanda and Kimisagara.

## 2. MATERIALS AND METHODS

### 2.1 Theoretical framework

The objective of this paper was to assessthe contribution of Microfinance Institutions on socio–economic development of beneficiaries specifically in Nyarugenge District. Formal institutions like banks had been often declining the poor to have access to credit because of high transaction costs, assumed high default rates on loan repayments and their collateral requirements which do not favor the poor[30].  Therefore, in order to start their businesses and cater for their needs, the poor and the low income groups had too run after informal source of finance such as money lenders, traders, landlords and employers, friends, neighbors and relatives, Rotating savings and credit associations (ROSCAs) and informal savings clubs[31]–[33]. Nevertheless, informal sources have a lot limitations such small size loans which are insufficient for investment activities; and other sources like money lenders tend to charge high rates of interest on their loans[29], [30], [34].

In this context, microfinance came as a reliable alternative source of financial services such as loans, savings and insurance to low-income households and the poor[35], [36].  Although there is no available definitive scientific evidence of the impact of microfinance on poverty[22], [23], many researchers argue that MFIs have helped their clients to promote employment opportunities, improve income, accumulate assets and deal with risks and vulnerability [18].

To assess the contribution of MFIs on socio-economic development of beneficiaries in Nyarugenge District, this paper uses mixed methods combining qualitative and quantitative approaches. This approach is recognised in data sciences since it results in enhanced quality of data and enables a comprehensive analysis that is rich in both breadth and depth of information [24]–[26].

Both data collection tools design and data collection process were based on independent (IV) and dependent (DV) variables as shown in Figure2.1.
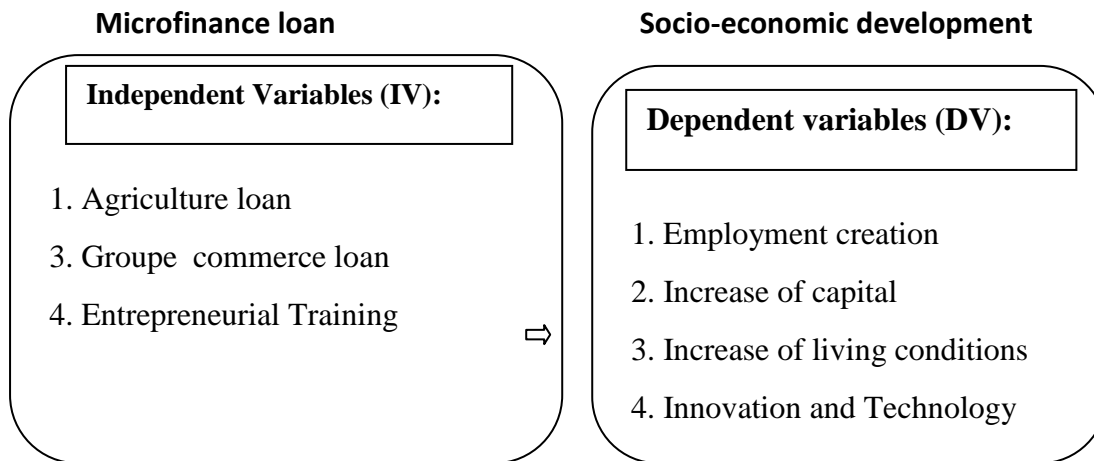
**Microfinance loan**

**Socio-economic development**

**Independent Variables (IV):**

1. Agriculture loan

3. Groupe commerce loan

4. Entrepreneurial Training

⇨

**Dependent variables (DV):**

1. Employment creation

2. Increase of capital

3. Increase of living conditions

4. Innovation and Technology

**Figure2 .1: Conceptual Framework of the Study**

Source: Field data, 2017

Figure 2.1 shows the independent (IV) and dependent (DV) variables involved in our study. The first box from left represents contribution of microfinance activities as independent variables (IV), and the second box hosts the socio – economic development which is the dependent variable (DV) under which creation of employment, increase of capital, increases of socio-living conditions and innovation and technology are the main indicators.

The sample size of the study was drawn from the target population living in five cells formed by different villages using random sampling [27]**.** In order to get the sample size in each selected cell, the researcher used Yamane 'formula [28].

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

**n =** represents sample size, **N** is the population size and **e** is the margin of error

Assume that:       $\frac{240}{1+240(0.05)2}$=150

Therefore, the population (N) selected was 240, and the obtained sample size (n) consists of respondents.

