

Internal organization and performances of saving and loan associations:

Evidence from rural Tanzania

Working Paper No. 298

CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)

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RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



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Abstract

Subsistence farmers in rural areas of developing countries are usually outside the current reach of banks and formal microfinance institutions. They do not have access to savings accounts, insurance products, and agricultural credit facilities, limiting those farmers' investment in agriculture. Being at the outreach of those institutions, those farmers established, so-called savings and loan associations, self-managed groups of 20-30 individuals meeting regularly to provide its members a safe place to save and obtain emergency aid and small loans. When efficiently organized, those associations may provide a secure platform to save and access loans to invest in climate-smart agriculture and mitigate income shocks. The objective of this study is to identify the role of the associations in financing agriculture, major bottlenecks and organizational characteristics that might explain their financial performances. We use survey data from 48 savings and loan associations in rural Tanzania with members trained for adopting climate smart agricultural practices. We identify that 45% of the loans of associations are distributed for agricultural investment purposes and the major bottleneck is to low savings and participation rates, and late repayment or defaults of loans. We find that the size of associations and record-keeping matters. The average amount of loan received per member approximately doubled for associations with twice as many members, and default rates decrease with the accurate financial recording practices. Our findings suggest that savings and loan associations could strengthen the financial resilience of its members by empowering their members through financial record keeping training. At the same time, they can add new members to the associations.

Keywords

Credit; loan; savings; community organizations; microfinance; women.

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1. Introduction

Compared to other developing regions, private domestic savings in Africa are low and the continent is under-banked. In rural areas, in particular, the availability of savings is extremely limited (Triki and Faye, 2013). Increasing rural saving would play a crucial role to increase agricultural investments, including climate-smart agriculture practices. Boosting agricultural investment is among the most effective strategies for poverty reduction in rural areas, where the majority of the world's poorest people live. Yet, savings and constraints in access to credit limit additional investment in adopting enhancing farming practices, and therefore hamper the subsequent upscaling. The low investment in the agricultural sector of most African over the past 30 years has resulted in low productivity and stagnant production (Sundaram et al., 2011).

Farmers outside the current reach of main financial institutions, specifically subsistence farmers in developing countries, can be stimulated to adopt enhanced (climate-smart) agricultural practices by means of savings and loan associations such as Rotating Savings and Credit Association (ROSCAs), Village Savings and Loan Associations (VSLAs) and Village Community Banks (VICOBAs). Savings and loan associations are typically self-managed groups of 20-30 individuals, usually women, who meet on a regular basis to provide its members a safe place to save their money, access loans, and obtain emergency aid (Adams and Vogel, 2016; Burlando and Canidio, 2017; CARE, 2017).

Over the years a plethora of studies looked at financial access and household impact of savings and loan associations, although there are important differences across the studies in terms of specific measurements. Moreover a wide variety of research methods are used, for example as represented across the 53 studies summarized by Gash (2017). By means of rigorous Randomised Control Studies (RCTs) the impact of savings and loan associations have been studied in several countries in Africa. For example, in a clustered RCT design, comprising 23 treated associations in Northern Malawi, Ksoll et al. (2016) found evidence on several outcomes, including the number of meals consumed per day, household expenditure, and the number of rooms in the dwelling. This effect was linked to an increase in savings and credit obtained through the associations, which has increased agricultural investments and income from small businesses (Ksoll et al., 2016). In a similar clustered RCT approach spanning three

African countries and 282 treated clusters (Ghana, Malawi, and Uganda) by Karlan et al. (2017) an improvement in household business outcomes and women's empowerment was estimated. However, evidence of impacts on average consumption or other livelihoods was lacking (Karlan et al., 2017). Gash and Odell (2013) consolidated the findings of seven RCT evaluations in five African countries (Burundi, Ghana, Malawi, Mali and Uganda) and reflect upon the commonalities and differences. Overall, they conclude that their RCT results are quite consistent with the findings of earlier research, particularly in regard to the impact. The main divergence was in the area of social capital and women's empowerment, since strong positive effects were expected but not observed as in aforementioned RCT studies (Gash and Odell, 2013).

As an alternative, impact has also been estimated by means of controlled before-and-after studies (CBA), measuring, among others, investments before and after implementation of an intervention in non-randomised intervention and control groups (Gash, 2017). Lowicki-Zucca compared the financial performances of associations and vulnerability of households before and after participating in those association. The comparison in 743 savings and loan associations in Uganda revealed that it is a direct vulnerability reduction strategy (Lowicki-Zucca et al., 2014). In a cross-sectional study focussing on six randomly selected communities in Ghana it was concluded that savings and loan associations has resulted in better nutrition and health of children in the beneficiaries' households (Abubakari et al., 2014). Contrary to the impact in terms of financial access and household budgets, less is known on other more intangible potential benefits. For example the positive role on social networks based on ethnographic research (Musinguzi, 2016), and improved practices through which they are organized based on anthropological theories of rituals (Green, 2019).

Besides assessment on (in)tangible impacts at smallholder level, the evolution and divergence of savings and loan associations in terms of organizational practices is important to consider. It is known that field practices deviate from the savings and loan association methodology as analysed by for example Maliti (2017) in 48 associations in the Ilala district of the Dar es Salaam region in Tanzania. At a much larger scale and longer time period Grant and Allen (2002) described how women's savings and loan associations scaled out over time up to 5,546 associations and how the model evolved with many different twists in terms of organizational practices. Also the increase in the number of organizational practices from the savings and loan

associations in Tanzania has been examined (Green, 2019). However, the studies focusing at the savings and loan association level are mostly descriptive in nature without quantitatively analysing the links between registered key performance indicators and organizational characteristics.

This paper quantitatively explores the relationship between the organizational characteristics and financial performance of the savings and loan associations, improving financial resilience of its members by helping its member climb out of poverty through increased investments in education, agriculture and business and mitigate the financial effects of health, drought, and other shocks.¹ We conduct this analysis with savings and loan associations, so called VICOBAAs, in Iringa district of Tanzania. These associations have been established by the government and NGOs or established by the villagers themselves, and have evolved into different organizational and institutional structures with varying management practices and financial outcomes. This provide a window of opportunity to conduct a study on the functioning of community based finance organizations in rural areas. We survey 48 of those associations and use statistical analysis and regression methods to investigate the heterogeneity in the organizational structure, management practices and financial outcomes and the relation among those characteristics.

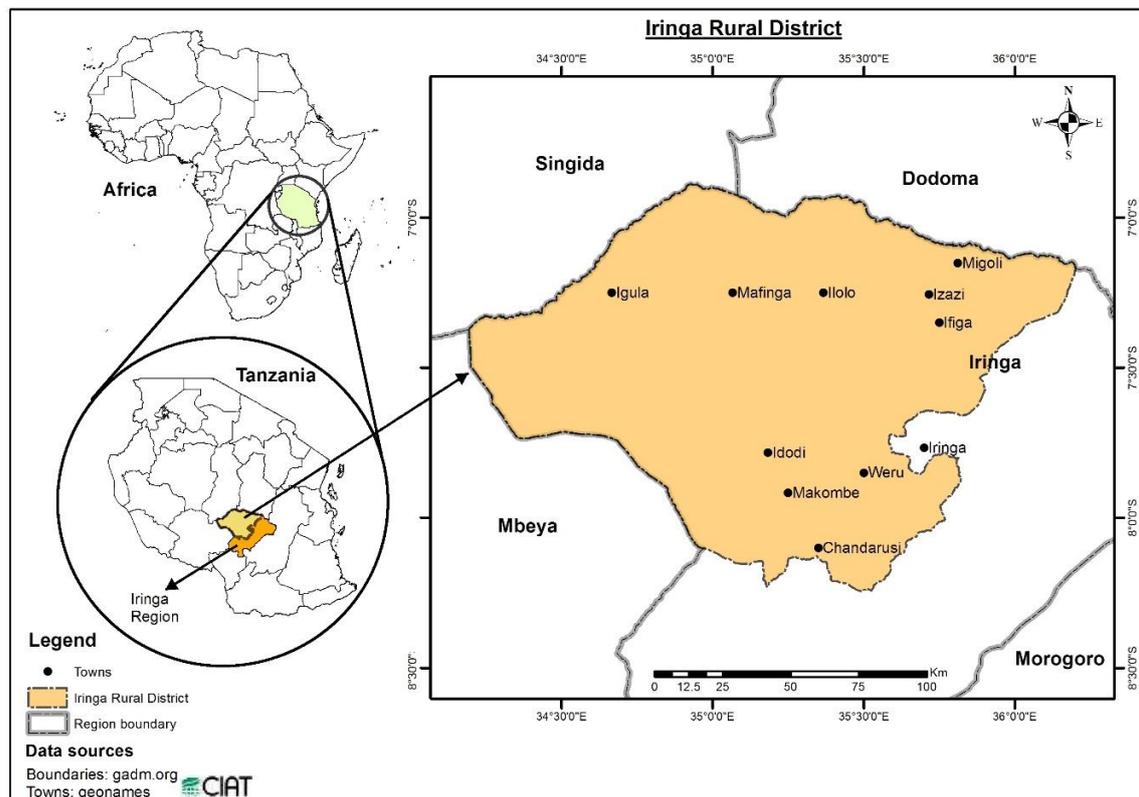
The study is organized as follows. Section 2 introduces the study site and data collection process. Section 3 explains the indicators and methods for heterogeneity analysis and the relationship of financial performance of the associations with their adoption of management practices and organizational characteristics. Section 4 summarizes the results of our findings and section 5 concludes with a discussion on policy outcomes of the study.

