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Some Factors Associated with Operations of Village Community Banks (VICOBAs) for Poverty Alleviation in Tanzania

A Case of Ilala District, Tanzania

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Abstract: ***Village Community Bank (VICOBA) is a grassroots based lending scheme focusing on fostering participant's ability to innovate and manage viable income generating activities. This aimed to reduce extreme poverty among group members in the community for achievement ofthe Millennium Development Goal one (MDG1). VICOBA members share knowledge on how to generate income and how to use the savings through provision of small loans for themselves. In some VICOBA groups, there was lack of capital because loans taken by some members are not paid on time. Loan repayment in VICOBA is a challenge although all transactions are made transparently to all members of the group.***

A community based cross sectional study was employed in analysing loan repayment determinants in VICOBA. A multistage sampling technique was used to obtain the study participants. A structured questionnaire on loan repayment was administered to the sampled members from the selected groups. The collected information was analysed by Statistical Package for Social Science (SPSS). Multivariate analysis (logistic regression) was used to determine factors for loan repayment.

The survey involved 404 VICOBA members from Ilala District. More than three quarters; 82.7% (334 of 404) of the VICOBA members owned loan from their groups. Overall, 16% (53 of 334) of VICOBA members who own loan were loan defaulters. Factors for loan default were the use of loan for investing in a new business (P = 0.001), short loan duration (P = 0.001), sickness (P<0.001) and poor performance of the business (P<0.001).There was high lending of loan in VICOBA in Ilala District. Also, loan defaulting by VICOBA members was fairly high (16%). Use of the loan for investing in a new business, falling sickness, poor performance of the business and short duration of the loan were factors for loan repayment by VICOBA members; therefore implementers of VICOBA should revise loan duration for borrowers to reduce loan defaulting. Also, implementers should continue to train VICOBA members on business management after two years of group inception or at the beginning of the new cycle.

INTRODUCTION

In the early 1970s Microfinance's revolution swept through the globe (Helmore, 2009), aimed to help poor people to change their economic status through small businesses.In Tanzania there are many microfinance Institutions (MFIs). However, most of them are in urban areas whereby poor people can't afford their financial obligations.This brought a need of an establishment of Village Community Banks(VICOBAs) focusingon those who could not afford financial requirements of MFIs.

VICOBA is a grassroots based lending scheme with a focus on fostering participant's ability to innovate and manage viable income generating activities.(URT, 2009).

In Tanzania, the CARE international established Mata MasuDubara (MDD) modelin Zanzibar a year 2000; and this was known as Jozani Savings and Credit Association (JOSACA). Later, in 2002, MDD model was established in the Tanzania mainland by the founder of Social Economic Development Initiative of Tanzania (SEDIT), as VICOBA (URT, 2009). This idea was borrowed from Care internationalof Niger as a founderof Village savings and Loan Association (VSLAs) in 1991 with the model mother named Mata MasuDubara (MMD).The main objective of VSLAs was to help poor people especially women in the remote areasof Niger so thatthey could generate income to cater for their basic needs including hospital, food, to take their children to school and fulfil other needs as well as to empower women. Currently, other groups such as men and youths in the community are practicing VSLAs.Due to success (sustainable improvements) of VSLAs in Niger,the CARE internal leaders in Zimbabwe, Mozambique, and Uganda (West Nile) introduced the MMD model in their countries by the year 1994, 1996 and 1998 respectively; whereby inMozambique it is called Ophavela and in Uganda it is called Joint Encouragement for New Gainful Activities (JENGA). This has shown some good improvement.

Structure and Operation of VICOBA Groups

The institutional structure of VICOBA is made up of the Chairperson, the Secretary, the Treasury, Money counter, Key holders and Discipline master; all of them should ensure group survival is attained and maintained (SEDIT Website). The SEDIT personnelgo to the village and launch the idea with the local leaders.If the leaders accept him/her;

they arrange another meeting with the village members to launch the idea of VICOBA and how it works. The interested village members join themselves into small groups of five people who know each other from different family, and later on thesmall groups are organized together to form large groups of fifteen to thirty membersoftheir own choice. After group formation SEDIT personnel provide different innovative and technical skills to the group members for a period of 12 to 16 months with four phases which are introductory phase, intensive phase, development and maturity phase all of this phases aimed at mobilizing the groups on how to manage their IGAs to be profitable; provide education to groups on how to manage banking operations. Trainers' visit formed groups at the end of each month to evaluate group's performance and sustainability. To practice VICOBA is easy because it involves both literate and illiterate people (Helmore, 2009).

