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Effect of Women Groups' Credit Access, Savings and Training on Women Economic Empowerment in Nyamira County, Kenya

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Abstract: *Studies indicate a growing evidence that women's economic empowerment is key to achieving women rights, development and making independent decisions on financial matters. However, women face financial exclusion with access to credit being an obstacle to their financial growth. In an effort to improve their living conditions, women form women groups. Unfortunately, studies offer mixed results on the viability of women groups to empowering women as credit would translate to bad debt. This study sought to identify the effects of women groups' credit access, savings and entrepreneurial training on women economic empowerment in Nyamira County. The study utilized descriptive research design and use of primary data from questionnaires. Three hundred and nine respondents were used in the study. Three proxies for women economic empowerment which include asset ownership, contribution to household income and decision making as dependent variables were modeled through probit regression to get the binary findings as to whether a woman was empowered or not through the services offered by the women groups. The study concluded that women groups' credit access and entrepreneurial training influenced women's economic empowerment while savings did not. The study recommends implementation of extensive entrepreneurial training coupled with minimized obstacles to credit access by women and further research on the saving component and its influence on women economic empowerment*

***Key Word**: Women economic empowerment; Women groups; Credit access;Savings; Entrepreneurial training.*

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I. Introduction

Women empowerment is the ability to make strategic life choices. The ability to exercise one's choice constitute of three inter-related aspects namely; control over resources, agency or decision-making (women's involvement in crucial household decisions) and achievements (well-being outcomes) (Kabeer, 2001). In most instances, women get discriminated against making strategic choices that affect their lives. Thus, limiting their social, economic and political choices. The United Nations (UN) acknowledge that investing in the economic empowerment of women directly lead to poverty eradication, gender equality and inclusive growth (UN Women, 2017). Globally, men have more access to saving mechanisms and formal financial institutions than women. Women constitute over 70% of the world's poor with two-thirds of the world' illiterate being the rural women. Target 5a of the SDGs seeks to reinforce reforms for women's rights in economic resources, access, and control over land and financial services and properties (United Nations Sustainable Development, 2016).

Despite women contributing up to 80% of the workforce in agriculture and livestock production in Kenya, they only hold 1% of registered land titles in their names. 5-6% of registered titles are held in joint names. Thus, women rarely own land and do not contribute to major decision pertaining land allocation and land usage. Hence, women's contribution to the economy remains undervalued with the poverty incidence in Kenya being at 46% and women bear the disproportionate larger burden of the 46% (KNBS, 2017). In many Kenyan communities, women lack ownership and control over land but have access to family land. This excludes them from using land as collateral to access other resources.

In Nyamira County, women constitute over 52% of the county's population. However, the First Nyamira County Integrated Development Plan 2013-2017 stipulate that policies, strategies, and plans rarely take into consideration gender roles and responsibilities. Yet, the 2009 census report indicate that 37% of households in Nyamira county are female headed. These families were more likely to be poor compared to male headed households. The report also states that factors exacerbating gender disparities are rooted in socio-cultural practices like participation in decision making, ownership of production resources (capital, land) and early/child marriage. Other factors include poor health, lack of skills due to low educational standards (Nyamira County, 2018).

Women Groups (WGs) act as a source of capital to its members. The basic characteristics of WGs include the proximity and endogeneity of members, a time-bound model where members get back their savings and interest at the end of a cycle, the system is managed by members and there exists a training mechanism on savings and entrepreneurial activities to members. The WGs programs have gained popularity especially in the remote area where access to credit is a challenge. International organizations like Oxfam, Plan and Catholic Relief Services have adopted variations of the WGs to facilitate credit accessibility to remote places (Allen & Panetta, 2010).

The concentration of the WGs in Nyamira County has been on savings. Despite the savings motive being constant even in the rural areas which is: for smoothing consumption at all stages of life (life cycle hypothesis); to enjoy continuously increasing expenditure; to build reserves for unforeseen occurrences (precautionary motive); and to enjoy appreciation and interest (inter-temporal optimizing motive) (Mbuthia, 2011); women economic empowerment lags behind with the gender development index (GDI) being 0.4480 below the national weight of 0.4924 (Kenya National Human Development Report, 2009).