**Table 2.1.Population of the Study, Sample Size and Sample technique**

| Sector | cell | village | population | Sample Size | Sampling Technique |
|---|---|---|---|---|---|
| Nyakabanda | NyakabandaI | Kokobe | 64 | 44 | Randomly |
| Kimisagara | Kamuhoza | Katabaro | 56 | 36 | Randomly |
| Gitega | Akabahizi | Gihanga | 52 | 27 | Convenience |
| Rwezamenyo | Kabuguru I | Mothusi | 58 | 33 | Convenience |
| Duterimbere staff | Kiyovu | Spetrade | 10 | 10 | Universal |
| Total | - | - | 240 | 150 | |

Source: Field data, 2017

To allow objective comparisons of results obtained, the collected data was processed with SPSS software. Data analysis involved calculations of simple percentages, means, and construction of tables and frequencies in order to render them meaningful and facilitate description and explanation of the findings [37].

Pearson Product Moment correlation was used to analyze scores on objective three in order to establish the relationship between microfinance Duterimbere and socio-economic of beneficiaries at 0.01 as level of significance. Scores will be gotten through interviews with key informants will be descriptively analyzed to establish main trends of the qualitative data. The qualitative data gathered through the interview complemented the qualitative data got by coding the scores. Coefficient of determination ($r^2$) was used to indicate the extent.

**Table 2.2: Evaluation of the mean**

| Mean Range | Numeric weight | Interpretation |
|:---:|:---:|:---:|
| 1 – 1.9 | 1 | Weak |
| 2 – 2.49 | 2 | Moderate |
| 2.5 – 4.00 | 3 | Strong |

Source: Sanger, (2008)

Table 2.2 the means ranges and the corresponding interpretation of the respondents' responses to reflect their perception and rating of each variable(s) understudy. This translation will assist in clarification of the means obtained from the descriptive statistics.

**Table 2.3: Evaluation of Standard deviation**

| Mean Range | Numeric weight | Interpretation |
|:---:|:---:|:---:|
| St.dev ≤ 0.5 | 1 | homogeneous of perception |
| St.dev ≥ 0.5 | 2 | heterogeneous of perception |

Source: Sanger, (2008)

Table number 2.3 presents the standard deviation and their corresponding interpretation of the respondents' responses to reflect their perception and rating of each variable(s) understudy. This translation will assist in clarification of the standard deviation obtained from the descriptive statistics.

## 3. RESULTS AND DISCUSSION

### Table 3.1: Socio – demographic characteristics of Respondents

| Characteristics | Description | Frequency | Percentage |
|---|---|---|---|
| **Sex of respondents** | Male | 33 | 22 |
| | Female | 177 | 78 |
| **Age of respondents** | 20 up to 25 | 22 | 15 |
| | 26 up to 30 | 28 | 19 |
| | 31 up to 35 | 31 | 20 |
| | 36 up to 40 | 28 | 19 |
| | 41 and above | 41 | 27 |
| **Marital Status** | Single | 25 | 17 |
| | Married | 75 | 50 |
| | Divorced | 23 | 15 |
| | Windowed | 27 | 18 |

Source: Field data, 2017

Data in Table4.1 have important aspects and insights. It is shown that33(22%) of the respondents were male and 117 (78%) female. This indicates the majority of female among our respondents.In terms of age, 22 (15%) of the members were aged 20 up to 25, 28 (19%) were aged 26 up to 30, 31 (20%) were aged 31up to 35, 28 (19%) were aged 36 up to 40 while the last category of the respondents 41 (27%) were aged above 41. The later belong to the group of people who have major responsibilities in the family and joined microfinance Duterimbere as a place to obtain loan to enable them to solve their family problems. Table4.1 shows again that 75 (50%) of the members were married and 26 (17%) were single. Lastly, Table4.1 shows that 23(15%) of members were divorced and 27(18%) were widowed. This study indicated that high percentage of married people used financial institutions as a place to access financial services including loans which can help them to invest in development activities.