2. Study site and data

The Iringa district study site, which is one of the three districts in the Iringa region, is in the southern highlands of Tanzania (Figure 1). Iringa region is of strategic importance in terms of the Tanzanian economy and one of the four major food producing areas. The agricultural sector employs about 73% of economically active people and generates nearly 99% of the GDP of

¹ The financial resilience definition is from Klapper, n.d.

rural Iringa. The area enjoys a climate that favors production of a variety of crops but production is vulnerable to climate variability (CIAT and CARE Tanzania; 2019).



Source: Stanley et al. 2020

Figure 1: The study area.

Although Savings and Credit Cooperative Societies (SACCOS) are argued to be the most important microfinance institutions (MFIs) in rural areas of Tanzania, other more recently established informal member-based finance institutions are also of importance in these areas. One is Village Savings and Loan Associations (VSLA), first introduced by CARE Tanzania in 2001 on Zanzibar, but later spread to the Tanzanian mainland.

VSLAs are member based MFIs introduced by CARE includes 15-25 individual members for a community or village. The groups can include both men and women and they usually meet weekly or biweekly. VSLA members self-select the members to save and create a fund. They can borrow from this fund with an interest rate. All financial transactions (savings, credits, and interest rates) are supposed to be recorded in a book. The fund, including interests collected, are re-distributed to the members by the amount they save. members according to the amount each has saved in the group. Each VSLA has a constitution that determines the rules of receiving

credits (e.g. collateral and sponsorship requirements, membership criteria, etc.) and savings. Members of VSLAs discuss and agree on the constitution in the establishment of VSLAs collectively and then change it when needed.

VICOBA, subject of this field study, is an informal savings and credit association that has been established in several areas of Tanzania by several promoters (Ahlén, 2012; Bakari et al., 2014; Kinisa, 2019; Lindvert et al., 2015; Madaha, 2018; Ngalemwa, 2013). Similar to VSLAs, VICOBAs are also member-based MFIs owned and run by the members and for the members; however VICOBA field practices deviate from the VSLA practices introduced by CARE (Maliti, 2017).

A baseline survey conducted with 960 randomly selected farming households from 33 villages in October 2018 shows that 30% of farmers in the project region are members of savings and loan associations (e.g. VSLAs or VICOBAs). More specific, 85% of the members saved through associations, and 62% of the members have used loans from associations to finance agricultural activities over the period of October 2017 to October 2018. The median credit from the association is about 200 thousand Tanzanian Shillings (90 US\$). These results imply that associations are a critical source of capital to finance agricultural investments include climate-smart agricultural practices.

This study is linked to the CSA-SuPER project² that tests the effects of farmer field school schools, and savings and loan associations on the adoption of climate-smart agriculture practices. The project is based on Kukua ni Kujifunza (KnK) project of CARE-Tanzania in Iringa district which aims to support increased farmers' investments in climate-smart agriculture (CSA) through existing VICOBAs³ and farmer field business schools (Pamuk et al., 2018). KnK project train (mostly women) farmers from the villages, where malnutrition is common, on CSA practices (e.g. crop rotation of soybean with maize, efficient fertilizer use, minimum tillage, organic fertilizers, etc.) and encourage them to save for and invest in those practices through those VICOBAs. The data in this study stems from a structured face-to-face survey carried out in July-August 2019 to identify the heterogeneity in the characteristics of

² CARE, CIAT, SUA, and WUR are the partners of this project.

³ In our sample, members have established the majority of the associations themselves (50%). NGOs and the government established 30% and 20% of associations respectively.

those associations and their bottlenecks to upscale the investments⁴. The research team designed a survey to measure variation in the organizational structures (e.g. different sizes, female and youth members), management practices of the associations and the challenges that the farmers comes across while managing the associations. The survey was implemented in the majority⁵ of KnK project villages, comprising 13 villages⁶ in total with 48 VICOBAAs (all beneficiaries of the ongoing KnK project). Chairpersons, treasurers and secretaries of VICOBAAs were surveyed, as they are knowledgeable on different aspects of VICOBAAs.⁷

3. Analytical methods

3.1. Indicators and heterogeneity analysis

To explore the heterogeneity among the associations we use three sets of indicators (i.e., organizational characteristics, management practices and financial performances) which grouped 13 sub-indicators.

The indicators on organizational characteristics comprise five sub-indicators, namely:

- i. **Association size** measured by number of members;
- ii. **Familiarity of members**, measured by having members from other villages;
- iii. **Gender**, as fraction of women members in the associations;
- iv. **Youth**, as fraction of members under 25 years old in the associations;

You can reach survey document from this link: https://wageningenur4-my.sharepoint.com/:b/g/person/haki_pamuk_wur_nl/EUvL3sVsYpRMvpo1WiDCukBRvQCmnTUQMtR2VeeBLZzWA?e=yve1C3

⁵ KnK project includes 15 villages in total. Ikuvilo and Magulilwa villages could not be interviewed due to time and budgetary limitations.

⁶ The villages are Tagamenda, Lyamgungwe, Mgama, Sadani, Igunda, Ihemi, Kaning'ombe, Wenda, Malagosi, Mlanda, Wangama, Kikombwe, Ibumila

⁷ For instance, treasurers know better the financial status of the associations, and chairpersons are more knowledgeable on the membership and credit rules.

- v. **Association age**, measured by the number of months since the associations were established.

We identified four management sub-indicators capturing the key management practices of the associations. Two sub-indicators focused on practices of becoming a member and on record keeping:

- i. **Rules of membership**: The associations apply many criteria (e.g. including having a regular income, owning land or livestock, being friends or relatives with existing members, having small business or savings) to accept new members to the associations. Table A1 in the Appendix reports the descriptive analysis for detailed rules of membership. We construct an indicator that equals 1 when at least 3 of those criteria to accept a new member (0 otherwise), indicating strict membership requirements.
- ii. **Record keeping**: Our enumerators observed and assessed the quality of financial records of associations by whether they keep records, and if they keep the records whether they are readable, and whether the financial numbers for each activity are recorded consistently. From this information we construct a record keeping indicator that equals 1 when the numbers are recorded for all activities perfectly (0 otherwise).

To make a loan application, members may be asked for a sponsor member or collateral as a guarantee for the association in case the member fails to repay (part of) the loan. We therefore develop two sub-indicators to capture loan application practices:

- iii. **Sponsorship** indicator that equals 1 when a sponsor is required to apply for a loan from the association (0 otherwise);
- iv. **Collateral** indicator that equals 1 when a collateral is required to apply for a loan from the association (0 otherwise).

We use four financial performance indicators to measure the associations' results in terms of savings and loan:

- Saving per member-meeting in US\$;
- **loan size** measured by outstanding loans per member in US\$;

- **loan supply** measured by the fraction of members that have received a loan over the past year;
- **loan defaults** measured by the fraction of loans that members delayed the repayment or could not repay.

To analyse the heterogeneity among the associations, we use the coefficient of variation (CV) as well average and standard deviations of those indicators, and minimum and maximum values. Particularly we use CV to compare the heterogeneity among the association in terms of different sub-indicators. As a robustness check, we also conduct a factor analysis for the three sets of sub-indicators, showing whether those associations can be grouped into smaller groups when they have similar characteristics. An eigenvalue from the factor analysis that is equal to or above one indicates that some association have similar characteristics and can be categorized as a group.

3.2. Relationship of the associations' financial performances with their adoption of management practices and organizational characteristics

We explore whether the association's organization characteristics explain the adoption of management practices, estimating the following model:

$$P_i = \alpha_0 + \alpha_1' O_i + \epsilon_i$$

where i indicates the association, P_i shows the management practices, and O_i is the vector of organizational characteristics of the associations. We expect that estimates of α_1 are statistically different than zero when the organizational characteristics explain the adoption of management practices.

Subsequently, we use the following model to test whether the management practices and organization characteristics explain the financial performance:

$$F_i = \beta_0 + \beta_1' P_i + \beta_2' O_i + \epsilon_i$$

F_i shows the financial indicators, P_i is the vector of management practices, and O_i captures the organization characteristics of the association. We test whether $\beta_1 \neq 0$ and $\beta_2 \neq 0$.

We estimate all aforementioned models with OLS and report robust standard errors, and in addition, we also conduct two robustness checks to test the stability of our estimates. We first test the robustness of our estimates by changing in estimation method. We use binary dependent variables in many estimations, requiring the use of non-linear estimation methods, namely Logistic and Probit estimation. However, our sample is small and estimation from those models are biased in small samples. Therefore, we use linear probability models in the estimation of binary dependent variable model for our default model, but also report the estimates from Logistic estimations in the Appendix. Secondly, we control in a robustness check for unobserved village level effects that may be correlated with organizational and management practices, adding village level dummies to the models and compare them with default estimates. We note that our sample is small, including up to five associations per village. However, with village dummies we have little variation, which increase the standard errors of those estimates and therefore the results from these estimates should be interpreted with caution.