In spite of women engaging in women groups to improve their livelihoods (property ownership, participation in decision making and contributing to family income), the performance of WGs in enhancing women's economic empowerment is minimal. The gender-based assault rate in the county stood at 49.5% and defilement being 36.4% against the national average of 30.3% and 17.3% respectively (National Crime Research Centre, 2018). Hence, the need to mitigate such inequalities in order to obtain sustainable development and equitable societies where the voice of women and men is heard in-discriminatory. It is against this background this study sought to determine the:

i. influence of women groups' credit access on women economic empowerment in Nyamira County
ii. effect of women groups' savings on women economic empowerment in Nyamira County
iii. effect of women groups' entrepreneurial training on women economic empowerment in Nyamira County

II. Literature Review

2.1 Theoretical literature

Empowerment Theory

Ledwith (2005) describes empowerment as the process of having control over conditions important to people sharing similar experiences. Working together through collective state of consciousness that promotes change and creates empowerment. Ledwith states "empowerment is not an alternative solution to the redistribution of unequally divided resources. Empowerment is more than providing the resources for one to help themselves out of poverty, it is the act of providing the necessary tools to shape the whole person and promote a critical way of thinking and consciousness (Ledwith, 2005).

According to the empowerment model, there are four strategies that facilitate the empowerment process. The strategies include, removing environmental barriers, enhancing competence, promoting group structure and resources. Hence, the capacity to make change results from reciprocal influences between key factors associated with persons or groups and the environment. In this interactive process, savings groups lead to empowerment of women through the initiatives provided by the SGs to ensure empowerment of its members.

Resource-based Theory

Also known as the resource-advantage theory of the firm as developed by Barney (1991) states that firms can exploit their resources in order to achieve the desired sustainable competitive advantage. He indicates that sustainability of a competitive advantage relies on the extent of exploitation of resources. Thus, the theory argues that a person's achievements depend on the resources and capabilities they possess. These resources include human capital, physical capital, financial capital and technology. Individuals utilize the resources to build capabilities that create returns and positive impact on their lives and that of firms. Women access credit and obtain financial training among others from the savings groups which create capital, physical, and human resources. The resources obtained create important channels for women's empowerment. The results of women empowerment include financial sustainability, ownership of assets, contribution to household income, agency and mobility. Unfortunately, the competitive advantage aspect of the theory cannot be empirically measured in the changing dynamics of the markets and societal composition.

World Bank Empowerment Model

According to the World Bank, empowerment means "enhancing the capacity of an individual or group to make purposive choices and to transform those choices into desired actions and outcomes." The capacity consists of interrelated factors: opportunity structure and agency. Agency is an individual's ability to make meaningful choices. Opportunity structure involves the contextual issues affecting the actor's capability of transforming choices to effective action. The endowment of assets that promote an actor's exploitation of political, economic and social opportunities. The institutional policies and regulations that govern operation of choices make the opportunity structure. Similarly, the savings groups act as the institutions or the opportunity structure affecting women's empowerment. Hence, women in savings groups' assets and the opportunity structures (women groups) determine the level of empowerment. The World Bank framework describes three degrees of empowerment which include use, existence and achievement of choices. According to the model, endowment of human, material, financial, psychological and organizational assets measures agency. The presence of formal or informal rules and their operation measure the opportunity structure. The study borrowed the opportunity structure aspects of this model in evaluating how the women savings groups influence the economic empowerment of women.

2.2 Empirical Literature

Lakwo (2006) studied the effects of credit access on sustainable livelihoods and empowerment of women in Uganda. Using 156 household survey respondents and regression analysis, the author depicts that credit did not change material wellbeing of individuals. However, it did foster women's empowerment at individual, household and community level. At individual level, agency or self-esteem of women improved. At household level, women obtained decision making power and contributed to household decisions over asset ownership and livelihood strategies. At the community level, women took over leadership positions and actively participated in community projects (Lakwo, 2006).

Kefela (2010) studied the impact of financial knowledge and financial behavior in Kenya. The researcher selected 74 respondents from 300 clients in a bank using stratified sampling. Employing descriptive research design and regression analysis, the results revealed that financial knowledge directly correlated with financial behavior. According to Kefela, financial problems and debt are high among individuals with low financial literacy thus, the less likelihood of saving more. Women tend to have a high rate of illiteracy making it a disadvantage in accessing formal financial services. Also, long-term investment in informal financial services become a challenge to the poor rural women. Also, Mitchell and Lusardi (2007) analyzed the savings behavior among households in savings groups. They found out that women were financially less knowledgeable compared to men. The low financial literacy among women affected their savings and portfolio choices and their empowerment degree was low. This study sought to find out how the entrepreneurial training which relates to financial literacy in this case, affected the degree of empowerment of women in savings groups.