### Table 3.2: Duterimbere support activities and services to beneficiaries

| Service & activities | Mean | Std Deviation | Comments |
|---|---|---|---|
| Agriculture loan | 2,126 | 0,201 | Moderate homogeneous |
| Group Commerce Loan | 3,006 | 0,303 | Strong homogeneous |
| Entrepreneurial Trainings | 3,986 | 0,390 | Strong homogeneous |
| Overall mean | 3,039 | - | |

Source: Field data, 2017

Table 4.2 presents the findings on how microfinance Duterimbere MFI Ltd supported activities and services to members. The moderate mean ($\mu$ = 2,126) situated between 1.9 up to 2, 5 in table scale, and high standard deviation that falls into (Std. 0,201) indicated that

the responses on this variable were moderate homogeneous. Furthermore, the results represented the strong mean (μ = 3,006) of respondents situated also between 1,9 up 2,5 and standard deviation (Std.0,303) imply that microfinance Duterimbere MFI Ltd has provided credit to the people in the group of commerce. Still on this findings, the strong mean (μ=3,986) of the respondents and the standard deviation (Std. = 0,390) relate to the training that Duterimbere MFI Ltd offered to its beneficiaries.

**Table 3.3: Duterimbere indicators on socio –economic development of beneficiaries**

| Perception | Mean | Std. Deviation |
|---|---|---|
| Employment creation | 2,763 | 0,014 |
| Increase of investments | 3,349 | 0,116 |
| Increase of living conditions | 1,186 | 0,021 |
| Innovations and technology | 1,191 | 0,102 |
| Overall mean | 2,432 | |

Source: Field data, 2017

Table4.3 shows that the mean (μ=2,763) and standard deviation (std.0, 014) of Duterimbere beneficiaries on employment creation was done at the significant level. The interpretation of high mean (μ =3,349) and high standard deviation (std = 0,116), signifies that Duterimbere beneficiaries have had increased capital investment. Concerning the socio – living conditions, the moderate mean (μ=1,186) and low standard deviation of (Std. = 0,021) show that Duterimbere beneficiaries were improved in socio –living conditions. With regard to innovations and technology, the high mean (μ = 1.181) and Standard deviation of (Std 0,102) indicate that Duterimbere improved innovations and technology on the moderate level by using scale table.

**Table 3.4: Monthly income on Duterimbere Beneficiaries**

| Production | Before Joining Dutermbere | | After Joining Duterimbere | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| 50000  - 100 000 | 101 | 67 | 30 | 20 |
| 101,000 -150000 | 29 | 19 | 58 | 38 |
| 151,000 -200000 | 12 | 8 | 34 | 22 |
| 201,000-2500,00 | 6 | 5 | 17 | 12 |
| 251,000 above | 2 | 1 | 11 | 8 |
| Total | 150 | 100 | 150 | 100 |

Source: Field data, 2017

The study findings inTable4.4 illustrate the change in income before and after taking a loan from Duterimbere.Remarkably, more than the majority of respondents 101(67%) were able to find very little income between 50.000 and 100.000  per month but a change aftertaking

a loan from Duterimbere is obviousbased of the fact that the first category of respondents 26(17) confirmed that they could get income estimated between 50000 up to 100 000 .The second category said that they would normally have an income situated 5,1000 up to 100 000 FRW but it was increased up to 54 (36%) after taking a loan from Duterimbere.The third category of respondents (12(8%) situated with an income between 151,000 and 200,000 also increased their income up to 34 (22%) after taking a loan from Duterimbere.The fourth categoryof respondents (6%) who could find income situated between 200,000 and 250,000 are improved up to 17 (11%) while the last category of respondents situated to 251,000 and above were 2(1%) increased up to 11(8%) of respondents. Note that all the monetary figures indicated in this research were measured in the National currency of Rwanda(Frw)

**Table 3.5: Distribution of Duterimbere Beneficiaries by assets Owned**

| Assets | Before joining Duterimbere | Percentage | After Joining Duterimbere | Percentage |
|--------|------------|------------|---------------|------------|
| Land | 27 | 18 | 35 | 23 |
| House | 23 | 15 | 30 | 20 |
| Cattle | 36 | 24 | 15 | 10 |
| Motorbike | 17 | 12 | 23 | 15 |
| Car | 2 | 1 | 10 | 7 |
| Furniture | 45 | 30 | 37 | 25 |
| Total | 150 | 100 | 150 | 100 |