4. Results

4.1. Heterogeneity in the organization structure of savings and loan associations

Associations mainly contribute to the financial resilience of its member through financing agricultural investments and investments for other businesses. Figure 2 shows the average fraction of outstanding credits from the associations by the purpose of those loans. The share of agricultural credits is about 45% in total outstanding loans of the associations in our sample, standing as the most important reason to receive loans from the associations and indicating the importance of associations to finance agriculture.⁸ Credits for small businesses of members (16%) is the second most important area that association supply for, health and education expenses of the members follow this. These results confirm that association mainly serve as organizations financing for firstly agricultural and secondly, small business investments.

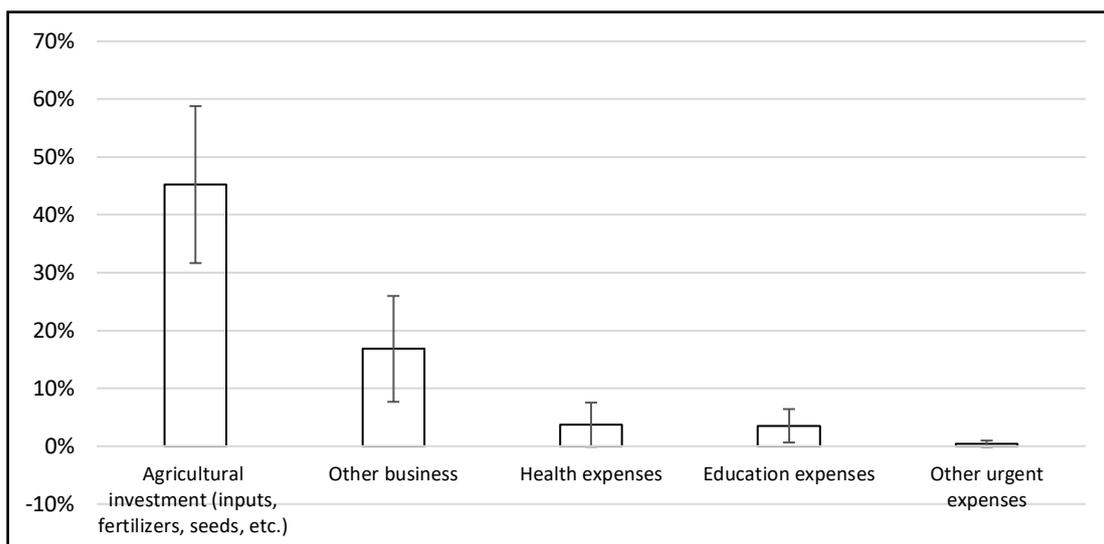


Figure 2: Average fraction of outstanding credits of the associations (in total credits) by the purpose of credits. Source: Own calculations. Notes: The black lines show the 95% confidence intervals. The bars show the average fraction of outstanding credits.

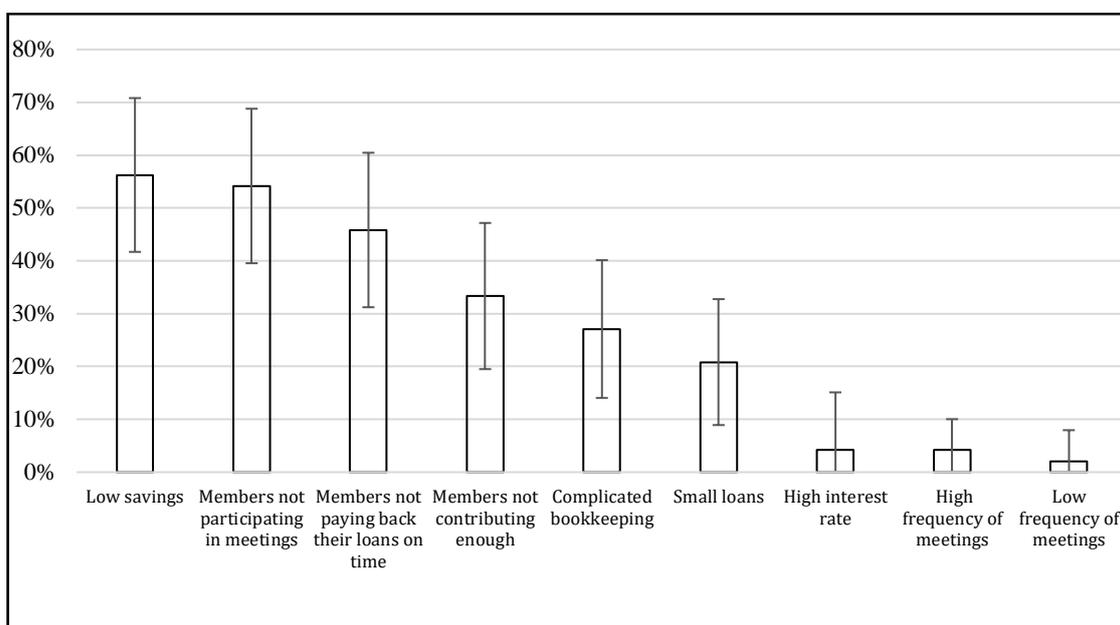


Figure 3: Elicited bottlenecks of the saving and credit associations (percentage of associations) Source: Own calculations. The black lines show the 95% confidence intervals

Figure 3 summarizes the major bottlenecks that the boards have come across in managing VICOBA's. Low savings and participation rates, as well as late repayment or defaults of loans were identified as three major bottlenecks the associations. Over half of the associations indicate that low savings rate and members not participating meetings are the major bottlenecks

of the associations. About 45% perceive that late repayment and default (members not paying their loans on time) of loans are among the major bottlenecks. About 20% of them consider the small loan size as a major bottleneck.

We find that organizational characteristics are dispersed among the associations. Table 1 reports the descriptive characteristics of the associations. The coefficient of variation shows that the dispersion is highest in terms of having members from other villages and having young members. On average, associations have about 30 members, with considerable variation from 10 to 62 members. Approximately 20% of the associations have at least one member from other villages. There is gender diversity in the associations, on average 58% of members are female, with five only man and five only women associations. The average share of young members, under 25 years old is about 14%. 13 out of 48 associations have no young members. 21% of associations have a board member with at least secondary education. While 1/3 of those associations are younger than two years old and 1/3 of them are older than 4 years old, an average association is established in the previous 46 months.

Table 1: Descriptive statistics for organizational characteristics of the associations

| Variable | Obs. | Mean | Std. Dev. | Coef. of variation | Min | Max |
|--|------|------|-----------|--------------------|------|------|
| Size: Number of members, winsorized at 5% level | 48 | 29.8 | 13.7 | 46 | 12.0 | 62.0 |
| Familiarity: Fraction of association with members from other villages | 48 | 0.19 | 0.39 | 210 | 0 | 1 |
| Gender: Fraction of women members | 48 | 0.59 | 0.36 | 60 | 0 | 1 |
| Youth: Fraction of members under 25 years old | 48 | 0.14 | 0.17 | 121 | 0 | 0.88 |
| Age: Number of months since established | 48 | 45.9 | 34.8 | 76 | 0 | 168 |

We have also conducted a factor analysis that we explore whether the associations can be clustered into sub-groups by those characteristics. The factors analysis could not detect an eigenvalue equal or more than one. This implies that associations cannot be grouped into smaller groups according to organizational characteristics, confirming that associations are heterogenous with respect to those characteristics.

Table 2 describes the association according to the four types of management practices applied. Estimates of coefficient of variation is highest for the adoption of tight membership criteria and perfect record keeping. 31% of the associations adopt at least three criteria for membership, were having a regular income source, a small business and savings are the most popular ones.⁹ After checking the notes, our enumerator evaluated that 48% of the associations record each activity accurately. 75% of the associations require a member to be the sponsor for credit applications while 54% request a collateral (e.g. machine or land use). Again, our factor analysis indicated that the correlation among those characteristics is limited. It is not possible to cluster associations into smaller groups based on their management practices, as the factor analysis does not produce an eigenvalue equal or more than one.

Table 2: Descriptive statistics for management characteristics of the associations

| Variable | Obs. | Mean | Std. Dev. | Coef. of variation | Min | Max |
|--|------|------|-----------|--------------------|-----|-----|
| Adopting at least three criteria for membership (0/1) | 48 | 0.31 | 0.47 | 150 | 0 | 1 |
| Accurate recording all financial numbers in record book (0/1) | 48 | 0.48 | 0.50 | 105 | 0 | 1 |
| Sponsorship from another member is needed to receive a loan (0/1) | 48 | 0.75 | 0.44 | 58 | 0 | 1 |
| Collateral is need to receive a loan (0/1) | 48 | 0.54 | 0.50 | 93 | 0 | 1 |

We finally describe to which extend the associations vary in their financial performance (Table 3). The average savings is about 2.65 U.S\$ in the last meeting, generating about 67 US\$\$s per meeting for an association on average. Unreported results show that there is high variation on the savings rate per member between and within associations. Between associations savings rates ranges from 0.21 to 5.91 US\$ per member. The average ratio of maximum to minimum contribution is about five, ranging from one up to five. Particularly, the variation among the associations is highest for loan size and default rates. 18% of VSLAs members have received a

⁹ The criteria specific descriptive characteristics are reported in the Appendix.

loan over the past year. The average loan received is about 67 US\$. On average, 9% of the members that received a loan delays or defaults in a year.