Members in VICOBA save and get loan. Group savings and shares are determined by the group members depending on their capital. The saving and fund raising are operated weekly and members are allowed to buy a minimum of one share and a maximum of three shares.Theshares are particularly for group micro- enterprises activities and they can be taken as loans by the members as a revolving fund, "In CARE's Village Savings and Loan Associations (VSLAs), each member contributes to a savings fund with small, regular and mandatory deposits."(Helmore, 2009).

Another fund collected weekly is social fund (MfukowaJamii) which help the members to solve different social pressures, and the amount depends on the economic status of the group members. Other funds are loan insurances and interest rates which are at 5% to 10%. The insurance fund should be paid the same day of loan disbursement and the interest rate depends on loan period. VICOBA has short term loans (three months) and medium term loans (six months). The loans can be accessed between 14 to 16 weeks of group inception, but when the project management (SEDIT) agreed with the group members to have meeting twice per week the loans can be accessed in the 10 to 12 week of group inception.

VICOBA offers diverse and sophisticated financial services to their members. At initial stage, a member who takes loan is required to pledge his/her assets to cover the loan in case of default. VICOBA operates with cycles of year; half a year and two years depending on member's agreement but new groups should operate annually because it is a good period of knowing each other. At the end of each cycle members within the group divide the shares as per members saving and start fresh new cycle. Other agencies which implement VICOBA) are CARE, Ukonga savings and Credit Cooperative Society (USACA) Savings and Credit Cooperative Societies (SACCOS)

VSDA and World Conference on Religion and Peace(WCRP) Jozani Savings and Credit Associations (JOSACA) (URT, 2009).

The Difference between VICOBA and SACCOS

VICOBA and SACCOS are member-based microfinance institutions which have the same function of savings and provision of small loans to their members. Howeverthey differ in terms of operation and organization structure. SACCOS can offer their members large loans because they operate with a bigger capital than VICOBA. Members in VICOBAs buy shares with a minimum amount of money, from 1000/= Tsh up to (10,000/=Tsh) per share depending on the capital of members. In SACCOS shares are expensive, members buy shares for 10,000/=Tsh and above. In VICOBA, members meet once or twice per week while in SACCOS members meet after a couple of months. In VICOBA there is limit number on the number of members (maximum 30 members) while in SACCOS there is no limit on the number of members. The cycle of VICOBA ends after one year (minimum duration) while in SACCOS no cycle of ending.

LOAN REPAYMENT IN VICOBAS

VICOBA is one of the microfinance institutions which offer small loans and other financial services to their members to generate their own income via small scale business. The loans are small and also there is a lack of capital because people are not paying back on time (Ahlén, 2012).Loan repaymentin VICOBA is a challenge although all transactions are made transparently to all members and the borrower has a guarantor from the same VICOBA group (Ahlén, 2012).

The most important thing for VICOBA to grow is about the status of loan repayment by the members. Timely and fully loan repayment provide chances for other members to get a loan and lead the improvement of VICOBA hence poverty could be reduced. However, loan repayment and associated factors can vary from one VICOBA group to another or from one member to another. Poor management of loan by members may collapse VICOBA groups or can reduce their effectiveness. Data on factors associated with loan

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repayment are needed by the National Bureau of Statistics (NBS) for effective improvement of VICOBA in Tanzania.

CONCEPTUAL FRAMEWORK

The figure below shows factors associated with VICOBA operations.

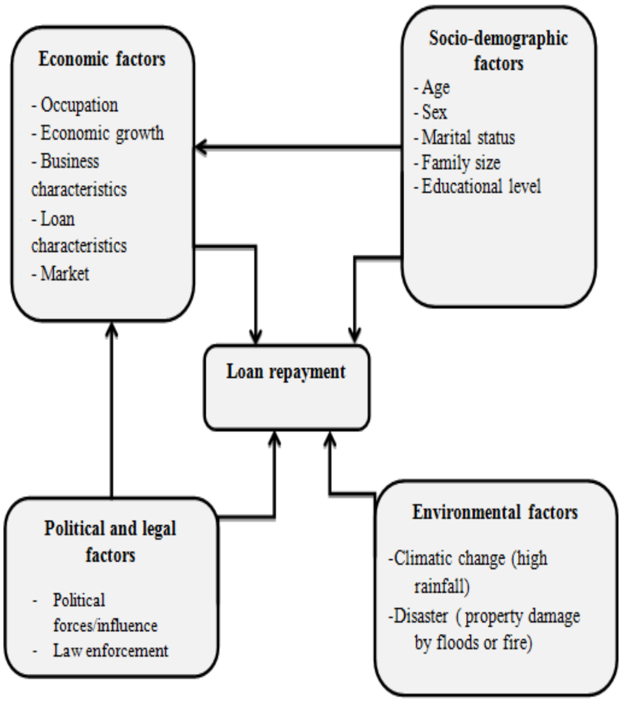

Figure 1: The conceptual framework

Loan Repayment Conceptual Framework

The Socio-economic, socio-demographic of an individual, political/legal and environmental factors may influence's loan repayment by VICOBA.