Source: Field data, 2017

The results in Table4.5 revealed that 27 (18%) of Duterimbere Beneficiaries had their own land before joining Duterimbere compared to 35 (23%) of beneficiaries who obtained land after taking a loan from Duterimbere. The findings further show that 23(15%) of Duterimbere beneficiaries had owned house compared to 30 (20%) reported to have owned house after taking a loan from Duterimbere. A part from house, 36 (24%) of Duterimbere' beneficiaries had owned cattle compared to 15(10%) who have obtained cattle after taking a loan from Duterimbere. In addition, 17(12%) of Duterimbere' beneficiaries had owned Motorbike's compared to23 (15%) after taking a loan in Duterimbere. The results revealed that 2(1%) of Duterimbere beneficiaries had owned a car compared to 10(7%) of beneficiaries after getting a loan from Duterimbere. Surprisingly, the findings reported that 45(30%) of beneficiaries who had had furniture reduced to 37 (25%) after taking a loan from duterimbere.

**Table 3.6: Entrepreneurial Training on Duterimbere beneficiaries**

| Years of training | Frequency | Percentage |
|---|---|---|
| 2 | 33 | 22 |
| 4 | 56 | 37 |
| 6 | 31 | 21 |
| 7 | 30 | 20 |
| Total | 150 | 100 |

Source: Field data, 2017

The findings in Table4.6 Revealed that 33 (22%0 of Duterimbere beneficiaries attended entrepreneurship training during 2 years and 56 (37%) attended the entrepreneurial training during 4 years. This indicates that the majority of the beneficiaries attended Duterimbere's training reason why they invest their loans in micro and small scale businesses because they had enough knowledge and skills about business initiative and loans management. Furthermore, 31(21%0 of respondents were trained during 6 years while 30(20%) were trained during 7 years and above.

**Table 3.7: Food Security and Nutrition**

| Number of meal per day | Before Joining Duterimbere | | After Joining Duterimbere | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| Strongly disagree | 22 | 15 | 0 | 0 |
| Disagree | 14 | 9 | 0 | 0 |
| Agree | 60 | 40 | 90 | 60 |
| Strongly agree | 54 | 36 | 59 | 40 |
| Total | 150 | 100 | 150 | 100 |

Source: Field data, 2017

As shown in Table4.7,22(15%) of the respondents strongly disagreed that the frequency of their meals per day could not increase since they used to have meal once a day. Fortunately, after taking a loan from Duterimbere, that figure reduced from 22 (15%) to 0 (0%).The second category of respondents (14(9%) disagreedon the increasing of meals frequency before taking a loan from Duterimbere but after taking such a loan they were reduced to (0%).The third category of respondents 60(40%) agreed that they could take food properly before taking a loan from Duterimbere and this number has increased up to 90 (60%) after taking a loan from Duterimbere. The last category of respondents consists of 54 (36%) who strongly agree that they could find food before joining Duterimbere and this number has reached 59 (40%) of respondents after joining Duterimbere.

### Table 3.8: Capacity of school fees payment

| Levels of study | Before Joining Duterimbere | | After Joining Duterimbere | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| Strongly disagree | 25 | 17 | 0 | 0 |
| Disagree | 45 | 30 | 2 | 1 |
| Agree | 36 | 24 | 41 | 28 |
| Strongly agree | 44 | 29 | 107 | 71 |
| Total | 150 | 100 | 150 | 100 |

Source: Field data, 2017

Table4.8 illustrates the situation of capacity of school fees payment before and after joining Duterimbere. The respondents 25 (17%) situated in the first category answered with strong disagree that they could pay school fees easily before taking a loan from Duterimbere but after taking such a loan they were reduced to 0(0 %) of the respondents. The second category of respondents 45 (30%) confirmed with disagree that they should not pay the school fees of theirchildren before taking a loan form Duterimbere but they were reduced to 2 (1%) after taking a loan from Duterimbere. The third category equals 36(24%) of respondents and they said that they hadcapacity of paying school fees for their children before taking a loan from Duterimbere but these respondents increased up to 107(71%) after taking a loan from Duteterimbere Ltd.

