



RESEARCH ARTICLE

ANALYSIS OF IMPLEMENTATION OF HOME GROWN INITIATIVES AND THEIR IMPACT ON POVERTY REDUCTION IN RWANDA (2013-2016)

<sup>1,\*</sup>Gasheja Faustin, <sup>1</sup>Kopparthy Satya Murthy, <sup>2</sup>Makuza Théogène and <sup>1</sup>Mukulira Olive

<sup>1</sup>College of Business and Economics (CBE), University of Rwanda, Rwanda

<sup>2</sup>NYABUIHU District, Rwanda

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ABSTRACT

Case of Girinka Munyarwanda program in Nyabihu District: 2013-2016” aims to identify the activities implemented in the framework of Girinka Munyarwanda Program in Nyabihu District; To determine the main challenges that face Girinka Munyarwanda program in Nyabihu District; To evaluate the situation of welfare conditions before and after Girinka Munyarwanda program in Nyabihu District; To calculate the correlation between the supports obtained from Girinka Munyarwanda program and the level of welfare conditions of its beneficiaries. The study applied both descriptive and correlation analyses. 2,587 is the population from which the sample was taken. The sample size was derived from 2,587 households to be surveyed using the Yamane’s formula at a confidence interval of 90% and margin of error of 10%. The calculation gave 96 persons as the sample size. After documentation, questionnaires, interviews and analysis of responses from respondents, it was revealed that a great number of cows have been distributed based on the level of poverty of their beneficiaries. The program also provided trainings to its beneficiaries on how to entertain cattle. However, some challenges face that program insufficiency of milk collection centers, in their respective Sectors and shortage of veterinarian services. At the end, it was recommended to the Government to gather other cows to distribute because there are so many other poor families and to set up more milk collection centers in all Sectors in Nyabihu district and hire a great number of veterinarians to make available their services in Nyabihu district. The population should regularly report any problems related to cows from Girinka Munyarwanda Program to nearest authorities and fully participate in designating Girinka beneficiaries in order to fight against corruption. Therefore, the research questions have been answered and the objectives achieved.

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INTRODUCTION

The Government of Rwanda recognizes the importance of poverty eradication as a key element on the path to sustainable development, and has taken key steps to address poverty-related challenges in the country (African Union, 2010). A very high proportion of the population is dependent on agriculture. 85% of working adults work on their family farm during the year. Over 70% of adults do more than one job, with urban dwellers more likely to have just one job than their rural counterparts (Minecofin, 2015). The majority of Rwandans are employed on farms either as independent farmers or as unpaid family workers on the farm. Any improvement in this sector has the potential to reduce poverty (Asselin, 2012). The population of Rwanda has grown from 9.5 million people in 2005/06 to an estimated 10.8 million in 2012/13. About 85% of the Rwandan population lives in rural areas. The distribution

at the provincial level is similar, with the exception of Kigali City, where only 16% live in rural areas. 54% of the population is aged 19 years or younger and about 83% are under 40 years of age. People aged 65 years and above make up 3% of the population. About 53% of the population is constituted by female individuals. The ratio of males per 100 females decreases with age – in the youngest age groups it is 97–99 (National Institute of Statistics of Rwanda, 2015). The country is characterized by the predominance of marginal and small farmers. EICV3 conducted in 2011 shows that poverty has declined significantly in Rwanda. The proportion of the population living below the poverty line was 56.7% in 2006 and reached 44.9% in 2010/2011 (HGI target is 46% by 2015) (HGI, 2012). The proportion of the population living below the extreme poverty line was 36.9% in 2006 and reached 24% in 2010/2011 (HGI target is 24% by 2015). The 2012 Intermediate Impact Assessment of the HGI shows that at the selection period of beneficiaries, of the respondents, the population in the bottom three Ubudehe categories (the poor) was 96.5%, whereas in 2012 it is 84.1%. Of the respondents,

\*Corresponding author: Gasheja Faustin,  
College of Business and Economics (CBE), University of Rwanda, Rwanda.

the population in the bottom two Ubudehe categories (the poorest) was 63% at the selection of beneficiaries, whereas it is now 45% (National Institute of Statistics of Rwanda, 2015). The country has numerous interventions aimed at improving economic development and poverty reduction. These include Vision 2020, the MDGs, the EDPRS, Government programmes such as the One Cow per poor Family (GIRINKA) Programme, “Ubudehe Programme”, “Mutuelles de Santé”, and civil society and private sector programs (HGI, 2012). Having implemented many government programs for poverty reduction, this study wishes to analyze the implementation of Girinka Munyarwanda and its impact on poverty reduction not in the whole country, but in Nyabihu District.