Akisimire, Abaho and Basaliriwa (2015) studied microfinance and entrepreneurial empowerment of women in Uganda. Their study employed exploratory cross-sectional research design with a sample of 150 women beneficiaries from two microfinance institutions. The findings from the study indicated that credit availability, training, mentoring and business assistance accounted for over 70% in explaining the positive impact of microfinance services towards women's entrepreneurial empowerment. Savings groups act as microfinance organizations as they offer credit, accumulate savings and offer entrepreneurial training to members. The authors depict that training indirectly contributes to economic development by providing financial literacy skills thus improving human capital of the community (Akisimire, Abaho&Basalirwa, 2015).

In Benin, the United Nations through the Women's Fund for Gender Equality report that the use of Savings and Loans Groups stands as the viable methodology for women's sustainable development. Women farmers used this channel to grow their business making the Savings Groups a source of finance and empowerment for rural women (United Nations, 2017). Savings Groups also aid in reducing the poverty gap among the rural poor. The 2016 World Bank report on Afghan depicts the use of this channel through the Afghanistan Rural Enterprise Development Program to eradicate poverty and enhanced asset ownership. The program was implemented by the Rural Rehabilitation and Development Ministry in Afghanistan (World Bank, 2016). Hence, the Kenyan "chamas", Ethiopia's "Ekub", Nigeria's "ososus" and Ghana's "susus" as locally known of the savings groups would have some impact on women's empowerment through asset ownership, contribution to household income and participation in decision making processes (World Bank, 2016).

III. Methodology

3.1 Research Design

The study used descriptive research design. Cooper and Schindler (2003) indicate that this method aids in data collection and tabulation of frequencies. Moreover, Mugenda and Mugenda (2003) state that a descriptive survey research is effective where the study aimed at creating a detailed description of an issue through qualitative and quantitative data.

3.2 Theoretical Framework

The study was anchored on the World Bank framework. According to this model, empowerment is understood as the use, existence and achievement of choices provided by opportunity assets and agency. An actor's empowerment ability depends on the rules and enabling framework of an institution. Women groups offer an enabling environment to mitigate political, social and economic barriers to women empowerment by providing loans, capacity building through entrepreneurial training and savings mechanisms. Therefore, this study focused on opportunity assets provided by the women groups (savings, loans and entrepreneurial training) on women economic empowerment. The dependent variable being the women economic empowerment and the independent variables were credit access, savings and entrepreneurial training.

Independent variable Dependent variable

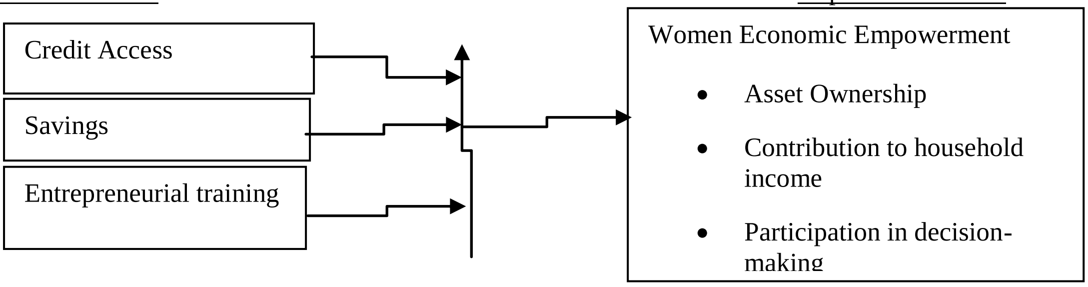

Fig 3.1 World Bank Framework

The framework illustrates that asset ownership, contribution to household income and participation in decision-making which are interrelated proxies of women economic empowerment can be achieved through the effective utilization of women groups' credit access, savings and training.