Table 3: The descriptive statistics for financial performance indicators of the associations

| Variable | Obs. | Mean | Std. Dev. | Coefficient of variation | Min | Max |
|--|------|-------|-----------|--------------------------|------|--------|
| Savings per member-meeting, last meeting, US\$ | 48 | 2.65 | 1.39 | 52 | 0.21 | 5.91 |
| Outstanding loans per member, US\$, winsorized 5%10 | 48 | 66.52 | 57.14 | 86 | 0 | 173.91 |
| Loan supply, fraction of members that received a loan over the past year | 48 | 0.18 | 0.23 | 123 | 0 | 1 |
| Default rate, fraction of members that did not pay their loans on time | 47 | 0.09 | 0.15 | 180 | 0 | 0.89 |

4.2. Relationship between organizational structure, management practices, and financial performance of village associations

Table 4 reports the regression estimates for the relationship between management practices and organizational characteristics, making a distinction between adopting at least three criteria for each membership (column 1) or for the key management practices separately (columns 2 to 4). Associations with members from other villages all apply less than three criteria to accept for membership, we therefore do not include them to the estimations as reported in column 1.

The estimates reveal that the fraction of young members and likelihood of adopting the strict membership criteria is negatively related. Older associations that are established earlier are more likely to adopt those strict membership criteria. These results indicate that the flexibility of associations in terms of membership criteria change by the youth membership and ages of the associations. We also detect that larger associations are more likely to keep all records when compared to smaller associations.

¹⁰ Please note that while calculating the loan size we include also the members that do not receive a loan

Table 4: Relationship between organizational characteristics

| | (1) | (2) | (3) | (4) |
|---|--|--|---|---|
| Management characteristics | | | | |
| | Three criteria for membership (0/1) | Accurate record keeping (0/1) | Sponsor requirement for loans (0/1) | Collateral requirement for loans (0/1) |
| Group Size: Number of members | -0.02 (0.06) | 0.13** (0.06) | -0.06 (0.05) | -0.01 (0.06) |
| Familiarity: Members from other village (0/1) | - | 0.03 (0.19) | 0.20 (0.14) | 0.21 (0.20) |
| Gender: Fraction of women members over median (0/1) | 0.09 (0.14) | -0.03 (0.15) | 0.09 (0.14) | 0.19 (0.15) |
| Youth: Fraction of youth mem. over median (0/1) | -0.24* (0.13) | -0.24* (0.13) | 0.15 (0.13) | -0.04 (0.15) |
| Age: Number of months passed since established×10¶ | 0.04** (0.02) | 0.19 (0.19) | 0.78*** (0.17) | 0.39** (0.19) |
| Constant | 0.26 (0.20) | 0.13** (0.06) | -0.06 (0.05) | -0.01 (0.06) |
| Observations | 48 | 48 | 48 | 48 |
| R-squared | 0.14 | 0.60 | 0.53 | 0.45 |

Notes: The Table report estimates from $P_i = \alpha_0 + \alpha_1 O_i + \epsilon_{it}$. P_i is the management practices and O_i is the organization characteristics of the association that are listed in the first row of the table. We estimate all models with OLS and report robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. ¶ We use ten times number of members to make the coefficients easier to interpret.

Association with about ten more members are 80 percentage points more likely to apply sponsor requirement and 40 percentage points more likely to adopt collateral requirement. It is also marginally significant that association with many young members are more likely to have less accurate financial record keeping practices. Older, perhaps well-established, associations are more likely to have sponsor and collateral requirements to give loans to their members, implying that management practices of the associations evolve over time (if they are successful by continuing to stay operational).

We test the robustness of the results to an alternative Logit estimation method (Table A2 in the Appendix) and controlling for village fixed effects (Table A3 in the Appendix). The robustness tests show that our results for three criteria for membership and accurate record keeping are

robust to the change in the estimation method and coefficient estimates do not significantly change when we control for unobserved village characteristics. However, estimates of the age of the associations are not robust, implying that we should be cautious to derive strong conclusions from those estimates.

As a second step, we explore how financial performances of the associations vary with management practices of those associations. Table 5 reports the regression estimates for each financial performance indicator. We do not detect a good practice or organization characteristic that determines the financial performance of the associations. Instead, management practices and organizational characteristics have varying relationships with the financial performance indicators. First of all, we do find amount of saving per members is associated with the management practices and organizational characteristics. We find the loan sizes are higher in larger associations. Those with ten more members extend loans about 17 US\$ per member more. The (high) supply of loans, which equals 1 when fraction of members that received a loan are over the sample median (0 otherwise), decreases by the sponsorship requirement and number of members in the association. The associations that requires another member to become the sponsor of a loan request are 44 percentage points less likely to extend credits over 10% of its members (median level), the threshold level for high supply loans. Delays and defaults are related to multiple institutional and organizational characteristics. The likelihood of experiencing a delay or default in loans is less for associations that have perfect record keeping practices than those that do not have perfect practices. Associations that asks for sponsors experience more delays in repayment of loans or loans defaults, indicating that sponsorship does not decrease the default rate. Finally, we detect that older associations are more likely to experience delays or defaults in the loans they extend over the past year.

Table 5: Relationship between financial performance of savings and loan association (1, 2, 3 and 4) with their management practices and organizational characteristics

| | (1) | (2) | (3) | (4) |
|--|---------------------------------|---------------------------|----------------------------|---|
| | Savings per member-meeting US\$ | Loan size per member US\$ | High supply of loans (0/1) | Experienced delayed or default over the past year (0/1) |
| <u>Panel A: Management practices</u> | | | | |
| Three criteria for membership (0/1) | -0.11 (0.55) | -25.84 (19.45) | 0.08 (0.15) | 0.10 (0.15) |
| The numbers are recorded for each activity perfectly (0/1) | -0.51 (0.38) | 11.27 (16.62) | -0.17 (0.13) | -0.29* (0.15) |
| Needs a sponsors to receive a loan (0/1) | -0.41 (0.48) | -24.72 (22.95) | -0.44** (0.16) | 0.26* (0.15) |
| Needs a collateral to receive a loan (0/1) | 0.57 (0.40) | 33.02* (17.82) | -0.06 (0.15) | -0.09 (0.15) |
| <u>Panel B: Organizational characteristics</u> | | | | |
| Number of group members×10 | 0.12 (0.17) | 16.78** (6.96) | -0.11** (0.05) | 0.08 (0.05) |
| Fraction of members from other village | 0.80 (0.57) | -33.04 (22.27) | 0.12 (0.18) | 0.57*** (0.17) |
| Fraction of women members over median (0/1) | -0.28 (0.40) | -23.08 (15.12) | 0.17 (0.14) | -0.03 (0.13) |
| Fraction of youth mem. over median (0/1) | -0.63 (0.49) | -2.78 (18.45) | -0.22 (0.16) | -0.18 (0.14) |
| Number of months passed since established×10¶ | 0.08 (0.06) | 0.14 (2.01) | 0.03 (0.03) | 0.05** (0.02) |
| Constant | 2.49*** (0.73) | 37.47 (29.32) | 1.12*** (0.20) | -0.00 (0.19) |
| Observations | 48 | 48 | 48 | 47 |
| R-squared | 0.22 | 0.29 | 0.33 | 0.43 |

The Table reports estimates from $F_i = \beta_0 + \beta_1 P_i + \beta_2 O_i + \epsilon_{it}$. P_i is the management practices and O_i is the organization characteristics of the association that are listed in the first row of the table. We estimate all models with OLS and report robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. High supply of loans equals 1 when fraction of members that received a loan are over the sample median (0 otherwise). Experienced a default or delay in loans equals 1 if at least 1 member has delayed loan repayments or defaulted over the past year (0 otherwise). Fraction of members that received a loan are over the sample median (0 otherwise). We use ten times number of members to make the coefficients easier to interpret.

Table A4 in the Appendix reports the estimates from Logit regressions for the binary dependent variables high supply of loans and experienced delayed or default over the past year, and Table A5 reports the estimates after controlling for village fixed effects. Our main results from are robust to using Logit estimation and controlling for unobserved village characteristics. Only for the estimates of numbers are recorded for each activity perfectly and needing a sponsor to receive a loan (0/1) the estimates are similar but not statistically significant after adding village fixed effects. It is plausible to argue that this is due to increased standard errors after adding 13 dummy variables to the model.

5. Conclusion and recommendations

We find that the savings and loan associations established in the period 2012-2018 are rather heterogeneous in terms of organization characteristics, management practices, and financial performance even in a small region as Iringa district. The mapping revealed that the heterogeneity is most substantial in terms of default rate, membership rules, and fraction of youth in the association. The findings on the relationship among those characteristics, practices, and performance indicators are mixed. Size of the associations (among organizational characteristics) and good record keeping (among management practices) seem to be most important factors related to financial performance. Good record keeping practices is negatively associated with the default rate, and associations with more members provide larger loans to fewer numbers of its members. Larger associations also have better record keeping practices than smaller associations. Associations in our sample state that low savings rate is the most important bottleneck. We, however, could not detect many organizational or management factors except age of the associations explain the levels of savings.