Poverty worldwide has become a considerable handicap to developing countries, particularly in sub-Saharan Africa. It remains a very worrying phenomenon in South Asia, Latin America and Africa including Rwanda. This is why the fight against poverty is a priority to ensure the stability and development in economic, social and political level (Unictad, 2014). To succeed in this struggle, UNDP (2013) believes that the government of Rwanda must invest in development program aimed at poverty reduction. In this way, the Government of Rwanda set up several programs. Among those programs, Girinka aims at “fighting poverty among Rwandan population by giving cows to poorest families” (Minagri, 2008). It is within this context that recently cows have been distributed in Rwanda and in Nyabihu District in particular. Its primary mission is to provide means to the most vulnerable people to ensure their socio-economic welfare in particular and the country in general (Minagri, 2006). Even though some families acquired cows through that program, they still live in poorest conditions as it can be observed. As the researchers found before to choose this topic, some aspects of the program are not working: some families acquired cows but have no means to feed them while others have no milk collection centers to send their merchandise. Furthermore, reports of the program shows that some households prefer other small livestock like goats, pigs, rabbits, etc., than cows which they find hard to rear (RGB, 2014). At a long term, this would lead to failure of the program if nothing is done to level out that situation.

### Research objectives

The general objective of this research is to analyze the implementation of home grown initiatives and their impact on poverty reduction using the case of Girinka Munyarwanda program in Nyabihu District from 2013-2016. Specifically the objectives are

- To identify the activities implemented in the framework of Girinka Munyarwanda Program in Nyabihu District;
- To determine the main challenges that face Girinka Munyarwanda program in Nyabihu District;
- To evaluate the situation of welfare conditions before and after Girinka Munyarwanda program in Nyabihu District;
- To calculate the correlation between the supports obtained from Girinka Munyarwanda program and the level of welfare conditions of its beneficiaries.

### Literature review

Studies have shown that people with government programs contributed to poverty reduction in Africa in general and in

Rwanda in particular. For example, the survey conducted by Hakizimana (2012) showed that Home Grown Initiative has distributed thousands and thousands of cows in rural areas and these cows have been a key of socioeconomic development. This has been shown in terms of improved shelter of those who received cows, improved health coverage, nutrition and monthly income of households. Another study conducted by Byukusenge (2012) showed that, in Nyabihu District, 873 cows had already been distributed to poorest families. Some of these cows gave birth to others which were also distributed to addition families. These figures show that a lot of persons have benefited from this government program if we consider that the average of the family size is about 5 persons. Another study was conducted in 2006 by Ruberangeyo, Ayabare and Laminne de Bex (2011). The study is entitled “Rwanda Social protection: an ongoing process, in UNDP Sharing innovative experiences, successful social protection floor experiences, global south-south Development Academy”. This study retraced the history of Girinka (One Cow per Poor Family) Programme, as it is known today. According to this author, this program is inspired by this Rwandan culture. It was reintroduced by His Excellency the President of the Republic of Rwanda in 2006 and approved by the cabinet meeting of 12/04/2006 as part of the fight against rural poverty in Rwanda (Ingabire, 2013). Girinka Munyarwanda program is therefore part of the implementation measures of the Vision 2020, the Economic Development and Poverty Reduction Strategy (EDPRS) and the Integrated Development Programme (IDP) (Ruberangeyo *et al.*, 2006). Other studies are being conducted in determining the role of HGI program on poverty reduction in rural areas but have not yet published their results as this program is still new.