3.3 Model Specification

To determine the effect of women groups' credit access, savings and entrepreneurial training on women's asset ownership, contribution to household income and participation in decision making, the study employed the probit model. The model assumes a latent variable Y* with two possible outcomes (Long, 1997). In this study, a woman belonging to a women group is either empowered or not.

$y_i^* = \beta X_i + \varepsilon_i, \quad \varepsilon \sim N(0,\sigma 2)$……………………………………………………(3.1)

y_i^* =proxies to economic empowerment which include asset ownership (y_1), contribution to household income (y_2) and participation in decision-making (y_3).

$y_i^* = f(x_1, x_2, x_3)$

Where,

$y_i^* = y_1, y_2, y_3$

x_1 = credit access; x_2 = savings; x_3 = entrepreneurial training

The y* is linked to the observed binary variable Y through the equation below:

$$Yi = \begin{cases} 1 & yi^* > 0 \text{ (empowered woman)} \\ \text{if} & \\ 0 & yi^* \leq 0 \text{ (woman not empowered)} \end{cases} \quad \text{……………………………………………………(3.2)}$$

The probability of a woman being empowered following the three indicators can be expressed as follows:

Prob (Yi = 1 │Xi) = Prob (yi* > 0 │Xi)……………………………………………….(3.3)

Xi refers to observed independent variables (credit access, savings and entrepreneurial training) that affect the latent variable resulting into a binary outcome of y (y constitutes the three indicators of WEE).

Thus, the Prob (empowered woman│ (Credit access or Savings or Training))

Asset ownership (AO), contribution to household income (CHI) and decision making (DM) can be expressed as functions of variables that include age, education, family size, marital status, duration in group, savings, credit access and entrepreneurial training. The functional association between the variables can be expressed:

AO (Y1) = F (AGE, EDUC, FSIZE, MS, DUR, S, AC, ET).…………..3.4

CHI (Y2) = F (AGE, EDUC, FSIZE, MS, DUR, S, AC, ET)……………3.5

DM (Y3) = F (AGE, EDUC, FSIZE, MS, DUR, S, AC, ET)……………..3.6

The functional forms of equations 3.4, 3.5 and 3.6 can be expressed as follows;

Probit (Y1) = $\beta_0+\beta_1 AGE+\beta_2 MS+\beta_3 FS+\beta_4 EDU+\beta_5 DUR+\beta_6 AC+\beta_7 S+\beta_8 T+ \varepsilon_i$ ………….3.7

Probit (Y2) = $\beta_0+\beta_1 AGE+\beta_2 MS+\beta_3 FS+\beta_4 EDU+\beta_5 DUR+\beta_6 AC+\beta_7 S+\beta_8 T+ \varepsilon_i$ ………….3.8

Probit (Y3) = $\beta_0+\beta_1 AGE+\beta_2 MS+\beta_3 FS+\beta_4 EDU+\beta_5 DUR+\beta_6 AC+\beta_7 S+\beta_8 T+ \varepsilon_i$ …………3.9

3.4 Sampling Procedure and Sample Size

The study used random sampling to attain the sample of interest. This technique was helpful in selecting the respondents of the study without any bias. The assumption of this technique is that the sample taken represent the true characteristics of the entire population (Saunders et al., 2012).

Yamane (1967:886)'s formula on sample size determination was used in this study with a 5% significant level. The formula was suitable for a finite population as in this study.

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

N is the population size, n is the sample size and e is the level of precision (Israel, 1992).

The target population N being 1,350 women for the 90 groups.

$$n = \frac{1350}{1 \pm 1350\ (0.05)^2} = 308.57\text{: approximately 309 women}$$

3.5 Data Analysis

The three objectives were analyzed through probit regression (maximum likelihood estimate) to ascertain the significance of the relationship in identifying the association between variables. Apart from the regression techniques, descriptive statistics were also used to analyze the data obtained from the questionnaires collected. For the data analysis, the stata software was utilized.

IV. Results

4.1 Descriptive Statistics

Table 4.1. *Women's Age Group*

Age Brackets of respondents	Freq.	Percent	Cum.
18-27	16	5.18	5.18
28-37	80	25.89	31.07
38-47	121	39.16	70.23
48 and above	92	29.77	100.00
Total	309	100.00	

Source: Survey data (2019)

Majority of the women who participated in the survey were between the ages of 38 years and 47 years with a count of 121 against the total number of 309 respondents (39.16%). Ages between 18 and 27 recorded the lowest age group with participants in women groups at a count of 16 out of 309 participants (5.18%). This implies that older women are more involved in women groups compared to young women.