Social demographic factors are age, sex, marital status, family size, educational level. They account for individuals differences within or between VICOBA groups and may influence loan repayment.

Economic factors are occupation; economic growth,business characteristics, loan characteristics and marketshave impact on loan repayment.Occupation of an individual may influence loan repayment, depending on his/her earning income. Economic growth status (stable/unstable economy) affects individual's business by either resulting into loss or profit. Moreover business characteristics determine loan repayment situation (business maturity (age), type, location and profit) (Nguta & Huka, 2013). Business problems such as competition, low product price, high price of raw materials, unpredictable weather, and decrease of customers have impact on loan repayment (Nawai, 2013). Also loan characteristics (interest rates, loan size and loan maturity) have high impact in loan repayment, some VICOBA produce inferior products; which can't compete in the market (i.e. the products lack market).

Political and legal factors are forces which influencelaw enforcement, and theft. Political forces may lead to boycotts and violence in the population which can affect loan repayment due to lack of peaceful environment for business. Law enforcement such as tax payment and/or cities by laws enforcement, such as removing all petty traders(in which some petty traders may be members of VICOBAs (with loans) may lead to defaulting of loans. Theft is whenthe thieves' stealproducts/ and or money of the members, which mayalso lead to loan defaulting.

Environmental factors are climatic changes and disasters. Climatic changes such as high rainfall may affect businessdue to lack of enough customers leading to loss in the business; while disasters such as floods and fire may destroy properties, thus having an impact on loan repayment.

Main Objective:

To determine factors associated with loan repayment in VICOBAs

LITERATURE REVIEW

Village Community Bank (VICOBA) provides financial services to their members such as saving, small loans and other social services so as to improve the productive poor to generate profitable Income Generating Activities (IGAs) (Kihongo, 2005). This is done for both urban and rural areas to reduce extreme poverty as an implementation of the MDG goal No.1.

The role of the MMD model was to help poor's in the village and urban to move out from poverty by sharing knowledge of how to generate income within the group as a revolving fund by providingsmall loans for themselves, no external funds to these groups and they operate annually with 15 to 30 members, by buying one to five shares of a certain amount per week as they agree among themselves within the group. The model has cut across through Africa as it was initiated by founder Care International in Niger, with different names depending on places or countries of operation; example in Tanzania mainland is called VICOBA

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www.rajournals.in

and while in Zanzibar is called JOSACA. VICOBA groups should ensure all members are getting services in saving and loans. Also it provides small loans frequently, different from MFIs.

There are strict regulations within VICOBAswhereby members with late repayments have to pay penalty (Kihongo, 2005). VSLAs in Malawi,Uganda, Tanzania and ROSCA in Malawiget around 30% of their savings which can't be offered by banks or formal MFIs (Hendricks, 2011). Delinquency in VICOBA affect other members to get loans on time because VICOBA has revolving funds onlyof which they buy one to three shares per week differently from VSLAs where members buy one to five shares per week. Loanrepayments are done by instalments monthly starting with loan interests (Nyongezayamkopo) and later loan principal.

Loan screening is very important to insure,a member who is going to take the loan has ability to repay the amount requested. Provision of loans without screeningmay lead to provision of larger loans to borrower who are notable to repay the amount given, which may lead to loan default.Loan size is oneof the determinants of loan repayment (Onyeagocha et al., 2012).The larger the loan, the higher the loan default by members who are not qualified for amount given.Loan maturity in VICOBA is three months to six months and the interest rates rangefrom 5% to 10% monthly. Members are the one who decide on the interest rate to be adopted. VICOBAscharge 10% as interest rate with maturity of three months which leads to loan default (Ahlén, 2012).

VICOBA secretariat personnel do not make loanfollow-up to see if the members use the loans as they say they would (Ahlén, 2012).Visit to members is very important and can influence the members to use the loans as they stated in their loan application form.Loan misuse happens when some of the members use the loans in doing unplanned activities which may bean obstacle to loan repayment in case of profitlessendeavours. At the time of loan disbursement, some ofthe clients are pre-occupied with pressing economic demands which makes micro finances repayment difficult (Bayang, 2009).