These include Argent, Britta and Rasul (2013) Livestock Asset Transfers with and without training: Evidence from Rwanda; CDF (2010), Ubudehe Cow Scheme (UCS) Concept Paper, Vision 2020 Umurenge Programme (VUP), Financial Services Component - Micro Cow Fund; IFAD (2011), Republic of Rwanda, Country Program Evaluation, Ingabire Clarisse (2013) Strengthening ownership through capacity development, Case story: Girinka Munyarwanda; IPAR, Beyond one cow: an impact analysis of the one-cow-a-poorfamily (Girinka) programme; Kyu Sung *et al.* (2011), Cattle manure management in Rwanda – A case of Girinka cow beneficiaries in the district of Ngoma; Ombudsman (2011), Report on investigation on evaluation of government programs: One cow per poor family project and construction of house to the vulnerable people; RAB (2013), The One Cow per Poor Family Program (Girinka) in Rwanda, Kigali and UNICEF (2011), Case Study on Narrowing the Gaps for Equity Rwanda, One Cow per Poor Family: Reaching the most marginalized in Rwanda.

### Research methodology

In collecting secondary data the researcher used the documentation review technique. A number of documents, Internet, annual reports, journals, magazines and publications were consulted for the purpose of obtaining secondary data information relevant to the topic. This technique allowed the researcher to exploit many documents related to Girinka munyarwanda program in particular. Particularly, annual reports helped the researcher to analyse the information related to the services delivered by Girinka munyarwanda program to its beneficiaries especially the number of cows distributed, the beneficiaries who acquired those cows.

## Research Instruments

During this research, the following instruments were used in collection of primary data: In this research, the technique of questionnaire used, allows the researcher to collect the data and information related to the different factors which determine poverty reduction as a result of cows or other services received from Girinka munyarwanda program. The questionnaire has been addressed to a sample of beneficiaries of Girinka munyarwanda program where a beneficiary responded the question pre-prepared. After constructing the questionnaire, a pre-test was realized in order to check and ensure the required flow of the various statements and to eliminate respondents' confusion about answering the questions. The questionnaire was sent almost to ten individuals composed by 4 women and 6 men, ranging in age from 20-40 years. All of the respondents managed to answer the questionnaire in an understandable way without having any questions or misunderstandings. The pre-test had also an objective of training employees involved in implementing Girinka munyarwanda program because those employees helped the researcher to interview the beneficiaries. During this research, an unstructured interview has been conducted with employees involved in implementation of Girinka munyarwanda program in order to get primary data to use in interpretation of the findings.

## Models and Techniques

The study used purposive sampling technique; that provides a natural starting point for a discussion of probability sampling methods, not because it is widely used, it is not, but because it is the simplest method and it underlies many of the more complex methods. Simple random sampling is a sampling scheme with the property that individuals within the population have equal chances of being selected (Boll and Gall, 1971). The respondents who were ready to provide information have been selected. Simple random sampling technique was applied to give each individual in the population equal chance of being selected and reduce costs and time and increase the degree of accuracy of the study (Grawitz, 2001). For the purpose of finishing this research with a good result, several methods were adopted to collect primary data (data collected through the use of questionnaire and interview) as well as secondary data (data that are already available). A number of tools were used as a practical means of obtaining information related to the research topic.

These include documentary review, questionnaires and interviews. The statistical, comparative and correlative methods have been used for this purpose. The data collected have been checked for any errors and omissions. After checking, the data have been coded and analyzed using Statistical Package for Social Sciences (SPSS). A set of models has been run using the OLS (Ordinary Least Squares) to determine the statistical inference between variables. For that purpose, the researcher has specified equations that are run using Ordinary Least Squares (OLS) in the chapter 4. As the equations are in non logarithmic forms, the researcher linearized them in logarithmic form to allow a sound interpretation and harmonization of data (results are interpreted in terms of percentages).