For marital status, the women indicated their marital status among the options: single, married, widowed and divorced or separated as shown in figure 4.1 below.

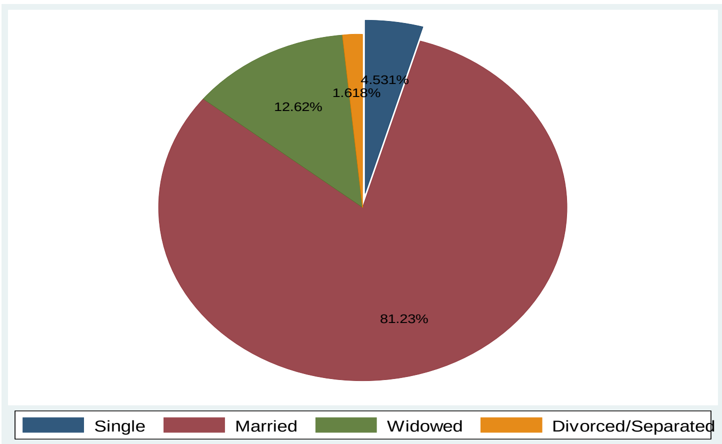

Figure 4.1. *Women Marital Status (%) Source: Survey data (2019)*

Majority of members of the women groups were married with 81.23% followed by widowed at 12.62% then single at 4.53% and divorced or separated at 1.62%. Notably, the large number of women in marriage relationship depict the great need for this study in improving their status in household decision making processes, asset ownership and household income contribution. Women are family pillars, with empowered women, health status, education and total welfare of the children, family and community at large is ensured as also indicated in Gitobu (2015) study.

With regard to the number of children, the women were requested to indicate the number of children they had as shown by the responses in figure 4.2 below.

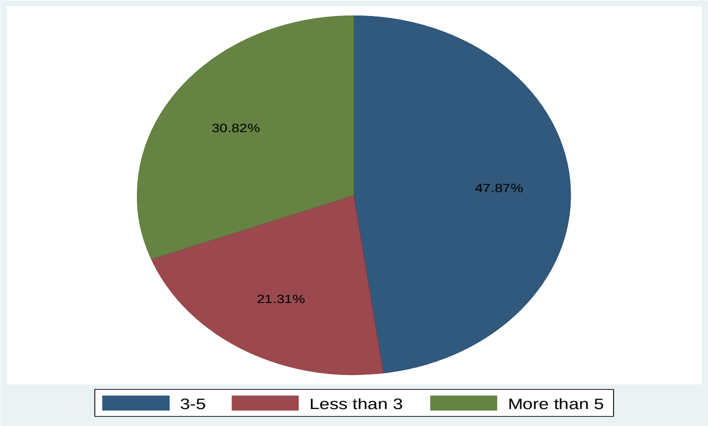

Figure 4.2. *The Number of Women's Children (%)*

Source: Survey data (2019)

The number of children varied greatly with majority stating having 3-5 children and less than 3 being the least percentage of 21.31%.

On the education level of women involved in this study, 14 (4.53%) had no formal schooling, 17 (5.50%) had college or university education, 101 (32.69%) had primary education and 177 (57.28%) the majority, had secondary level schooling. The table below illustrates these findings.

Table 4.2. *Women's Education Level*

Education of respondents	Freq.	Percent	Cum.
None	14	4.53	4.53
Primary	101	32.69	37.22
Secondary	177	57.28	94.50
College/university	17	5.50	100.00
Total	309	100.00	

Source: Survey data (2019)

The number of years the women had been involved in the women groups were also indicated as shown in figure 4.3 below.

