COOPERATIVE DEVELOPMENT ACTIVITY 4 (CD4)- RWANDA

FINAL EVALUATION REPORT

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LAND O'LAKES VENTURE37

USAID FROM THE AMERICAN PEOPLE

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ACRONYMS

AGM	Annual General Meeting
BDS	Business Development Services
CD4	Cooperative Development Activity 4
CMIS	Cooperative Management Information System
CLP	Cooperative Learning Platform
CLS	Cooperative Leadership Seminar
DCO	District Cooperative Officer
FGD	Focus Group Discussion
GAR	Gender Action Research
GILICU	Gicumbi Livestock Cooperative Union
IAIBU	Union of Maize Cooperatives of Bugesera (translated from Kinyarwanda)
IAKIB	Modern Farmer's Association of Byumba (translated from Kinyarwanda)
IKOIABU	Union of Horticulture Cooperatives of Bugesera (translated from Kinyarwanda)
KII	Key Informant Interview
LOP	Life of project
MCC	Milk Collection Center
MCP	Milk Collection Point
MEL	Monitoring, Evaluation, and Learning
NCCR	National Cooperative Confederation of Rwanda
PM2	Performance Measurement and Monitoring System
RCA	Rwanda Cooperative Agency
RICEM	Rwanda Institute of Cooperatives, Entrepreneurship and Microfinance
RWAMACU	Rwamagana Maize Cooperative Union
RWF	Rwanda Franc
RYAF	Rwanda Youth in Agribusiness Forum
SCPV	Social Capital and Perceived Value survey
STTA	Short-term technical assistant
TA	Technical Assistance
USD	United States Dollar

EXECUTIVE SUMMARY

BACKGROUND

The USAID-funded Cooperative Development Activity 4 (CD4), implemented by Land O'Lakes Venture37 from August 2018-August 2023 in Rwanda and Malawi, had three major components: 1) Improving the cooperative enabling environment through capacity building of apex organizations, 2) Improving cooperative business performance by providing technical assistance to primary cooperatives, and 3) Improving development community support for cooperatives by conducting research on locally-defined learning agenda questions and disseminating learning through local and global channels.

In Rwanda, CD4 worked closely with 19 primary agricultural cooperatives, 4 unions across the dairy, maize, and horticulture value chains, and the National Cooperative Confederation of Rwanda (NCCR). CD4 provided coaching on financial management, governance, and business development services that included close follow-up support both by coaches and union advisors assigned to each district. CD4 also supported two of the unions and three of the cooperatives with grants to expand their businesses. Finally, CD4 trained members of 12 cooperatives on gender in 2019-2020, and trained a group of 120 women from 8 cooperatives in 2022-2023 on entrepreneurship training.

CD4 in Rwanda also supported improvements of the cooperative enabling environment. This included supporting the Rwanda Cooperative Agency (RCA) to revise and disseminate a new cooperative development policy in 2021. CD4 also organized and led the Cooperative Learning Platform (CLP), meetings that brought together various cooperative sector stakeholders to share information and coordinate actions, and it funded contracted research on 6 learning questions focused on Rwanda, with results shared out via the CLP.

EVALUATION OBJECTIVES AND METHODOLOGY

Venture37 contracted a consultant to carry out a final evaluation to analyze the extent to which CD4 Malawi achieved its objectives, by answering the research questions below:

1. What has been the impact of the CD4 project on project-supported *apex bodies*?
2. What has been the impact of the CD4 project on project-supported *primary cooperatives*?
3. What has been the impact of CD4 on the broader cooperative enabling environment?
4. What were the effects of and responses to COVID-19 pandemic in the CD4 project?
5. What role does gender play in the CD4 project outcomes?
6. What role does age group (youth) play in the CD4 project outcomes?