The models in non logarithmic forms and logarithmic forms are specified as follow:

## Equation 1: Non Log equation

$$MI_t = \beta_0 + \beta_1 C_t + \beta_2 T_t + \varepsilon_t$$

Where

$MI_t$ : Monthly income at period t

$C_t$ : Number of cows obtained as support at period t

$T_t$ : Number of trainings received at period t

$\varepsilon_t$ : Error term

$\beta_0$ ,  $\beta_1$  and  $\beta_2$  are parameters to be estimated

## Log Equation

$$LMI_t = \beta^*_0 + \beta^*_1 LC_t + \beta^*_2 LT_t + \emptyset_t$$

Where LMI: Ln of monthly income at period t

LCt: Ln of cow at period t

LTt: Ln of trainings at period t

$\emptyset_t$ : Error term

$\beta^*_0$ ,  $\beta^*_1$  and  $\beta^*_2$  are parameters to be estimated

## Equation 2: Non Log Equation

$$H_t = f_0 + f_1 C_t + f_2 T_t + \varepsilon_t$$

Where:

$H_t$ : Health accessibility at period t

$C_t$ : Cow received at period t

$T_t$ : Trainings received at period t

$\varepsilon_t$ : Error term

$f_0$ ,  $f_1$  and  $f_2$  are parameters to be estimated

## Log equation

$$LH_t = \beta^*_0 + \beta^*_1 LC_t + \beta^*_2 LT_t + \emptyset_t$$

LHt: Ln of health accessibility at period t

$\emptyset_t$ : Error term

$\beta^*_0$ ,  $\beta^*_1$  and  $\beta^*_2$  are parameters to be estimated

## Equation 3 : Non Log Equation

$$N_t = \hat{Y}_0 + \hat{Y}_1 C_t + \hat{Y}_2 T_t + \varepsilon_t$$

Where

$N_t$ : Nutrition at period t

$C_t$ : Cow received at period t

$T_t$ : Trainings received at period t

$\varepsilon_t$ : Error term

$\hat{Y}_0$ ,  $\hat{Y}_1$  and  $\hat{Y}_2$  are parameters to be estimated

The equation in logarithmic form is written as follows:

## Log Equation

$$N_{ta} = \beta_0 + \beta_1 C_t + \beta_2 T_t + \varphi_t$$

Where

$N_{ta}$ : Nutrition at period t

$C_t$ : Cow at period t

$T_{ta}$ : Training at period t

$\varphi_t$ : Error term

$\beta_0$ ,  $\beta_1$  and  $\beta_2$  are parameters to be estimated

## Equation 4 : Non Log Equation

$$E_t = \mathcal{A}_0 + \mathcal{A}_1 C_t + \mathcal{A}_2 T_t + \varepsilon_t$$

Where

$E_t$ : Education at period t

$C_t$ : Cow at period t

$T_t$ : Training at period t

$\varepsilon_t$ : Error term

The equation in logarithmic form is written as follows:

## Log Equation

$$E_{a_t} = \beta_0 + \beta_1 C_t + \beta_2 T_t + \varphi_t$$

Where

$E_t$ : Education at period t

$LC_t$ : Ln Cow at period t

$LT_t$ : Ln Training at period t

$\varphi_t$ : Error term

$\beta_0$ ,  $\beta_1$  and  $\beta_2$  are parameters to be estimated

## Equation 5 : Non Log Equation

$$S = \tilde{N}_0 + \tilde{N}_1 C_1 + \tilde{N}_2 T_2 + \varepsilon_6$$

Where

$S_t$ : Shelter at period t

$C_t$ : Cow at period t

$T_t$ : Training at period t

$\varepsilon_t$ : Error term

The equation in logarithmic form is written as follows:

## Log Equation

$$S_{a_t} = \beta_0 + \beta_1 LC_t + \beta_2 LT_t + \varphi_t$$

Where:

$S_{a_t}$ : Shelter at period t

$LC_t$ : Ln Cow at period

$LT_t$ : Ln Training at period t

$\varphi_t$ : Error term

$\beta_0$ ,  $\beta_1$  and  $\beta_2$  are the parameters to be estimated

The correlation coefficient of two variables, sometimes simply called their correlation, is the covariance of the two variables divided by the product of their individual standard deviations. It is a normalized measurement of how the two variables are linearly related. The correlation lies in the interval of  $[-1, +1]$ . If the correlation coefficient is close to 1, it would indicate that the variables are positively linearly related and the scatter plot falls almost along a straight line with positive slope. For -1, it indicates that the variables are negatively linearly related and the scatter plot almost falls along a straight line with negative slope. And for zero, it would indicate a weak linear relationship between the variables.