### Table 3.9: Payment of Health Insurance

| Items | Before Joining Duterimbere | | After Joining Duterimbere | |
|---|---|---|---|---|
| | Frequency | Percentage | Frequency | Percentage |
| Strongly disagree | 24 | 16 | 0 | 0 |
| Disagree | 26 | 17 | 5 | 3 |
| Agree | 60 | 40 | 24 | 16 |
| Strongly agree | 40 | 27 | 121 | 81 |
| Total | 150 | 100 | 150 | 100 |

Source: Field data, 2017

The findings in Table4.9 show that 24 (16%) of the respondents strongly disagreed on the ability to pay health insurance before joining Duterimbere. Dramatically, this category of respondents said that they were able to pay health insurance after taking loan from Duterimbere. The second category of respondents 26 (17%) disagreed on being able to pay health insurance before taking a loan from Duterimbere but these respondent were reduced to 5(3%) after taking a loan from Duterimbere, The third category of respondents

60 (40%) agreed on being able to pay health insurance before taking a loan from Duterimbere but these respondents increased up to 24 (16%) after benefiting from loan from Duterimbere.

**Table 3.10: Affiliation between Microfinance Duterimbere and socio –economic development of beneficiaries**

|  |  | Duterimbere Services | Socio - economic development |
|---|---|---|---|
| Duterimbere Services | Pearson Correlation | 1 | .874 |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 150 | 150 |
| Socio - economic development | Pearson Correlation | .874 | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 150 | 150 |

Source: Field data, 2017

**Legend:**

[-1.00 -0.00 [: Negative Correlation

[0.00 – 0.25 [: Positive and very low Correlation

[0.25 -0.50 [: Positive and low Correlation

[0.50 – 0.75 [: Positive and high Correlation

[0.75 – 1.00]: Positive and very high Correlation

As shown in Table4.10, the correlation between Microfinance Duterimbere loan and socio – economic development of beneficiaries has a significance level because it is equal or greater than 0.01.According the research. Furthermore, the findings show that the correlation of 0.87 (87%) was located in the interval [0.50 – 0.75[categorized as a positive and high correlation. Therefore there is a significant linear relationship between those two variables...

## 4. CONCLUSION

The study was based on Microfinance on socio-economic development of beneficiaries. Generally it was aimed to assess the contribution of microfinance on socio –economic development of beneficiaries, taking in Nyarugenge District as a case study. The major findings as per specific objectives are the followings:

Concerning the services offered by Duterimbere on socio –economic development of its beneficiaries, the findings revealed that The moderate mean (μ = 2,126) situated between

1.9 up 2, 5 in table scale, and high standard deviation falls into (Std. 0,201) indicated that the responses on this variable were moderate homogeneous

Furthermore, the results represented the strong mean (μ = 3,006) of respondents situated also between 1,9 up 2,5 and standard deviation (Std.0,303) imply that microfinance Duterimbere

MFI Ltd has provided credit to group's commerce. Still on this findings, the strong mean (μ=3,986) of the respondents and s standard deviation (Std. = 0,390) are interpreted that microfinance Duterimbere MFI Ltd trained to its members entrepreneurship development with creating micro and micro - enterprises in development of Rwanda.

Regarding to microfinance Duterimbere on growing the small and medium enterprises, the respondents represent the mean 3,521 were micro-enterprise traders, while the respondents represent the mean 3,009 are small-scale enterprise traders. Among manufacturers the mean 2,001 invested their loans in micro-enterprise, while the respondents represent the mean 2,130 were in small-scale enterprise. In relation to individuals involved in agricultural business, the mean 1,907 were in micro-enterprise, while 2,132 were in small-scale. While in the service industry, 1,983 each was categorized as micro entrepreneurs in services while the mean 1,961 were categorized in macro-services.

With regard to indicators of Duterimbere on socio-economic development of its beneficiaries, the mean (μ=2,763) and std. deviation (std.0, 014) of Duterimbere beneficiaries on employment creation was done at the significant level. The interpretation of high mean (μ =3,349) and high standard deviation (Std = 0,116), signifies that Duterimbere beneficiaries have been increased capital investment. Concerning the socio – living conditions the moderate mean (μ=1,186) and low standard deviation of (Std. = 0,021) shown that Duterimbere beneficiaries were improved in socio –living conditions. With regard to innovations and technology the high mean (μ = 1.181) and Standard deviation of (Std 0,102) indicated that Duterimbere improved innovations and technology on the moderate level by using scale table.

With to Duterimbere in socio –economic development of beneficiaries25 (17%) situated in the first category answered with strong disagree that they could pay school fees easily before joining Duterimbere but after Duterimbere the first category reduced until 0(0 %) of the respondents. The second category of respondents 45 (30%) confirmed with disagree

they should not pay the school fees of children before joining Duterimbere but they reduced up to 2 (1%) after joining Duterimbere.