The observed heterogeneity and low savings rate emphasizes the need for tailor made interventions to support associations. On one hand, based on our findings from community-based finance approach could strengthen members' financial resilience by improving agricultural and business investments and giving access to funds when there is an emergency (e.g. health issue or drought.). Empowerment of members in different skills as record keeping,

longer running and larger associations improve their savings rate and distribute larger credits¹¹. Therefore, policy makers and NGOs promoting savings and loan associations may consider training farmers on good agricultural practices and record keeping. On the other hand, savings rates in the associations are low and not related to the management practices and organizational characteristics, and it is perhaps due to the low-income level of the members in the region that we conduct the study. Increasing savings rates is therefore an important challenge to improve the effectiveness of savings and loan associations.

¹¹ For instance, in an on-going project, financed by NWO-WOTRO / CGIAR-CCAFS projects, we investigate whether the community-based finance through village savings and loan associations (VSLAs) can stimulate CSA practices. In the project CARE-Tanzania introduces the VSLAs through a randomized control trial (RCT) designed by WUR researchers. In total 50 VSLAs in 15 villages will benefit from the training: in 2019/2020 8 randomly selected villages benefit (i.e., treatment VSLAs) and the other 7 villages will benefit later in 2020/2021 (i.e., control VSLAs).

Appendix: Additional tables

Table A1: Descriptive statistics of membership rules of the associations

| Membership criteria | N | Mean | Sd. | Min | Max |
|--|----|------|------|-----|-----|
| Have a regular income source | 48 | 0.92 | 0.28 | 0 | 1 |
| Owning land or livestock | 48 | 0.06 | 0.24 | 0 | 1 |
| Being friends or relatives of other VICOBA members | 48 | 0.21 | 0.41 | 0 | 1 |
| Have good education | 48 | 0.04 | 0.20 | 0 | 1 |
| Trusted by others | 48 | 0.75 | 0.44 | 0 | 1 |
| From the same hamlet | 48 | 0.02 | 0.14 | 0 | 1 |
| Having small business | 48 | 0.42 | 0.50 | 0 | 1 |
| Having savings | 48 | 0.46 | 0.50 | 0 | 1 |
| Have already take up loan somewhere | 48 | 0.06 | 0.24 | 0 | 1 |
| Other | 48 | 0.13 | 0.33 | 0 | 1 |

Table A2: Logistic regression estimates for the relationship between management practice and organizational characteristics, logistic regressions

| | (1) | (2) | (3) | (4) |
|---|---------------------------------|------------------------------|-------------------------------------|--|
| | 3 criteria for membership (0/1) | Perfect record keeping (0/1) | Sponsor requirement for loans (0/1) | Collateral requirement for loans (0/1) |
| Size: Number of members | -0.05 (0.29) | 0.58** (0.28) | -0.35 (0.26) | -0.03 (0.25) |
| Familiarity: Members from other village (0/1) | - | 0.24 (0.96) | 1.49 (1.15) | 0.88 (0.86) |
| Gender: Fraction of women members over median (0/1) | 0.48 (0.69) | -0.08 (0.67) | 0.52 (0.77) | 0.80 (0.62) |
| Youth: Fraction of youth mem. over median (0/1) | -1.31* (0.68) | -1.14* (0.65) | 0.95 (0.74) | -0.16 (0.62) |
| Age: Number of months passed since established×10 | 0.20** (0.09) | 0.05 (0.09) | -0.02 (0.10) | 0.06 (0.10) |
| Constant | -1.24 (1.01) | -1.47 (0.92) | 1.43 (0.90) | -0.46 (0.79) |
| Observations | 48 | 48 | 48 | 48 |

The Table report the logistic regression coefficient estimates for $P_i = \alpha_0 + \alpha_1 O_i + \epsilon_{it}$. P_i is the management practices and O_i is the organization characteristics of the association that are listed in the first row of the table. We report robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A3: Relationship between institutional and organizational characteristics after controlling for village fixed effects

| | (1) | (2) | (3) | (4) |
|---|---------------------------------|------------------------------|-------------------------------------|----------------------------------|
| | 3 criteria for membership (0/1) | Perfect record keeping (0/1) | Sponsor Requirement for loans (0/1) | Collateral requirement for (0/1) |
| Size: Number of members | 0.08 (0.08) | 0.15** (0.06) | -0.09 (0.08) | -0.11 (0.09) |
| Familiarity: Members from other village (0/1) | | -0.10 (0.20) | 0.09 (0.14) | 0.07 (0.19) |
| Gender: Fraction of women members over median (0/1) | 0.02 (0.14) | -0.03 (0.17) | 0.08 (0.17) | 0.15 (0.20) |
| Youth: Fraction of youth mem. over median (0/1) | -0.27 (0.16) | -0.19 (0.13) | 0.15 (0.13) | 0.03 (0.16) |
| Age: Number of months passed since established×10 | 0.03 | 0.01 | 0.00 | 0.04 |
| Constant | 0.08 (0.08) | 0.15** (0.06) | -0.09 (0.08) | -0.11 (0.09) |
| | | -0.10 | 0.09 | 0.07 |
| Observations | 48 | 48 | 48 | 48 |
| R-squared | 0.46 | 0.52 | 0.47 | 0.43 |
| Village fixed effects | Yes | Yes | Yes | Yes |

The Table report estimates from $P_i = \alpha_0 + \alpha_1 O_i + \mu_v + \epsilon_{it}$. P_i is the management practices and O_i is the organization characteristics of the association that are listed in the first row of the table. μ_v is the village fixed effect that we control for adding village dummies. We estimate all models with OLS and report robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A4: Logit estimates for the relationship of savings and loans from association with management practices and organizational characteristics

| | (1) | (2) |
|--|----------------------------|---|
| | High supply of loans (0/1) | Experienced delayed or default over the past year (0/1) |
| Panel A: Management practices | | |
| 3 criteria for membership (0/1) | 0.42 (0.85) | -0.32 (0.75) |
| The numbers are recorded for each activity perfectly (0/1) | -0.85 (0.79) | -1.88** (0.87) |
| Needs a sponsors to receive a loan (0/1) | -2.49*** (0.96) | 2.13** (0.97) |
| Needs a collateral to receive a loan (0/1) | -0.26 (0.72) | -0.36 (0.84) |
| Panel B: Organizational characteristics | | |
| Number of members×10 | -0.68* (0.35) | 0.78** (0.38) |
| Fraction of members from other village | 0.72 (1.01) | |
| Fraction of women members over median (0/1) | 0.92 (0.77) | -0.69 (0.76) |
| Fraction of youth mem. over median (0/1) | -1.20 (0.83) | -0.91 (0.81) |
| Number of months passed since established×10 | 0.16 (0.14) | 0.35** (0.15) |
| Constant | | - |
| | 3.62*** | -3.40*** |
| Observations | (1.36) | (1.26) |

The Table reports estimates from $F_i = \beta_0 + \beta_1 P_i + \beta_2 O_i + \epsilon_{it}$. I is the management practices and O_i is the organization characteristics of the association that are listed in the first row of the table. We estimate all the models with OLS and report robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. High supply of loans equals 1 when fraction of members that received a loan are over the sample median (0 otherwise). Experienced a default or delay in loans equals 1 if at least 1 member has delayed loan repayments or defaulted over the past year (0 otherwise).

Table A5: Relationship of savings and loans from association with management practices and organizational characteristics after controlling for village fixed effects

| | (1) | (2) | (3) | (4) |
|--|---------------------------------|--------------------------|----------------------------|---|
| | Savings per member-meeting US\$ | Loan size per memberUS\$ | High supply of loans (0/1) | Experienced delayed or default over the past year (0/1) |
| Panel A: Management practices | | | | |
| 3 criteria for membership (0/1) | 0.13 (0.53) | -14.76 (19.67) | 0.14 (0.18) | -0.11 (0.16) |
| The numbers are recorded for each activity perfectly (0/1) | -0.18 (0.64) | 19.05 (23.25) | -0.39** (0.18) | -0.29 (0.18) |
| Needs a sponsors to receive a loan (0/1) | -0.14 (0.57) | -11.54 (27.42) | -0.29 (0.24) | 0.35 (0.21) |
| Needs a collateral to receive a loan (0/1) | 1.10* (0.56) | 40.13* (22.49) | -0.07 (0.23) | -0.11 (0.17) |
| Panel B: Organizational characteristics | | | | |
| Number of members×10 | 0.20 (0.30) | 12.50 (11.90) | -0.14** (0.07) | 0.11 (0.07) |
| Fraction of members from other village | 1.02* (0.57) | -23.22 (26.55) | 0.12 (0.19) | 0.61*** (0.19) |
| Fraction of women members over median (0/1) | -0.02 (0.51) | -19.27 (19.18) | 0.12 (0.16) | -0.12 (0.14) |
| Fraction of youth mem. over median (0/1) | -0.63 (0.45) | -2.42 (19.38) | -0.20 (0.19) | -0.22 (0.14) |
| Number of months passed since established×10 | -0.01 (0.10) | 0.72 (3.19) | 0.08*** (0.03) | 0.08*** (0.03) |
| Constant | 0.68 (1.83) | 26.07 (74.14) | 1.03** (0.42) | -0.43 (0.44) |
| Observations | 48 | 48 | 48 | 47 |
| R-squared | 0.46 | 0.48 | 0.59 | 0.64 |
| Village fixed effects | Yes | Yes | Yes | Yes |

The Table reports estimates from $F_i = \beta_0 + \beta_1 P_i + \beta_2 O_i + \mu_v + \epsilon_{it}$. P_i is the management practices and O_i is the organization characteristics of the association that are listed in the first row of the table. μ_v is the village fixed effects that we control for by adding village dummies. We estimate all models with OLS and report robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1. High supply of loans equals 1 when fraction of members that received a loan are over the sample median (0 otherwise). Experienced a default or delay in loans equals 1 if at least 1 member has delayed loan repayments or defaulted over the past year (0 otherwise).