Study Area

The study was conducted in Ilala District because VICOBA were establishedin Ukonga ward which is one among eight wards in Ilala district in 2002 (Kihongo, 2005).Ilala district is one among the three districts in Dar es Salaam region. Administratively, the district has three divisions and twenty six wards.

The district is located between $6^0 55'0''$S and $39^0 10'0''$E with an area of about210 square kilometres. The altitude ranges between 0 to 900 metres above the sea level. The district is bounded with Indian Ocean to the east, Coastal region to the west, Kinondoni district to the north and Temeke district to the south.

Ilala district has a population of 2,441,222(URT, 2013). The residents are of different tribes from different regions within the country of Tanzania. The main economic activity of the residents is businesses which are of different scales such as small, medium and large.Other economic activities include fishing, animal keeping, and small scale farming (vegetable growing).

MATERIALS AND METHODS

Materials

A community based cross sectional study was employed. The study was conducted in Ilala divisions to the selected wards which have VICOBA groups.A total of 404VICOBA members participated in the study. These participants were obtained from 20 VICOBA groups which were selected randomly.

SAMPLING TECHNIQUES

A multistagesampling technique wasused to obtain the study participants from division level to wardlevel;one division was selected randomly from Ilala district. From the selected division four wards were selected randomly; which were Kinyerezi, Kimanga, Segerea and Kisukuru. In the selected wards, number of VICOBA groups selected was done by Probability Proportional to Size (PPS). Then, VICOBA group in the selected ward was selected randomly. From the selected VICOBA group respondents were selected randomly and by PPS. VICOBA groups included in the study wereat least six months oldand above after inception.

METHODS

Logistic regression is suitable when the dependent variable is categorical (usually dichotomous) from a set of independent variables/predictors. In logistic regression for a binary variable we model the natural log of the odds ratio, which is called logit(P). Thus

$$\text{logit}\ (P) = \ln(\text{odds}) = \ln\left[\frac{p}{1-p}\right]$$

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We assuming that, the logit graph as a straight line in the predictor variable $\mathcal{X}$, so

$$\text{logit (P)} = \ln(\text{odds}) = \ln\left[\frac{p}{1-p}\right] = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\,\boldsymbol{\mathcal{X}}$$

Hence, the natural log of the odds follow linear model, thus

$$\ln\left[\frac{p\,(\mathcal{X}_j)}{1-p(\mathcal{X}_j)}\right] = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\,\mathcal{X}_1 + \boldsymbol{\beta_2}\,\mathcal{X}_2 + \boldsymbol{\beta_3}\,\mathcal{X}_3 + \cdots\cdots + \boldsymbol{\beta_1}\,\mathcal{X}_k = \boldsymbol{\beta}'\mathcal{X}_j$$

Where, $\boldsymbol{\beta} = [\boldsymbol{\beta_0}, \boldsymbol{\beta_1} \cdots\cdots, \boldsymbol{\beta_r}]'$ (Johnson &Wichern, 2007).

The Variables

Independent variables considered were business characteristics, loan characteristics, occupation, economic growth, marital status, age of an individual, educational level, family size, disasters (fire, floods,), theft, climatic changes, political influence and law enforcement while the dependent variable was loan repayment.

Results

Onedivision, four wards, and 20 VICOBA groupswere involved in the study from a multistage sampling (details in Table 1). Data were analysed on background characteristics of the study participants, ownership of loan by VICOBA members andLoan default by VICOBA members. The total of 404 VICOBA members participated in the study.

Table 1: Number of divisions, wards, VICOBA groups and respondents

Division (1)	Wards (4)	Groups (20)	Respondent's (404)
Ilala	Kimanga	Jogoo	20
		Kuitaza	20
		Neema	20
		Ushindi	20
		Mafanikio	22
		Braves	20
	Total	**6**	**122**
	Kisukuru	Tumaini	20
		Highland	20
		Ikunda	20
		Maendeleo	19
		Upendo	20
	Total	**5**	**99**
	Segerea	Okoa	20
		Mpera	21
		Amani	20
		Umoja	20
		Uhuru	20
	Total	**5**	**101**
	Kinyerezi	Kanga A	20
		Kanga B	20
		Mkombozi	20
		Mapinduzi	22
	Total	**4**	**82**