Regarding correlation between microfinance Duterimbere and socio –economic development of its beneficiaries, the findings shown that the correlation was 0.87 (87%) was located in the interval [0.50 – 0.75[categorized as a positive and high correlation .As the significant level is at 0.01(1%), the p – value of 0.000 (i.e. 0.0%) is less than 1% .These lead to confirm that there is a relationship between microfinance Duterimbere and socio – economic development of its beneficiaries.

Duterimbere has brought considerablepositive changes in the standard of living of its members to a large extend. With the influence and contribution of Duterimbere through access on savings and credits, its members testify to have acquired improvement in their business income and ability to pay for social services such as education, health, frequency of daily meals, improved shelter and domestic assets like furniture, bicycle, motorbike and cars. Regarding the socio–economic development in a broad way, the study revealed that, Duterimbere performed better since the institution brought about improvement in the life standard of the members, increased investment, increase of capital investment and improvement of innovations and technology.

The study also indicates that the success of microfinance in the study area; was due to increase of monthly income, increase of ownership property, entrepreneurial training, education, health insurance and security food nutrition. Despite the achievements contributed by microfinance Duterimbere, the institution faced some of challenges such as lack of adequate savings related to loans conditions, loan for education and insufficient application forms. These challenges should be addressed so as to enable members to improve their life.

(a) Duterimbere MFI Ltd would continue to sensitize its beneficiaries to take loans by using joining grant for it has been seen that the lack of sufficient collateral is still a big challenge to get a loan

(b) Duterimbere MFI Ltd should increase trainings for its beneficiary's particularly entrepreneurial training as this is declared as a big challenge for them.

(c) Duterimbere MFI Ltd should accept only the credit files which are complete in order to avoid the delay in granting loans as some respondents have raised this issue.

(d) Duterimbere MFI Ltd must continue to sensitize its beneficiaries to the culture of saving.

## ACKNOWLEDGEMENTS

## AUTHOR CONTRIBUTIONS

Ellen conceived of the presented idea, developed the theory and performed the computations. Janvier verified the analytical methods and Dushimire helped to illustrate the findings of this work. All authors discussed the results and contributed to the final manuscript.

## REFERENCES

[1]    MINAGRI, "Agriculture_Final2.pdf," 2012.

[2]    MINICOFIN, "Rwanda Poverty Profile Report," Rwanda report, 2011.

[3]    MINIPLAN, "Poverty report," Poverty report, 2010.

[4]    Ibid, "Income, Poverty, and Health Insurance Coverage in A the United States," Current Population Reports, 2005.

[5]    S. Amin and A. R. Pebley, "Gender Inequality within Households : The Impact of a Women's Development Programme in 36 Bangladeshi Villages," *Bangladesh Dev. Stud.*, vol. 22, no. 2/3, pp. 121–154, 1994.

[6]    S. Bakhtiari, "Microfinance and Poverty Reduction: Some International Evidence," *International Business & Economics Research Journal*, vol. 5, pp. 60–63, 2006.

[7]    Salia, "The Effect of Microcredit on the Household Welfare," *International Journal of Academic Research in Business and Social Sciences*, vol. International Journal of Academic Research in Business and Social Sciences, pp. 12–13, 2014.

[8]    S. Bakhtiari, "Microfinance and Poverty Reduction: Some International Evidence," *International Business & Economics Research Journal (IBER)*, vol. 5, 2011.

[9]    Omar, "Role of Micro Finance in Poverty Reduction," *International Journal of Management and Commerce Innovations*, pp. 30–40, 2011.

[10]   D. Gurses, "Microfinance and Poverty Reduction in Turkey," *Perspectives on Global Development and Technology*, vol. 8, pp. 90–110, 2009.

[11] Yahie, "Poverty Reduction in sub-Saharan Africa: Is There a Role for the Private Sector," *Work. Pap. Ser.*, no. 1/03, pp. 18–20, 2002.

[12] H. Morduch, "Analysis of the Effects of Microfinance on Poverty Reduction," *Working Paper Series*, no. 28/6, pp. 90–95, 2002.

[13] Swain, "Evidence from Impact Assessment," *The Department for Infrastructure and Economic Cooperation*, vol. 5, no. 1/10, pp. 20–22.

[14] S. Basu and P. Priya, "Scaling-up Microfinance for India ' s Rural Poor," *Wash. DC World Bank*, vol. 1, no. 1/06, pp. 12–14, 2005.