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Annex-Survey

Instructions for people using the dataset based on IDH-BCI survey questions.

- 1 This survey in English and the enumerator is expected to translate the survey during the interview.
- 2 The monetary amounts are mentioned in “Tanzanian Shillings”.
- 3 Many questions are about over the past year (2018/2019) which refers to July 2018- July 2019

Final Instructions for enumerators

- 1 All questions need to be answered. Please check before you leave the place.
- 2 If a respondent does not know the answer, write down -777.
- 3 If a respondent does not want to answer, write -888.
- 4 If the question does not apply to the respondent, write -999.
- 5 And if an answer is '0'.
- 6 Make sure the respondent feels free to talk and diminish any noise and interference.
- 7 Ask for the ledger book because some questions are related o monetary transaction in the VICOBA.

Target Respondent

IMPORTANT: The respondents should be the chairperson and secretary (or treasurer) who manages VICOBA and knowledgeable about the records and treasury of the VICOBA. Please ask the person to bring the VICOBA ledger and the constitution (or other records), because they may need to check them. But we will not take those or copy them.

Introduction to respondent

Please introduce yourself to the respondent, by including the following points;

- Introduce yourself with your name
- You are working for the CARE-Tanzania.
- The aim of the research is to learn better about VICOBA's.
- The topic of the research is VICOBA's and their contribution farming practices.
- The survey will take about 45 minutes .
- The answers will be shared with CARE-Tanzania, Wageningen University and Research, and CIAT to analyse the data. The contact details of the respondents will not be shared with government institutions. The respondents contact details (name, address, and telephone details will not be shared in any public domain. It will be made sure that no one can identify the respondents by using the publications that will be produced from this survey.
- Their participation is voluntary. The respondent is not obliged to answer questions and can stop the interview any time.
- Ask if the respondent has any questions **on what you have just explained**

Is everything I have explained about the interview clear?

QUESTIONS at start

| No | Questions | Response | Response Code |
|-----|--|---|---------------|
| 0-1 | Are you willing to participate? | <i>0=no If no communicate this with CARE office.</i> | Chairperson |
| | | | Secretary |
| 0-2 | Can we ask you a question by phone if we would like to clarify a question or to make an appointment with you to come back another time to see how you are doing? | <i>0 = No 1= Yes (► write down phone number for both chairperson and secretary)</i> | Chairperson |
| | | | Secretary |

A Identification Information

a1 ID before interview

| No | Questions | Response | Response Code |
|---|--------------------|---|---------------|
| <i>NOTE: Enumerator, these questions are for the enumerator to complete before the interview. The information will be provided to you by the supervisor.</i> | | | |
| a1_2 | Date of interview | <i>dd-mm-yyyy</i> | |
| a1_3 | Name of enumerator | | |
| a1_4 | Region | <i>Name: (Note to the coder: This will be pre-coded when the sampling is final)</i> | Iringa |
| a1_5 | District | <i>Iringa</i> | Iringa |
| a1_7 | Village | <i>Name: (Note to the coder: This will be pre-coded when the sampling is final)</i> | |
| a1_8 | Location | <i>Add an explanation here! To find the household easy if we would like to visit.</i> | |

a2 Respondent details

| Note to the enumerator: This questions should be asked to both Chairperson and the secretary to learn about their contract details and familiarize with them. | | | | |
|---|---|-------------|---|----------|
| No | Questions | Respondent | Response Code | Response |
| a2_0 | Name of the respondents Enumerator, this should be a person (on your list) who manages the VICOBA | Chairperson | Text | i. |
| | | Secretary | Text | ii. |
| a2_1 | What is the education of the respondents? | Chairperson | <i>Enter number of completed years in school* (see note below)</i> | i. |
| | | Secretary | <i>I did not start basic school = 0 Primary school = 8 years, Secondary school = 4 years, First university degree = 3 years, University Master's Degree = 2 years. Doctoral degree: 5 years</i> | ii. |
| a2_2 | Are the respondents able to read and write (literate) | Chairperson | <i>0=no 1 = yes</i> | i. |
| | | Secretary | <i>-777=don't know</i> | ii. |
| a2_3 | What are the age of the respondents? | Chairperson | ____ <i>Age</i> | i. |
| | | Secretary | | ii. |
| a2_4 | What are the status of the gender of the respondent? | Chairperson | <i>1=Male 2=Female</i> | i. |
| | | Secretary | | ii. |
| a2_5 | Since when have they been a member of the VICOBA? | Chairperson | <i>Month and year (e.g. February 2015)</i> | i. |
| | | Secretary | | ii. |

| Note to the enumerator: This questions should be asked to both Chairperson and the secretary to learn about their contract details and familiarize with them. | | | | |
|---|---|-------------|--|----------|
| No | Questions | Respondent | Response Code | Response |
| a2_6 | Since when have the respondents been in their roles as chairperson and secretary? | Chairperson | <i>Month and year (e.g. February 2015)</i> | i. |
| | | Secretary | | ii. |

B Member and meeting characteristics (CHAIRPERSON)

| Note to the enumerator: This question should be directed to the chairperson. Accept inputs from the secretary however the chairperson should give the final answer. | | | |
|---|---|--|---------------|
| No | Questions | Response | Response Code |
| NOTE: Read out: I would like to start the survey by asking general questions about the VICOBA and its members. | | | |
| b1 | How do you call the VICOBA in the village? (Does this group have a specific name that you refer?) | <i>Text</i> | |
| b2 | When was the VICOBA formed? | <i>Month and year (e.g. February 2015)</i> | |
| b3_i | Which organization helped in forming this VICOBA | <i>Text</i> | |
| b3_ii | Is the VICOBA registered by the district community development office? | <i>0=No 1=Yes</i> | |
| b3_iii | Is the VICOBA registered any other organization? | <i>Text the name of the organization</i> | |
| b4 | Currently, How many members does the VICOBA have? | <i>Number</i> | |

| | | | |
|-----|--|---|--|
| b5 | How many of them from another village? | <i>Number</i> | |
| b6 | How many of them are under 18 years old? | <i>Number</i> <i>(Answer should be smaller than to the answer b4)</i> | |
| b7 | How many of them are 18-25 years old? <i>(should be less than to the answer b4)</i> | <i>Number</i> <i>(Answer should be smaller than to the answer b4)</i> | |
| b8 | How many of them are women? <i>(should be less than or equal to the answer b4)</i> | <i>Number</i> <i>(Answer should be smaller than to the answer b4)</i> | |
| b9 | How many members' main income source is agriculture/farming? | <i>Number</i> <i>(Answer should be smaller than to the answer b4)</i> | |
| b10 | How many members are also the active members of FFSB that are initiated by CARE, WOPATA, TAGRODE? | <i>Number</i> <i>(Answer should be smaller than to the answer b4)</i> | |
| b11 | What are the criteria to be the member of this VICOBA? [Ask it as an open questions and mark the answers that are relevant] | <i>1= Have a regular income source</i> <i>2= Owning land or livestock</i> <i>3= Being friends or relatives of other VICOBA members</i> <i>4= Have good education</i> <i>5=Trusted by others</i> <i>6=From the same hamlet</i> <i>7=Having small business</i> <i>8= Other, please specify</i> | |
| b12 | <i>Since you are a member of this VICOBA, how many members did the VICOBA have?</i> | <i>Number</i> | |
| b13 | How many members left or were asked to leave the VICOBA since then? | <i>Number</i> | |
| b14 | Why did they leave the VICOBA? (please rank the most important 2 reasons!) | <i>1= They were not joining the meetings regularly, and we asked them to leave</i> <i>2=They were not contributing to the savings regularly, and we asked them to leave.</i> <i>3=They have not paid their loans on time, and we have asked</i> <i>4=We could not agree on the constitution of VICOBA.</i> | |