Background Characteristics of the VICOBA Members

A total of 404 VICOBA members participated in the study.Majority (88.6%) of the study participants were females. Also, majority of the VICOBA members had completed primary and secondary education, 40.1% and 39.9% respectively, followed by members who had college/university level of education, 18.8%. whereby 0.7% and 0.5% represents incomplete primary education and none/informal education respectively. This showsthat, VICOBA took both literate and iliterate people (Helmore, 2009). Nearly three quarters (70%) ofVICOBA members were married. Members who were single were 14.9%. Very few members were cohabited, widowed, and divorced which

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was 7.7%, 4.7% and 2.7% respectively. Sixty eight point five percent (68.5%) of VICOBA members were involved in business. Other members, 23% and 6.5% were employed in white color jobs and self employed respectively. Few (2%) of VICOBA members were unemployed (they had not any IGA).The mean age of the VICOBA members was 36.1 years; stddev = 8.2 years; median = 35 years; range, 21 – 62 years. The family size mean of the VICOBA members was 4.9 family members; stddev = 2.1 family members; median = 5.0 family members; range, 1 – 12 family members. The mean number of dependants of the VICOBA members was2.9 dependants; median = 3.0 dependants; stddev = 1.9 dependants; range, 0 – 10 dependants.Table2 summarizes socio-demographic and economic characteristics of the VICOBA members in the study.

Table 2: Socio-demographic and economic characteristics of VICOBA members (N=404)

Variable		N(%)
Sex		
	Female	358 (88.6)
	Male	46 (11.4)
Education		
	None	3 (.7)
	Primary incomplete	2 (.5)
	Primary complete	162 (40.1)
	Secondary	161 (39.9)
	Tertiary	76 (18.8)
Marital Status		
	Married	283 (70.0)
	Single	60 (14.9)
	Cohabited	31 (7.7)
	Widowed	19(4.7)
	Divorced	11 (2.7)
Occupation		
	Business	277 (68.5)
	Employed	93 (23.0)
	Self employed	26 (6.5)
	Unemployed	8 (2.0)

OWNERSHIP OF LOAN BY VICOBA MEMBERS

Of the 404 VICOBA members, 334 VICOBA members were found to own loan. This gave an estimate of 82.7% (95% CI= 78.8%, 86.1%) of loan ownership. Thus we can say in Ilala district between 79% and 86% of VICOBA members owned loan

Amount of Loan Owned by VICOBA Members

Among members in VICOBA who own loan, more than two thirds (69.1%) of the VICOBA members owned a loan of less or equal to one million. Few (1.5%)VICOBA membersowned large loans of 5,000,000/= up to 15,000,000/=. Detailsare in Table 3.

Table 3: Amount of loan taken by VICOBA members (N = 334)

Variable Loan amount		N (%)
	≤ 1,000,000	231 (69.1%)
	1,001,000 – 2,500,000	83 (24.9%)
	2,501,000 – 5,000,000	15 (4.5)
	5,000,000+	5 (1.5%)

Table 3 above shows some VICOBA members with medium loans (one million to five millions) and large loans (five millions and above), this is because some VICOBA groups had amended their constitution in the part of dividing the shares collected at the end of each cycle to be as; to hold the shares at the end of each cycle, and to divide the other collected funds such as loan insurance, loan profits, different fines and social security funds. This amendment helped VICOBA members to borrow large loans as shown above, even if is at the commencement of the new cycle because they have large amount of money which they kept at the end of each cycle.

Loan Default by VICOBA Members

Out of 334 VICOBA members whoowned loan, 281(84.1%) members repay their loan and 53 (15.9%) members did not repay their loan. This gives an estimate of 15.9% (95% CI = 12.2%, 20.1%) didn't pay their loan. Thus we can say in Ilala district, delinquency in VICOBA groups was between 12.2% and 20.1%

Utilization of Loan Taken by VICOBA Members

Three quarter; 76.3% (255/334) of VICOBA members, used the loan for expansion or improving their existing businesses thus indeed alleviating poverty. Some of the members; 17.7%(59/334) usedtheir loan for non- income generating activities (non-productive activities) including paying school fees, health care. Few; 6% (20/334) of the VICOBA members used the loan for investing in a new business.

Loan Repayment in Terms of Utilization of Loan Taken by VICOBA Members

Of 334 VICOBA members 20 (5.99%) used the loan for investing in a new business.More than three quarter (255 (76.34 %)) used the loan for improvement of their business and 59 (17.66%) used the loan for investing in a non-productive activities. Members who used the loan for investing in a new business were likely to default when compared to other uses of the loan, thus 45% of them failed to repay the loan. There wasa statistical significant association between loan repayment and new business investment. (χ^2 = 13.5, df = 1 and P-value =0.000).