Quantitative data was collected by CD4 staff through three main tools: 1) Performance Monitoring and Management (PM2) assessments that scored organizational capacities in leadership, adaptation, management, operations, production and marketing, and financial management; 2) a Social Capital, Perceived Value (SCPV) survey with cooperative members to measure perceived value of both their cooperatives and the apex bodies to which their cooperatives belonged, and 3) financial data. This evaluation, executed between June and August 2023, uses a mixed methods approach using pre-post design for financial and PM2 data and quasi-experimental design for SCPV data, as comparison cooperatives were chosen in each targeted value chain. The SCPV survey was also conducted with the same comparison cooperatives in years 3 and 5. Qualitative data, collected by the evaluator, included 22 focus group discussions (FGDs)— one with male and one with female members for each of 11 cooperatives—38 key informant interviews (KIIs) with representatives of cooperatives and apex bodies, CD4 staff and contractors, implementing partners, and government, and a scorecard workshop with

attendees from 14 cooperative sector organizations to score elements of the cooperative enabling environment. The FGDs and KIIs conducted with primary cooperatives, included a sample from non-supported "comparison" cooperatives, to help better parse out the impact of CD4 versus general changes due to external factors.

KEY EVALUATION FINDINGS

Management and governance improved substantially for most apex bodies and primary cooperatives: KII and FGD results showed that governance and management capacities were substantially increased for both apex bodies and primary cooperatives, with most hiring 1-2 new permanent staff members, big improvements in financial recording keeping and using financial reports to guide decisions, and structural improvements made like the creation of sub-committees on key topics and zone meetings and leaders for the larger cooperatives. On the PM2 survey 5 out of 5 apex bodies and 17 of 19 cooperatives had the overall score increase by more than 1 level (0.25 points). For apex bodies, all 5 showed improvements on both sub-scores of leadership and management capacity. For cooperatives, the strongest results for management capacity and leadership sub-scores, and weakest results for "supply, processing and marketing" and "productivity and financial performance," in which only 50% of cooperatives improved by one level.

Cooperatives increased investments, added revenue generating activities, and expanded markets, resulting in higher revenue levels: All apex bodies and 80% of cooperatives increased their revenues over the project period, largely because they added new revenue generating activities, negotiated more buyer agreements, accessed financing, expanded the scale of their operations, and took other strategic decision with the encouragement and support of CD4 coaches and union advisors

Perceived value to members mostly increased: PV scores showed sizeable improvement over time for the majority of cooperatives and apex bodies, and results were significantly higher for program vs. comparison cooperative members. Of the PV score factors, there was a larger increase in the quality of services than in the number of services. Value of services quantified in the financial results also increased over time for all supported organizations. Other metrics from the SCPV survey, including revenue changes over time, likelihood to recommend the cooperative to others, and social capital scores also indicated improvement over the time and versus the comparison group. KII and FGD results also confirmed that quantity and quality of services offered by CD4-supported organizations improved over the period for most cooperatives. Indicator targets for PV scores fell short of life of project targets, achieving 73% of the goal for apex bodies and 62% for cooperatives, but this was largely due to a downward bias in the PV score calculation which was not well recognized at the time of target setting.

The cooperative enabling environment experienced moderate improvements: Scorecard and KII results indicated moderate improvements in the enabling environments and higher final levels, with particular improvements in government support to cooperatives (RCA oversight, infrastructure improvements, help to make capital investments), information access, financial access, and increasing markets with more formalize contracts. Impacts attributed to CD4 included support on disseminating the new cooperative policy and other useful information, particularly through CLP events, and strengthening apex bodies and their relationship with cooperatives.

Increased women's empowerment: As a result of the gender transformative trainings and GAR (which reached 887 people, 56% women, exceeding these targets), CD4 was found to have substantial impacts

on women's confidence levels, women's entrepreneurship practices, and attitudes on gender roles in the household. Individual outcomes on the SCPV survey were statistically the same between men and women.

RECOMMENDATIONS

For future CDP programs in Rwanda and similar contexts:

1. **Reallocate resources from apex bodies to primary cooperatives,** as cooperatives give more direct impacts to members and apex bodies require much more support to engender sustainable improvements; though potentially still engage already-functional unions in low-touch strategic ways such as using them to roll out financial software or provide inputs to all member cooperatives which they could not easily do on their own, like forage.
2. **Continue using Union Advisors or a similar position,** with a permanent youth staffer living in each supported district and providing close follow-up on application of the learnings from coaching and supporting cooperatives with other key tasks and problem solving.
3. **Provide finance access to cooperatives as soon as possible after good management foundations are established** following initial coaching, ideally in year 2. Access can be provided through direct grants and support to access outside funds. Ensure that all supported cooperatives receive some type of access to finance support and that training is provided on how to sustainably take and repay loans and not accrue unmanageable debt.
4. **Add support to cooperatives on production, processing and marketing**, as these domains for some cooperatives are their key barriers to improving business performance. Facilitate access to improved inputs, offering or facilitate access to training or coaching on these topics, use grants or loans to address these areas, and put a focus on helping cooperatives to hire and sustain permanent agronomist and veterinarian staff.
5. **Continue GAR work with modifications**, with broader gender transformative trainings offered to most members, engagement of men to get their buy-in, and a revised, gender-sensitive entrepreneurship program offered to select women not long after the initial gender trainings are complete. Also consider ear-marked funds for cooperatives to help women acquire assets like livestock and reduce their time poverty, through initiatives like providing improved cook stoves or child care centers.
6. **Do more to increase youth involvement in cooperatives**, like organizing an internship program to provide full-time temporary staff to support cooperatives, earmarking funds for cooperative to attract and support youth members (like providing livestock to youth), supporting youth-only cooperatives and helping them add new members, and
7. **Strengthen sharing of research learnings.** Build local ownership of the research agenda (by giving leadership over research planning and oversight to a local partner), potentially hire a full-time communications person, summarize all reports in accessible formats and in Kinyarwanda, and find new channels for wider dissemination, including to cooperatives through coaches and union advisors back.
8. **Increase scale in terms of number of cooperatives and members served, if possible:** try to allocate larger portion of budget to cooperative support, from apex body and research funding, to reach a larger number of cooperatives. Include a larger number of members directly in coaching sessions and/or create a structure for leaders or delegates to share learnings from coaching and training with more members, including some funding provided to cover transport allowances.

9. **Make adjustments to SCPV survey and PV score calculations:** Modify the way PV score is calculated to reduce its downward bias when a very high number of services is not received by a cooperative member. Either cut the social capital components entirely, or if retained then adjust scoring so a more realistic meeting frequency can still give a high score. Add new questions to the SCPV survey on women's empowerment in the household and revenues.

For the Rwanda cooperative sector more generally:

1. **Work to improve financial product access for cooperatives** including increasing awareness of suitable financial products that are already available (such as those through SACCOs) and working with financial institutions to further increase availability of such products (with low interest rates, no collateral requirements).
2. **Increase support to cooperatives on debt management**, including financial literacy trainings on how to manage debt as well as guidance and financial support or debt relief for those already indebted.
3. **Create sustainable market for cooperative services** by helping service providers like the Rwanda Institute of Cooperatives (RICEM) to strengthen their marketing functions and sensitizing agricultural cooperative to pay at least part of the cost of trainings and other services provided.
4. **CDP implementers and other NGOs should work more through and in support of RCA** by engaging in activities that complement their cooperative categorization and oversight work, sharing written reports on cooperative observations, flagging concerns that need auditing, possibly supporting RCA to run a broad gender assessment and training campaign with many cooperatives, as RCA is a strong partner which can help project reach cooperatives as a higher scale.

PROJECT BACKGROUND

The Cooperative Development Activity 4 (CD4) is an $11.3 million, USAID-funded project, implemented by Land O'Lakes Venture37 (Venture37) from August 2018-October 2023 in Rwanda and Malawi. CD4 had three major components: 1) improving the cooperative enabling environment through capacity building of apex organizations, 2) improving cooperative business performance by providing technical assistance (TA) to primary cooperatives directly and through apex organizations, and 3) improving development community support for cooperatives by conducting research on locally-defined learning agenda questions and disseminating learning through local and global channels. Gender and youth inclusion was, in principle, integrated throughout the activities.

CD4 Rwanda supported 19 cooperatives, 5 apex bodies, and one cooperative service provider over the life of the project. Geographically, the project worked with unions and cooperatives across three districts: Gicumbi in the Northern Province, Bugesera and Rwamagana in the Eastern province. In Rwanda legally there is one union to cover each value chain in each district, so from 2018 CD4 organized its operations to work with Gicumbi Livestock Cooperative Union (GILICU) for dairy, the Rwamagana Maize Cooperative Union (RWAMACU), and the Union of Horticulture Cooperatives for Bugesera (IKOIAIBU) and several cooperatives under each of those unions; in 2021 CD4 also added Union of Maize Cooperatives for Bugesera (IAIBU) and two of its member cooperatives to the program.