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| | | <p>5=They did not find VICOBA useful and left by themselves.</p> <p>6=They moved to another place</p> <p>7=The person died</p> <p>8=Other, Please specify</p> | |
| b15 | How many new members joined to the VICOBA since the first day you have become member? | Number | |
| b17 | <p>How frequent does the VICOBA meet usually?</p> <p>[This will be information for the period that should be used in the next section when you ask questions]</p> | <p>1=Weekly</p> <p>2=Bi-weekly (Fortnightly)</p> <p>3=3 weekly</p> <p>4= Monthly</p> <p>5=Bi-monthly</p> <p>6=Quarterly</p> <p>7=Other</p> | |
| b18 | Usually, how many members participate in the meetings? | Number | |
| b19 | Does the participation change by the time of the year or in other words is the attendance seasonal? | <p>0=No</p> <p>1=Yes</p> | |
| b20 | [b19=Yes ask] Which months do you observe the minimum attendance to the meetings? | Month (e.g. January, February, e.g.) | |
| b21 | <p>[b19=Yes ask] Why do members not attend to the meetings those months?</p> <p>(please rank the most important 2 reasons!)</p> | <p>1= It is planting season farmers are busy.</p> <p>2=It is harvest season farmers are busy.</p> <p>3=They do not have enough money</p> <p>4= There is enough in the hands of people, so they do not need loans.</p> <p>5= They do not like meeting too often</p> <p>6=Other, please specify</p> | |
| b21 | [b19=Yes ask] What is the average number of members in the meetings those months? | Number | |
| b22 | [b19=Yes ask] Which months do you observe the maximum participation? | Month (e.g. January, February, e.g.) | |

| | | | |
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| | [b19=Yes ask] Why do members attend to the meetings frequently those months? | 1= There is not much to do in the field. 2=There is enough savings to invest 3= Planting season approaches, there is need for loan 4= There is not enough cash in hand, there is need to receive loan for personal expenses (health, education, wedding, funeral, etc.) 5=Other, please specify | |
| b23 | [b19=Yes ask] What is the maximum number of members that participate in the meeting those months? | Number | |
| b24 | When was the last time did the VICOBA meet? | dd-mm-yyyy | |
| b25 | How many of the members participated in the meeting? | Number? | |
| b26 | Does your VICOBA keep the records of savings, credits, and fines? | 0=No ► Go to next section 1=Yes | |
| b27 | Which activities do your keep the notes for? [Multiple options are possible] | 1=Attendance of each group member 2= Money saved by each member 3=Loans received by each member 4=Loan repayments 5=Fines 6= Discussions in the meeting 7=Other, please specify | |
| b28_i | How do you keep those notes? (Multiple answers are possible) | 1=In a booklet 2=In a notebook 3= In separate papers 4=On the phone 5 = In a field book 6 = on the wall Other ____ Please specify | |
| b28_ii | Where do you keep those notes? | 1=At the house of secretary 2= At the house of chairperson 3=At another member's house | |

| | | | |
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| | | 4=At a secret place that the chairperson or secretary knows. 5=Other | |
| b28_iii | Enumerator: Please take pictures of the records so that we can assess the quality of the notes. | Photo in jpg format. | |
| b29 | Could we very shortly look at your notes together? (Enumerator check the notes very fast to see how well kept the notes) | 0 = No, he/she does not want to share 1=No, not available 2=The notes are not readable, someone cannot use these notes later 3=The notes are readable but the activities are not recorded for each activity It is difficult to use these notes in the future. 4= The numbers are recorded for each activity. 5= The numbers are recorded for each activity perfectly. | |
| b30 | Does this VICOBA have a bank or microfinance account in an organization? | 0=No 1=Yes | |
| b31 | [if b30=Yes ask] Which organization | Text | |
| b32 | [if b30=Yes ask] Has the VICOBA received credits/loans from any of those organizations over the if past 5 years? | 0=No 1=Yes | |
| | [if b32=Yes ask] For what purpose? | 1=To buy agricultural inputs 2= To finance education expenses 3=To finance health expenses 4=To finance village amenities (water tap, well, worship place, etc.) 5=Other explain | |
| | [if b32=Yes ask] How much credit in total have you received? | Tanzanian shillings | |
| | [if b32=Yes ask] What was the annual interest rate? (in average) | Percentage (%) | |
| | [if b32=Yes ask] In how many moths should the VICOBA pay the loans? | Months | |

C Savings

| Note: This section should be directed to the secretary (treasurer) keeping the records. Accept input from the chairperson if he is present. However the secretary should give the final answer. | | | |
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| No | Questions | Response | Response Code |
| NOTE: Read out: Now I would like to ask some questions on the saving practices in VICOBA. I will be very happy if the secretary of the VICOBA helps us to understand the saving practices. WE will be very happy to hear the inputs from the chairperson as well. | | | |
| c0 | Over the past year, since July 2018, how much are the total savings in a meeting on average? | | |
| c1_a | Do all members contribute same amount to do saving in the meetings? | 0=No 1=Yes | |
| | For instance, how much did a participant contribute last meeting? [If all members contribute same Minimum, Average, Maximum are same] | | |
| c1_b | Minimum | Shillings | |
| c1_c | Average | Shillings | |
| c1_d | Maximum | Shillings | |
| c1_a | How much was the total savings collected in the last meeting? | Shillings | |
| c2_a | Do you observe seasonality in the contributions? | 0=No 1=Yes | |
| c2_b | [If c2_a=Yes] Since last July, on average, what was the minimum contribution per member at a meeting (that you can remember)? | Shillings | |

| | | | |
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| c2_c | [If c2_a=Yes] Which months did you observe those minimum contributions ? | Months [Write the name of the months] | |
| c2_d | [If c2_a=Yes] Since last July, on average, what was the maximum contribution per member at a meeting (that you may remember)? | Shillings | |
| c2_e | [If c2_a=Yes] Which months did you observe these maximum (high) contribution? | Months Write the name of the months (if it does not change write it is same all months) | |
| c3_a_i | In total what is the total worth of VICOBA now? Including all savings, interest earnings, fines, dedicated funds) | Shillings | |
| <i>Enumerator: Now we will ask you about the allocation of total worth of VSLA</i> | | | |
| c3_a_ii | How much are the total fines (out of total worth)? | Shillings (Enumerator here check the books of the VSLAs to calculate these. If these are not explicitly calculated, then ask the chairman and secretary to make a guess) | |
| c3_a_iii | How much are the total interest earnings out of total worth? | Shillings (Enumerator here check the books of the VSLAs to calculate these. If these are not explicitly calculated, then ask the chairman and secretary to make a guess) | |
| c3_a_iv | How much are the total savings (shares bought since last cycle) out of total worth? | Shillings (Enumerator here check the books of the VSLAs to calculate these. If these are not explicitly calculated, then ask the chairman and secretary to make a guess) | |
| c3_b | How much are the specific savings (dedicated funds) of VICOBA for <u>agricultural investment</u> (fertilizer, seeds, machines, other inputs, etc.)? | Shillings (Enumerator here check the books of the VSLAs to calculate these. If these are not explicitly calculated, then ask the chairman and secretary to make a guess) | |
| c3_c | How much are the specific savings (dedicated funds) of the VICOBA for <u>education purposes</u> ? | Shillings (Enumerator here check the books of the VSLAs to calculate these. If these are not explicitly calculated, then ask the chairman and secretary to make a guess) | |

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| c3_d | How much are the specific savings (dedicated funds) of the VICOBA for <u>health</u> ? | <i>Shillings (Enumerator here check the books of the VSLAs to calculate these. If these are not explicitly calculated, then ask the chairman and secretary to make a guess)</i> | |
| c3_e | How much are the specific savings (dedicated funds) of the VICOBA for <u>ceremonies (e.g. funeral, wedding, etc.)</u> ? | <i>Shillings</i> | |
| c3_f | How much are the specific savings (dedicated funds) of the VICOBA for <u>other events</u> ? Please specify other events... <i>[Note to the enumerator: These dedicated funds can be social funds that are defined in the constitution.]</i> | <i>Shillings</i> | |
| c4_a | Currently how much is the maximum total savings (share) of a member? | <i>Shillings</i> | |
| c4_b | currently how much is the minimum total savings (share) of a member? | <i>Shillings</i> | |
| c5_a | Have you ever cashed-out to the members of the VICOBA in the past? Cashing out: Distribution all the savings and interest earnings (if any) back to the members according to their share? | <i>0=NO 1=Yes</i> | |
| c5_b_i | <i>[if c5_a=Yes]</i> How much was the total cash out? | <i>Shillings</i> | |
| c5_b_ii | <i>[if c5_a=Yes]</i> At the end of last cycle, how much savings did you transfer to the next cycle? | <i>Shillings</i> | |
| c5_b_iii | <i>[if c5_a=Yes]</i> When did you cash-out? | <i>Month and year</i> | |
| c5_b_iv | <i>[if c5_a=Yes]</i> How many month passed before you started to distribute loans again? <i>[Note to the enumerator: For instance in VSLAs usually members start to receive loans in the 3rd month of the cycle.]</i> | <i>Months</i> | |

| | | | |
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| c5_d | Do you plan to cash out again, finish this cycle? | 0=No 1=Yes | |
| c5_e | When do you plan to finish this cycle? | Month, Year | |
| c5_f | When will you stop distributing new loans then? [Note to the enumerator: For instance VSLAs usually stop distributing loans 3 months before the month of cash-out] | Month, Year | |

D Loans

| Note: This section should be directed to the secretary or treasurer who keeps the records. Accept input from the chairperson if she is present. However the secretary should give the final answer. | | | |
|--|---|---------------|---------------|
| No | Questions | Response | Response Code |
| NOTE: Read out Now I would like to ask some questions on the loan practices of VICOBA. I will be very happy if the secretary of the VICOBA helps us to understand the saving practices. WE will be very happy to hear the inputs from the chairperson as well. | | | |
| d0 | How do you decide a member can receive a loan after her request? [Take notes of the discussion, you can fill in some questions by using the discussion | Text | |
| d1 | After how many months of membership a member can receive a loan? | Months | |
| d2_a | Does the member need sponsors to guarantee that he/she will pay the loan | 0=No 1=Yes | |
| d2_b | [If d2a=yes], How many? | Number | |