There was a statistical significantassociation of loan used in improvement of business and loan repayment at 5% with χ^2 =3.7, df = 1, in which 13.7% of the members who used the loan for business improvement failed to repay the loan. VICOBAmembers who used the loan for investing in non-productive activitiesstrive to repay their loan. No statistical significant association of loan repayment and loan used for investment in non- productive activities. (χ^2 = 0.02, df = 1 and P-value = 0.887) was noted. The results are in Table 4

Table 4: Loan repayment in terms of loan utilization by VICOBA members

Utilization of Loan	Loan Repayment		Total	χ^2	P-value
	Unrepaid	Repaid			
Investing on New Business	9 (45%)	11 (55%)	20	13.5, df = 1	**0.000**
Improvement of Business	35 (13.7%)	220(86.3%)	255	3.7, df = 1	**0.054**
Non – Productive Activity	9 (15.3%)	50 (84.7%)	59	0.02, df =1	0.887

Training on Business Management and Banking Operations All VICOBA members who owned loan were trained on business management and banking operation. Of these members, three quarter; 76.3% (255/334) stated that, training on business management and banking operations was useful in their businesses and loan repayment.

Sources of Funds for Loan Repayment

The main source of funds for loan repayment by VICOBA members who owned loans was from the business profit accrued 317 (94.7%) in which the loan was used for expansion or improvement of business. Other sources were; donors (relatives/ friends) 140 (41.9%), salary, 71 (21.3%) and other businesses 61 (18.3%).

Loan Repayment of VICOBA Members in Terms of Socio – economic and DemographicCharacteristics

Loan default in VICOBA reflected the occupation status of the members. Whereby, 6.1% of VICOBA members who defaulted were employed, 17.6% of VICOBA members who

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defaulted were business owners and 32.0% of VICOBA members who defaulted were self emplyed. There was a significant association between loan repayment and occupation status of the VICOBA members (X^2 = 11.3, df = 2, p = 0.004). However there was no association between loan repayment and age, sex, marital status and education level of the VICOBA members. (details in Table 5)

Table 5: Socio-demographic and economic factors for loan repayment (N=334)

Variable		Total	Loan repayment			P - value
			Unrepaid	Repaid		
Age (years)	20 – 25	26	4 (15.4%)	22 (84.6%)		
	26 – 30	63	8 (12.7%)	55 (87.3%)		
	31 – 40	144	19 (13.2%)	125 (86.8%)		
	41 – 50	81	17 (21.0%)	64 (79.0%)		
	50+	20	5 (25%)	15 (75%)		
					χ^2 = 4.09, df = 4	0.394
Sex	Male	35	7 (20.0%)	28 (80.0%)		
	Female	299	46 (15.4%)	253 (84.6%)		
					χ^2 = 0.50, df = 1	0.480
Level of Education	Primary	130	27 (20.8%)	103 (79.2%)		
	Secondary	137	18 (13.1%)	119 (86.9%)		
	College/ University	67	8 (11.9%)	59 (88.1%)		
					χ^2 = 3.88, df = 2	0.144
Marital status	Married	248	40 (16.1%)	208 (83.9%)		
	Unmarried	86	13 (15.1%)	73 (84.9%)		
					χ^2 = 0.05, df = 1	0.825
Occupation	Business	227	40 (17.6%)	187 (82.4%)		
	Employed	82	5 (6.1%)	77 (93.9%)		
	Self employed	25	8(32.0%)	17 (68.0%)		
					χ^2 = 11.3, df = 2	**0.004**

Bivariate Analysis of Determinants of Loan Repayment in VICOBA

Several factors for loan repayment were assessed in VICOBA members (Table 6). Loan defaulting was statistically significantly associated with new business invested by the loan, falling sickness, poor performance of the business intended by the loan and short duration of the loan. In this case, sickness and poor performance of business were highly significant (p= <0.001).