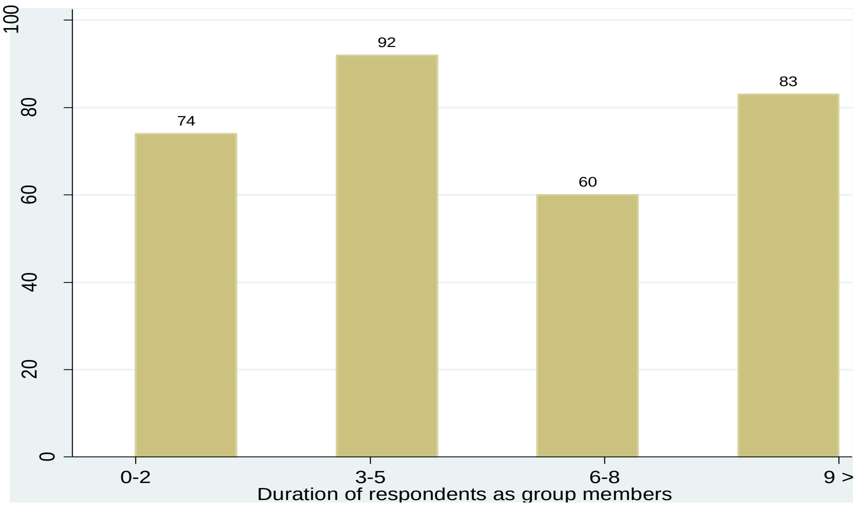

Figure 4.3. *Duration of Women as Group Members*

Source: Survey data (2019)

Three to five years was recorded as the mode year the women were engaged in women groups with 92 women (29.77%) followed by more than 9 years at 83 women (26.86%), zero to two years recorded 74 women

(23.95%) and the least being between six and eight years at 60 women (19.42%). Nonetheless, the margins were close across the years.

4.2 Regression Results

Table 4.3 Correlation Matrix

	AGE	MS	FS	EDUC	DURAT	AC	S	ET	Y1	Y2	Y3
AGE	1										
MS	.238	1									
FS	.584	.19	1								
EDUC	-.194	-.316	-.225	1							
DURAT	.392	.011	.327	.18	1						
AC	.15	.002	.12	-.129	-.082	1					
S	.056	.092	.0293	-.103	-.07	.145	1				
ET	-.013	-.022	.032	.2	.23	-.138	-.215	1			
Y1	.053	.058	.062	-.1154	.037	.207	.099	.104	1		
Y2	.127	-.030	.208	-.0097	.166	.1185	-.085	.186	-.005	1	
Y3	-.088	-.09	-.040	.118	.0996	.116	-.03	.123	.083	.13	1

Source: Survey Data (2019)

The results from the table indicate that the correlations between the variables were below the acceptable 0.7 and could not significantly affect the regression model findings. The correlation between family size and age of respondent reported the highest correlation of 0.584 implying that 34% of the variable variations were related. Second was the correlation between duration and age with 0.392 implying that 15% of the variation between the two variables were related. The other values for the correlation were below 0.4.

4.2.1 The Probit Model

Table 4.4 below gives a summary statistic as derived from the regression analysis of the probit models to four decimal places.

Table 4.4. Probit models summary statistics

	Y1-Asset Ownership		Y2- Contribution to HHI		Y3- Decision Making	
	Coefficient	p>z	Coefficient	p>z	Coefficient	p>z
Age	-.0635	0.595	-.0406	0.726	-.40845	0.090
Marital status	.0640	0.724	-.1215	0,503	-.1896	0.514
Family size	.0002	0.999	.3281	0.016	.0297	0.904
Education	.2774	0.044	-.0607	0.649	.1759	0.488
Duration in group	.0736	0.372	.1304	0.107	.3402	0.042
Credit access	.4411	0.000	.3555	0.005	.5991	0.004
Savings	.1888	0.090	-.2761	0.016	-.0533	0.814
Training	.1703	0.006	.1552	0.011	.1927	0.0907
Constant	-1.335		-1.514		-.1316	

Source: Survey Data (2019)

The pseudo R^2 for Y1 was 0.0739, Y2 was 0.0950 and Y3 was 0.1910 as derived from the probit models. Which implied that all changes in the dependent variables were explained by the changes indicated of 7.4%, 9.5% and 19.10%. However, iteration method used in arriving at the probit regression model maximum likelihood makes the R^2 interpretation for OLS method of goodness of fit not to hold. Smith and McKenna (2013) denote that the commonly used pseudo R^2 indices such as McFadden's index and Maddala/Cox-Snell index usually yield lower estimates compared to their OLS R^2 counterparts.