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|------|---|--|--|
| d3_a | Is there a maximum limit of loan amount that members can member receive? | 0=No 1=Yes | |
| d3_b | [If d3a=yes] , How is the maximum limit defined? | 1=It is a fraction of total savings of the debtor, Please specify the rule in text. 2= It is a fixed amount same for everyone. 3=There is no pre-determined limited, we decide on the sport | |
| d3_c | [If the d3_b==2] It is a fixed amount, same for everyone] How much? | Shillings | |
| d4_a | Has VICOBA ever rejected any loan requests of its members? | 0=No 1=Yes | |
| d4_b | [If d4_a=Yes, Ask] What were 2 most frequent reasons of loan rejection from a member over the past year? | 1=Her loan request was too high. 2=The member is very new, she has not contributed to the common savings enough to receive loans. 3= The member has limited land, livestock, and wealth to pay back 4= She has many other loans from other places. 5= We do not think that her business project is good enough to pay back. 6=We did not think she would use the money for the reasons she asked for. 7= She has received another loan and was late to pay back. 8=No one was ready to be the sponsor for her. 9=Other, please specify | |
| d5_a | How many members of VICOBA has asked for a loan from the VICOBA over the past month? | Number | |

| | | | |
|------|--|--|--|
| d5_b | How many of those loan requests were accepted over the past month? (Some may be rejected) | <i>Number</i> | |
| d5_c | What was the average (per member) loan did they receive over the past month? | <i>Shillings</i> | |
| d6_a | How many members of VICOBA applied for a loan over the past year? | <i>Number</i> | |
| d6_b | How many of them are accepted and has received a loan from VICOBA over the past year? | <i>Number</i> | |
| d6_c | What was the minimum (per member) loan did they receive over the past year? | <i>Shillings</i> | |
| d6_d | What was the maximum (per member) loan did they receive over the past year? | <i>Shilling</i> | |
| d6_e | What was the average (per member) loan did they receive over the past year? | <i>Shillings</i> | |
| d7_a | Suppose that a member of the VICOBA receives 5000 Shillings, how many months later should she/he pay back all the amount that she receives? (if it changes by the debtor, ask him to give an average answer) | <i>Number of months</i> | |
| d7_b | Out of 10000 Shillings, how much should she install/pay immediately when they receive the loan ? [The answer can be zero, no immediate] | <i>Shillings</i> | |
| d7_c | How much, should she bring at the end of loan term [ANSWER OF d7a HERE]? | <i>Shillings</i> | |
| d8_a | Were any member not able to pay her loan from the VICOBA on time? | <i>0=No 1=Yes</i> | |
| d8_b | [If d8_a=Yes] How many times this happened over the past year, since July 2018 | <i>Number</i> | |
| d8_c | [If d8a=yes], What happened if a member of the VICOBA cannot pay back her loan on time? [Multiple options are possible] | <i>0=Nothing 1=We expect her to bring in the next meetings, and wait until she brings. 2=We expect her to bring in the next meetings, and if she does not bring we ask her to leave the group.</i> | |

| | | | |
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| | | <p>3= we expect her to bring next meetings and apply interest rate.</p> <p>4= We expect her to bring next meetings and apply interest rate and an additional fine.</p> <p>5= We ask her sponsor to pay for her.</p> <p>6= We do not extend her a new credit anymore.</p> <p>7=Other, please specify</p> | |
| d9_a | In total how many members are currently indebted to your VICOBA? | Number | |
| d9_b | What is the total amount of (outstanding) loans in your books now? | Shillings | |
| d9_c | Out of total outstanding loans, how much those loans have the members received for agricultural investments (inputs, fertilizers, seeds, etc.) of the members? (This should be a guess by the respondent) | Shillings | |
| d9_d | Out of total outstanding loans, how much those loans have the members received for health expenses? (This should be a guess by the respondent) | Shillings | |
| d9_e | Out of total outstanding loans, how much have the members received for education expenses? (This should be a guess by the respondent) | Shillings | |
| d9_f | Out of total outstanding loans, how much have the members received for other businesses (This should be a guess by the respondent) | Shillings | |
| d9_g | Out of total outstanding loans, How much have the members received for other urgent expenses? (This should be a guess by the respondent) | Shillings | |

E Benefits and challenges of VICOBA

Note: This section should be directed to the chairperson. Accept input from the secretary if she is present. However the chairperson should give the final answer.

| No | Questions | Response | Response Code |
|---|---|---|---------------|
| NOTE: Read out: Finally we would like to learn about how we can improve the services of VICOBA. I will be very happy if the chairperson of the VICOBA helps us to understand the benefits of and challenges in VICOBA. We will be very happy to hear the inputs from the secretary as well. | | | |
| e1 | How important are the following cost and benefits of VICOBA to the members? Please state from not important-to very important? [Enumerator: Ask the question below] | 1=Not at all important, 2=slightly important 3=Moderately important 4=Very important 5=Extremely important | |
| | 1=Discipline the household to save | | |
| | 2=Generate resources for agricultural investment | | |
| | 3=Create emergency fund for health | | |
| | 4=Create funds for education | | |
| | 5= Diffusion of agricultural knowledge among members | | |
| | 6=Group spirit and social cohesion. | | |

| | | | |
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| | <i>7=Collective purchase of inputs</i> | | |
| | <i>8=Collective marketing of goods</i> | | |
| | <i>9= Opportunity to start new businesses</i> | | |
| | <i>10= Care for the environment</i> | | |
| | <i>11=Being better prepared for unexpected events</i> | | |
| e2 | What are the other benefits of VICOBA and could you elaborate your answers above? | <i>Text</i> | |
| e3 | What are the major bottlenecks you come across in managing VICOBA? Ask it as an open questions and select the best answers that fits. | <i>1=Members not participating in meetings</i> <i>2=Members not paying back their loans on time</i> <i>3=Members not contributing enough</i> <i>4=High interest rate</i> <i>5=Low savings</i> <i>6=Small loans</i> <i>7= High frequency of meetings</i> <i>8=Low frequency of meetings</i> <i>9=Complicated bookkeeping</i> <i>10= Other, Please specify</i> | |
| e4 | Would you like to change the amount of dedicated savings for agricultural investment (new crops, fertilizers, inputs, seeds, etc.?) | <i>0=No</i> <i>1=Yes, Decrease</i> <i>2=Yes, Increase</i> | |
| e5 | [If e4=Decrease and Increase] How much can you decrease or increase? | <i>Shillings</i> | |
| e6 | Why (not)? | <i>Text</i> | |
| e7 | Would you be willing to change the interest rates for loans? | <i>0=No</i> <i>1=Yes, Decreases</i> <i>1=Yes, Increase</i> | |

| | | | |
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| e8_i | [If e7=yes] Out of a 5000 Shillings loan, what is the interest rate would you be willing to ask for as interest payment | <i>Shillings</i> | |
| e8_ii | Why (not)? | <i>Text</i> | |
| e9 | Would you be willing to change the duration of the loans from [ANSWER OF d7a HERE]? | 0=No 1=Yes, Decrease 1=Yes, Increase | |
| e10 | [If e9=Decrease or] To how many months? | <i>Months</i> | |
| e11_i | Why (not)? | <i>Text</i> | |
| e11_ii | Does the VICOBA you have a link with financial institutions? | 0=No 1=Yes | |
| e12 | What are the benefits of linking with the financial institutions? [Ask it as open question, mark the answers that fits] | 1=Have a bank account and safe place to save 2=Have a bank account and interest earnings 3=Will be easier to receive the payments from buyers of agricultural producers to the bank account. 4=Will be easier to receive credits from the bank. 5=Our loans will be insured. 6=Other | |
| e13 | Would you be willing keep the VSLA savings in a bank account? | 0=No 1=Yes | |
| e14 | [If e7=yes] How much of the funds? | 1=1/10; 2=2/10; 3=3/10; 4=4/10; 5=5/10; 6=6/10; 7=7/10 8=8/10; 9=9/10; 10=All | |
| e15 | Have you been trying to increase the funds of VICOBA? | 0=No 1=Yes | |
| e16 | [If e15=Yes] How? | 1=By creating additional dedicated funds 2= Adding more members to the groups 3=By transferring savings from earlier cycles 4=Through loans from the banks | |

| | | | |
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| | | 5= <i>Through loans from the money lenders</i> 6= <i>Others</i> | |
| e17 | [If e15=Yes] Have you succeeded? | 0= <i>No</i> 1= <i>Yes</i> | |
| e18 | [If e17=Yes] Can you tell us your success story? | <i>Text</i> | |
| e19 | If you had an opportunity to receive a training to improve VICOBA, which of the following trainings would you like to participate? Enumerator: Mark the ones that are mentioned! | 1= <i>Groups, Leadership and Elections</i> 2= <i>Development of Policies and Regulations</i> 3= <i>Development of Association Constitution</i> 4= <i>Written Record-Keeping and Managing a Meeting Procedures</i> 5= <i>First Savings, Loan and Repayment Meetings</i> 6= <i>Share-out</i> 7= <i>Other please specify</i> | |
| e20 | What plans do you have for VICOBA? (General open question) | <i>Text</i> | |



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