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Table 6: Determinants for loan repayment (N = 334

Exposure variables		Loan repayment Unrepaid	Repaid	OR (95% CI)	P - Value
Sex	Male	7	35		
	Female	46	253	1.38 (0.57 – 3.33)	0.48
Age	50+	5	15	1(reference category)	
	41 - 50	17	64	1.26 (0.39 - 3.94)	0.70
	31 – 40	19	125	2.19 (0.72 - 6.73)	0.17
	26 – 30	8	55	2.29 (0.65 - 8.04)	0.20
	20 - 25	4	22	1.83 (0.42 - 8.96)	0.42
Marital Status	Married	40	208		
	Unmarried	13	73	1.08(0.55 - 2.13)	0.83
Level of Education	Primary	27	103	1(Reference category)	
	Secondary	18	119	0.52(0.22 -1.21)	0.13
	College	8	59	0.90 (0.37–2.18)	0.81
Occupation	Employed	5	77	1(Reference category)	
	Self employed	8	17	3.29 (1.25–8.66)	0.016*
	Business	40	187	0.46 (0.18 - 1.126)	0.088
Family size	1 – 5	32	166		
	6 - 10	21	115	1.06 (0.58 - 1.95)	0.86
Number of dependants	0	4	28	1.17 (0.19 – 7.25)	0.87
	1 – 3	34	149	0.73 (0.16 – 3.42)	0.69
	4 – 6	13	92	1.18 (0.24 -7.49)	0.84
	7 – 10	2	12	Reference category	
New Business	Yes	9	11		
	No	44	270	5.02 (1.97 – 12.81)	0.001*
Non-prifit activity	Yes	9	50		
	No	44	231	0.95 (0.43 – 2.06)	0.89
Sickness	Yes	10	7		
	No	43	274	9.10 (3.29 -25.19)	0.000*
Theft	Yes	2	2		
	No	51	279	5.47 (0.75 – 39.72)	0.09
Poor perfomance of Business	Yes	22	24		
	No	31	257	7.60 (3.82 – 15.12)	0.000*
business Small profit	Yes	2	11		
	No	51	270	0.96 (0.21 – 4.47)	0.96
Lack of market	Yes	22	82		
	No	31	199	1.72 (0.94 – 3.15)	0.08
Short loan duration	Yes	5	8	3.56 (1.12 -11.32)	0.032*
	No	48	273		

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MULTIVARIATE ANALYSIS OF DETERMINANTS FOR LOAN REPAYMENT IN VIVOBA

Table 6 shows a detailed summary of multivariate analysis results of loan repayment in VICOBA. All factors assessed which were found to be statistically significant at 25% level (i.e. P < 0.25) in the bivariate analysis (Table 4) were included into the logistic regression in order to measure the adjusted effects of the factors (i.e. controlling for potential confounding effects).

Logistic regression analysis was conducted to predict loan repayment in VICOBA members using age, occupation, new business, sickness, theft, and poor performance of business, lack of market and short duration of loan.

A test of the full model against a constant only was statistically significant, indicatingthe predictors as a set reliably distinguished between repayment and non-repayment(chi square = 79.8, p <0.001 with df= 12).The chi-square value for the Hosmer-Lemeshow test was 4.1 with significance level of 0.85 which showed good support for model. Nagelkerke's $R^2$of 0.364 indicated the amount of variation in the dependent variable that was explained by the model.

Prediction success overall was 86.5%.The model accurately picked 62.5% and 89.1% of the members with problem in loan repayment, and members without problem in loan repayment respectively.

The logistic regression analysis suggested that, loan defaulting was significantly associated with using loan for investing in a new business, falling sickness, poor performance of the business and short duration of loan. The protective factor for loan repayment was occupation (self employed; OR = 0.091, 95% CI (0.012, 0.67) and business; OR = 0.0078, 95% CI (0.015, 0.42) with P = 0.018 and 0.003respectively.Therefore occupation reducedthe chance of the member to have problem/ to facedifficulties of loan repayment. Age of the member, theft incidence to a member and lack of market of the products of the member were not statistically significant.

Hence VICOBA members who used their loan in investing a new business were 7.6 times more likely to be loan defaulters than those who were not investing their loan into the new business. Also, members who were sick were 16.9 times more likely to be loan defaulters than those who were not sick during loan repayment. Again, all members whose business performed poorly were 10.4 times more likely to be loan defaulters than those whose business performed good during loan repayment.Lastly, borrowers who said loan duration was short were 10.1 times more likely to be defaulters than borrowers who said loan duration was not short.