## RESULTS

The findings are discussed according to the objectives

### Concerning activities implemented

Concerning activities implemented, it was found that a lot of activities have been implemented in the framework of Girinka Munyarwanda program. Indeed, the majority of respondents (57.3%) own between 2 and 3 cows resulting from the cow benefited from Girinka Munyarwanda program; 25% own one cow while 17.7% have already more than 3 cows. In addition, 53.1% of the respondents received 1 training on how to entertain cattle; 24% received 2 trainings; 16.7% received 3 trainings and 6.3% received 4 trainings. Also, 27.1% of the respondents strongly agree that the trainings received on how to entertain cattle have been helpful; 21.9% agree with that assertion; 31.3% disagree while 19.8% strongly disagree.

### Concerning the challenges

Concerning the challenges, the implementation of Girinka Munyarwanda program encountered several obstacles. According to the results obtained on the field, the main ones

are the following: Water shortage, lack of milk collection centers, lack of vets, lack of farms and other challenges. More specifically, the majority of respondents (62.5%) have problems to find water for their cows. 37.5% have no problem in that domain. All of the respondents (100%) said that there is no milk collection center in Nyabihu District. The majority of the respondents (63.5%) said that they have difficulty to find vet services. Only 36.5% can easily get those services. The majority of the respondents (57.3%) said that they have difficulty to find vet services. Only 42.7% can easily get those services and the majority of the respondents (65.6%) said that there is a problem of cow diseases. 34.4% said that there is a problem of thieves. The implementation of Girinka Munyarwanda program encountered several obstacles. According to the results obtained on the field, the main ones are the following: Water shortage, lack of milk collection centers, lack of vets, lack of farms and other challenges.

### Concerning the comparison between welfare conditions and before and after Girinka Munyarwanda program

Concerning the comparison between welfare conditions and before and after Girinka Munyarwanda program, it was found that Girinka Munyarwanda program has had a positive impact on poverty reduction in Nyabihu District. This situation can be attested by the positive evolution recorded by the population on monthly income health insurance coverage, education, nutrition, shelter and other factors of development. More specifically, Girinka Munyarwanda program beneficiaries were poorest people with low incomes. But, with the program, the category of the poorest has diminished. They have fallen from 79.2% before Girinka Munyarwanda program to 15.6% after it. All the beneficiaries of Girinka Munyarwanda program have at least one health insurance to which they belong. Before the program, only 57.3% were enrolled. Before Girinka Munyarwanda program, all Girinka Munyarwanda program beneficiaries had difficulties to pay school fees for their children. Today 40.6% of the respondents believe they could afford it. The increase observed in the number of meals per day is a sign of poverty reduction, resulting from Girinka Munyarwanda program. For example, the proportion of beneficiaries who took three meals a day has increased from 0 to 31.3% after Girinka Munyarwanda program. Nobody among the respondents could find sufficient clothing before Girinka Munyarwanda program. After the program, a half of the respondents (50%) reveal that they can buy clothes according to their needs. Only a minority of Girinka Munyarwanda program beneficiaries (5.2%) were able to improve their homes before the program. After they obtained cows from Girinka Munyarwanda program, 69.8% could buy some cement and improve their homes. 28.1% of the respondents had access to electricity before Girinka Munyarwanda program compared to those who did it after the program. After they have obtained cows, electricity becomes more and more affordable. The trend is the same about those who could afford new means of communication like telephones. Indeed, the results obtained confirmed that Girinka munyarwanda program has had a positive impact on poverty reduction in Nyabihu District. The empirical analysis of the effect of the services received from the Girinka munyarwanda program on poverty reduction of the beneficiaries, the results show that the estimated parameter of the cows (LC) is statistically significant at 5% whereas the estimated parameter of the cows (LT) is not significant as long as its estimated parameter's probability value is greater than 5%. Therefore, the monthly income of the

beneficiaries of Girinka Munyarwanda program (LMI) depends on the cows received at that Girinka munyarwanda program, according to the results; the number of trainings does not affect the monthly income of the beneficiaries of Girinka Munyarwanda program. When the amount of cows received increases by 1%, the monthly income grow by 1.133 % *ceteris paribus*. The obtained sign of parameters is the same as the expected sign