[15] K. Kharim, "Impact of Micro Finance Activities on the Economic Development of Bangladesh," *International Journal of Finance and Banking Research*, vol. 2, pp. 1–6, 2016.

[16] Roodman, D, "Due Diligence: An Impertinent Inquiry into Microfinance," *Wash. DC Cent. Glob. Dev.*, 2012.

[17] D. Roodman and J. Morduch, "The Impact of Microcredit on the Poor in Bangladesh: Revisiting the Evidence," *J. Dev. Stud.*, vol. 50, no. 4, pp. 583–604, Apr. 2014.

[18] D. Hulme and P. Mosley, *Finance against poverty. Volume 1*. 1996.

[19] M. Pitt and S. Khandker, "The Impact of Group-Based Credit Programs on Poor Households in Bangladesh: Does the Gender of Participants Matter?" *J. Polit. Econ.*, vol. 106, no. 5, pp. 958–996, 1998.

[20] Snodgrass, D and Sebstad, J, "The Impacts of Microfinance in Three Countries," Washington, D.C, Management Systems International, 2002.

[21] Khandker, "Microfinance and Poverty: Evidence Using Panel Data from Bangladesh," *The World Bank Economic Review*, vol. 19, no. 2, pp. 263–286, 2005.

[22] D. Roodman and J. Morduch, "The Impact of Microcredit on the Poor in Bangladesh: Revisiting the Evidence," Center for Global Development, Working Papers 174, 2009.

[23] D. Roodman, "A Replication of â€œCounting Chickens When They Hatchâ€ (Economic Journal 2012)," *Public Finance Rev.*, vol. 43, no. 2, pp. 256–281, 2015.

[24] G. Lincoln, *Competing Paradigms in Qualitative Research*. Thousand Oaks, CA: Sage Publications.

[25] E. R. Babbie, *The practice of social research*. Belmont, CA: Wadsworth Thomson Learning, 2001.

[26] Creswell, "RESEARCH DESIGN: Qualitative, quantitative, and mixed methods," *SAGE Publications*, 2003.

[27] M. E. Amin, *Social science research : conception, methodology and analysis*. Kampala, Uganda: Makerere University, 2005.

[28] T. Yamane, *Statistics; an introductory analysis.* New York: Harper and Row, 1967.

[29] Littlefield, E., Morduch, J, and Hashemi, S, "Is Microfinance an Effective Strategy to Reach the Millennium Development Goals," *Consultative Group to Assist the Poor (CGAP)*, 2003.

[30] M. Hudon, "The economics of microfinance, by Beatriz Armendariz de Aghion and Jonathan Morduch (Cambridge, MA: The MIT Press, 2005, pp. 352)," *J. Int. Dev.*, vol. 20, no. 2, pp. 245–246, 2008.

[31] T. Rutherford, "Applied General Equilibrium Modeling with MPSGE as a GAMS Subsystem: An Overview of the Modeling Framework and Syntax," *Comput. Econ.*, vol. 14, no. 1–2, pp. 1–46, 1999.

[32] M. Rutherford, "Kathleen G. Donohue, Freedom from Want: American Liberalism and the Idea of the Consumer (Johns Hopkins University Press: Baltimore, 2003) pp: xii, 326, $45.95, ISBN 0-8018-7426-2," *J. Hist. Econ. Thought*, vol. 27, no. 02, pp. 220–223, 2005.

[33] A. Berger and G. Udell, "The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle," *J. Bank. Amp Finance*, vol. 22, no. 6–8, pp. 613–673, 1998.

[34] A. Varghese, "The Microfinance Revolution: Sustainable Finance for the Poor: Marguerite Robinson; Washington, D.C.: The World Bank, 2001, pp. 304, ISBN 0-8213-4524-9, $35.00," *J. Asian Econ.*, vol. 13, no. 1, pp. 123–124, 2001.

[35] MIX, "Scenarios and Options for Productivity Growth in Philippine Agriculture an Application of the AMPLE," East Asian Bureau of Economic Research, Microeconomics Working Papers, 2010.

[36] A. D. B. (adb), "2011 Clean Energy Investments: Project Summaries," Asian Development Bank (ADB), ADB Reports RPT124787, 2013.

[37] Aliaga, M and Gunderson, B, *Interactive Statistics*. Upper Saddle River,N.J, 2000.