Table 7: Predictors for loan repayment in multivariate analysis

Predictors	AOR (95% CI)	P-value
Respondent's age		
50+ (Reference category)	1	
41 - 50	0.71(1.16 – 3.26)	0.66
31 - 40	1.35 (0.28 -6.55)	0.71
26 - 30	1.79 (0.33–9.64)	0.49
20 – 25	0.94 (0.13 – 6.69)	0.95
Occupation		
Employed (Reference category)	1	
Self employed	**0.091 (0.012 – 0.67)**	**0.018**
Business	**0.078 (0.015 – 0.42)**	**0.003**
Other variables		
New busuness	**7.61 (2.31 -25.08)**	**0.001**
Sickness	**16.90 (5.07 – 56.35)**	**< 0.001**
Theft	7.03 (0.55 – 90.14)	0.13
Poor performance of business	**10.42 (4.32 – 25.12)**	**< 0.001**
Lack of market	0.96 (0.45 - 2.06)	0.93
Short loan duration	**10.14 (2.47 – 41.63)**	**0.001**

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DISCUSSION

There is large proportion (82.7%) of VICOBA members owning loan from their groups. Similar findings were found in VSLAs of Kenya (92.7%) (Auma, 2012) and in VSLAs of Uganda (84%) (Udry&Karlan, 2012).This is unlike to what was found in VSLAs of Malawi (65%) (Udry&Karlan, 2012).

High ownership of loan by VICOBA members, showed the need of financial services in rural and urban areas in which their people cannot afford financial services from banks. The financial services such as loans and savings help the community to change into better living through establishment of different IGAs. The government of Tanzania had put forward establishment of number of micro-finances institutions such as VICOBA to assist the community to establish different IGAs, as an implementation of MDG1 (URT, 2012). VICOBA and other informal financial services have reached 27.9% of rural communities which were initially unsaved (Bakari et al., 2014). VICOBA supports IGAs related to MDG1 (URT,2013). Also high proportional of VICOBA members who owned loan from their groups had proved the effort of government and other VICOBA implementers such as SEDIT towards MDG1. Therefore the government should continue to emphasise and provide support to VICOBA implementers. Also the government should provide education about VICOBA to the community. Establishment of VICOBA groups in rural and urban areas are highly needed to the community members who cannot access/afford financial services from formal financial institutions such as banks.

The study reveals proportion (16%) of loan defaulters in VICOBA members. A similar finding (16.5%) of loan default was observed in VSLA in Kenya (Auma, 2012).

The study also revealed that, use of loan in investment of new business was a risk factor for loan repayment in VICOBA.This is similar to what were found in MFIs inImenti North District, Kenya by (Nguta&Huka, 2013) and MFIs in Peninsular Malaysia by (Nawai, 2013).The study also revealed that, falling sickness for loan borrower and poor performance of business which the loan was taken for were risk factors for loan repayment in VICOBA. Similar findings were observed in rural SACCOS, Tanzania(Magali, 2013). Furthermore the study observed short duration of loan as a risk factor for loan repayment in VICOBA. A similar result was observed in rural member-based MFIs (VICOBAs & SACCOS) in Babatidistrict, Tanzania by (Ahlén, 2012).

The study revealed gender imbalance in VICOBA (11.4% were men and 88.6% were women). Kihongo (2005) found similar results of gender imbalance in VICOBA, Ukongamazizini (15% were men and 85% were women). Results of gender imbalance in VSLA (33% were men and 67% were women) were found by Auma (2012) in Kenya.Majority of the VICOBA members were married (70.0%). More likely results (78.9%) were found in VSLA in Kenya by Auma (2012).

The large proportion of VICOBA members owning loans as observed in this study is due to the financial sustainability in the groups. This resulted from change of the group constitution, that, their shares are maintained at the end of each cycle. Earned interests (loan insurance, loan penalties and social funds) as benefits are divided to the members at the end of each cycle. This was observed in groups which had completed more than two cycles. Also, the study observed few VICOBA members owning large loan of 5,000,000/= to 15,000,000/= indicating, VICOBA groups are growing.

Furthermore the study observed that, large number (76.3%)of VICOBA members use the loanfor business expansion (business improvement).Similar results were observed in VICOBA, UkongaMazizini where 77.5% of loan was used for business expansion, (Kihongo, 2005). However, their businesses were not productive enough to cover their loan instalment, thus depending on other sources including salary, relative/ friends, another business as observed in this study.

CONCLUSIONS

There was a high lending rate of loan by VICOBA members in Ilala District. Also, loan defaulting by VICOBA members was fairly high. Use of the loan for investing in a new business, falling sickness, poor performance of the business where the loan used for and short duration of the loan were factors for loan defaulting by VICOBA members.

RECOMMENDATIONS

Implementers of VICOBA should revise loan duration for borrowers to reduce loan defaulting. Also implementers of VICOBA should continue to train VICOBA members on business management after two years of group inception or at the beginning of the new cycle.

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