On the other hand, the number of trainings does not affect the possession of the mutual health insurance as long as the probability of its estimated parameter is greater than 5%; while the amount of cows affect positively the mutual health (the probability of the estimated parameter is less than 5%). Concerning the nutrition status of the beneficiaries, all explanatory variables (amount of cows and number of trainings) have positive effect (positive sign) on the nutrition status of the beneficiaries of Girinka Munyarwanda program at 5% level of significance. The probability of their estimated parameters is less than 5%. Therefore the following interpretation is made:

- When the amount received as cows increases by 1%, the nutrition status increases by 0.7% *ceteris paribus*.
- When the number of trainings received increases by 1%, the nutrition status increases by 0.41 % *ceteris paribus*.
- The expected sign matches with the estimated sign.

### Concerning education

Concerning education, the results show that all explanatory variables (cows and trainings) have effect on education of the beneficiaries of Girinka Munyarwanda program as long as the probability of their estimated parameters is less than 5% level of significance. Concerning shelter, the number of trainings does not have effect on shelter of the beneficiaries of Girinka Munyarwanda program as long as its relative estimated parameters' probabilities is greater than 5% level of significance. The number of cows has effects on their shelter as the probability of its parameter is less than 5% level of significance. Therefore the number of cows obtained increases by 1%, the possibility of having a shelter increases by 1.25%. The expected sign matches well with the sign found in the estimation. According to the above finding, all the indicators of welfare conditions are affected by the number of cows received and some of them are also affected by the trainings received. Thus, there is a relationship between the support received from Girinka Munyarwanda program and poverty reduction of the beneficiaries who received those support. This means that all the research questions have been answered and the objectives achieved.

### Conclusion

The research named "Analysis of implementation of home grown initiatives and their impact on poverty reduction in rwanda. Case of Girinka Munyarwanda program in Nyabihu District: 2013-2016" identified the support delivered by this program using SPSS through frequency calculation and tabulation. The results show that this program provides cows and trainings on how to entertain cattle to its beneficiaries. In this research, challenges faced by this program has been analyzed and the results show that challenges include insufficiency of the following elements: water, farms, vet

services and milk collection centers. This information has been analysed using SPSS. Also, welfare conditions of the population has been analyzed and the results show that there is increased monthly income, health insurance coverage, education accessibility, improved nutrition and improved shelter among the beneficiaries of Girinka Munyarwanda program. This information has been analysed using SPSS. The last analysis made in this research was the correlation between the support provided by Girinka Munyarwanda program to its beneficiaries and their welfare conditions. Statistically, the number of cows obtained affects very significantly welfare conditions of the beneficiaries and the trainings received affects on a lower level those conditions. Thus there is a relationship between those two variables: Support received and welfare conditions.

### Recommendations

This section is devoted to recommendations that would help to tackle issues that were noted in the implementation of Girinka Munyarwanda Program. These recommendations are given to the following institutions or persons:

- For Government Continue to eradicate corruption in Girinka Munyarwanda program; Gather other cows to distribute because there are so many other poor families; Set up more milk collection centers in all Sectors in Nyabihu district and hire a great number of veterinarians to make available their services in Nyabihu district.
- For the population in Nyabihu district Follow up cows received from Girinka Munyarwanda program because some of them have died from several diseases. Report any problems related to cows from Girinka Munyarwanda Program to nearest authorities for instance in Umudugudu and cells and fully participate in designating Girinka beneficiaries in order to fight against corruption.
- For future researchers, this study recommends them to carry out further study on the following topics: Analysis of the impact of other government program such as Ubudehe, HIMO, etc. on life conditions of people in other district and Analysis of how the other programs work with Girinka Munyarwanda Program in order to fight poverty.

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