4.2.2 Women groups' credit access and women economic empowerment

The three models show that credit accessibility is a key factor to empowering a woman in decision making (46.0 percentage points), contribution to household income (12.10 percentage points) and asset ownership (13.70 percentage points), all being statically significant at 5 percent level. The highest impact is evident in decision making. These findings conquer with Lakwo (2006) whose study on the effects of credit access on sustainable livelihoods and empowerment of women in Uganda found out that credit access led to improved decision-making power and contribution to household decisions over asset ownership and livelihood strategies in women. Similarly, based on the resource-based view model, credit access is one way of expounding on the financial capabilities of individuals which the individuals utilize to build on their capabilities. These capabilities create returns and positive impact in their lives.

4.2.3 Women groups' savings and women economic empowerment

Savings as a variable was not statistically significant at 5 percent level in explaining the asset ownership and decision-making model. On the other hand, savings had a negative effect on the contribution to household income variable. In this case, an increase in savings by an individual would lead to a decrease in the likelihood of that individual contributing to household income by 9.40 percentage points.

Savings acts as one of the aspects in the interactive process that lead to empowerment as explained in the empowerment theory. The model stipulates that saving groups lead to empowerment of women through the initiatives provided by the SGs to ensure empowerment of its members, savings being one of the initiatives. However, the study findings herein indicate that savings does not influence women economic empowerment which contradicts the empowerment theory.

4.2.4 Women groups' entrepreneurial training and women economic empowerment

The training variable was statistically significance at 5 percent level in the three models. The results from the three models indicate that training greatly contributes to economic empowerment of women with asset ownership being the major recipient at 52.90 percentage points followed by household income contribution at 52.83 percentage points then decision making at 14.79 percentage points. These findings are similar to Kefela (2010) who studied the impact of financial knowledge and financial behavior in Kenya. According to Kefela, financial problems and debt were high among individuals with low financial literacy that led to low empowerment. Entrepreneurial training results in financial literacy which in turn influences one's empowerment. Conversely, training indirectly contributes to economic development by providing financial literacy skills thus improving human capital of the community (Akisimire, Abaho&Basalirwa, 2015).

V. Conclusion and Recommendation

The research concludes that two of the women groups' services; credit access and entrepreneurial training have a positive impact on women's economic empowerment. Savings as the major qualification for entry in the women group however, failed to satisfy this research's finding as one component positively affecting economic empowerment. Savings was a channel through which women earned credit and training as members of the groups. Hence, an indirect influencer of empowerment. Moreover, factors such as age, family size, education and duration as a group member also affected the participants' level of asset ownership, contribution to family income and the level of involvement in family decision making. The study recommends adoption of appropriate financial management systems that work best for the groups to minimize financial loss, entrepreneurial trainings and encourage the engagement of groups in sustainable and income generating activities or projects whose revenue would see growth of the groups and a trickle-down effect on its members

Areas for Further Research

The study was limited to the effect of women groups' credit access, savings and entrepreneurial training on women economic empowerment. Further research that incorporates other forms of empowerment should be undertaken to examine how they get influenced by the women group services. Also, to find out how the savings variable influence economic empowerment.

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APPENDIX I: Marginal Effects

Table 1.1. Y1

	Dy/dx	Std. Err	Z	p>z	95% conf. interval Lower	Upper
Credit access	.137	.0365	3.75	0.000	.0655	.2085
Training	.0529	.0185	2.86	.004	.0167	.0891
Education	.0862	.0421	-2.05	.041	-.1687	-.0037

Table 4.8. Y2

	Dy/dx	Std. Err	Z	p>z	95% conf. interval Lower	Upper
Credit access	.121	.0411	2.94	0.003	.0403	.2016
Saving	-.094	.038	-2.48	.013	-.1683	-.0196
Training	.0528	.0201	2.62	0.009	.01335	.0923
Family size	.1117	.0452	2.47	.013	.0232	.2001

Table 4.9. Y3

	Dy/dx	Std. Err	Z	p>z	95% conf. interval Lower	Upper
Credit access	.046	.0174	2.64	.008	.0118	.0802
Training	.0148	.0092	1.60	.109	-.0033	.0329
Age	-.0314	.0191	-1.64	.101	-.0688	.0061
Duration	.0261	.0134	1.95	.051	-.0000	.0523

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