Activity 1 - Improving the cooperative enabling environment through capacity building of apex organizations: CD4 Rwanda worked closely with the four unions listed above, providing coaching by expert short term technical assistants (STTAs) to their staff and board of directors on three key modules: financial management, governance, and provision of business development services (BDS) to cooperatives. Support was provided through an introductory training followed by tailored coaching with repeat support over several months. Furthermore, after the COVID-19 pandemic, a "union advisor" was assigned to each district to support the unions and their member cooperatives, with frequent visits to assist union leaders in tasks such as reviewing their financial reports, running selection processes for new staff, setting up revenue generating activities, apply for external grants, etc. These union advisors were all youths sourced from the Rwanda Youth in Agribusiness Forum (RYAF), they were based in the districts to which they were assigned and offered close, full-time but non-expert support as a follow-on to the coaching, which was provided by experts. CD4 also provided two of the unions grants to expand their businesses after COVID. Unions were expected to help pass on some of the templates and trainings received by CD4 to all their member cooperatives, including those not serviced by CD4 directly. The union advisors did some minimal support visits to those non-CD4 cooperatives as well.

Activity 2 - Improving cooperative business performance using technical assistance to primary cooperatives: In Rwanda, CD4 worked closely with 19 primary agricultural cooperatives that operated under the unions from Activity 1, also in the maize, dairy and horticulture value chains. Just like for the unions, expert STTAs provided coaching on governance, financial management and BDS to members. For these cooperatives coaching was provided to the executive committee members, leader of relevant sub-committees, professional staff and a few select members. There were two different cohorts of cooperatives, with CD4 supporting 12 cooperatives starting in year 1 and adding 7 more cooperatives starting at the end of year 3 (2021). Members of cooperatives in cohort 1 all also received gender trainings aimed to shift mindsets on gender roles and equality in 2019-2020, while 120 women from 8 selected cooperatives split across cohorts received a 12-session entrepreneurship training as part of gender action research (GAR). Furthermore, after the COVID-19 pandemic, three of the cooperatives also received grants to expand their businesses, and the union advisors mentioned in Activity 1 also supported them in various ways to access markets and otherwise improve their operations and business performance.

Activity 3 - Improving development community support to cooperatives through learning agenda research and dissemination: CD4 also provided support for the broader cooperative enabling environment. This included assisting the Rwanda Cooperative Agency (RCA) to draft and disseminate a new 5-year cooperative development policy that was enacted in 2021. CD4 also convened and facilitated the Cooperative Learning Platform (CLP), meetings that brought together various cooperative sector stakeholders to share information and coordinate actions. The project also funded research on 6 learning questions focused on Rwanda, with results shared out via the CLP. While CD4 organized many of the CLP meetings directly, it also delegated partially to two other local institutions, the Rwanda Institute for Cooperatives (RICEM) and the National Cooperative Confederation (NCCR), providing grants to support CLP facilitation and to strengthen their capacities more generally. As for RICEM, in addition to facilitating some CLP meetings they also organized and led three different annual Cooperative Leadership Seminars with CD4 support that brought together cooperative representatives at the national level for knowledge sharing and trainings.

The COVID-19 pandemic led to major challenges, where many cooperatives limited their activities and lost revenue, and CD4 could not conduct activities as initially planned. CD4 was able to continue some remote coaching for fewer leaders per cooperative, and the project provided computers, printers, and speakers

to each union and cooperative in cohort 1 to facilitate this remote assistance. CD4 explored two learning agenda questions related to COVID-19 including, COVID impacts on the cooperative sector and resilience of cooperatives to the crisis, which provided some useful recommendations that the CD4 team shared with stakeholders remotely during the lock-down period and helped inform adapted CD4 activities. Namely, after the pandemic, CD4 shifted the program to add direct grants for some unions and cooperatives and provide BDS coaches and union advisors to support on market access and business performance improvement to help facilitate a rapid recovery from the effects of the pandemic.

EVALUATION PURPOSE AND EVALUATION QUESTIONS

The purpose of this final evaluation was to analyze and document the extent to which CD4 Rwanda has achieved its goals and objectives and to explain any deviations from the plan. The findings were used to draw conclusions and provide recommendations for future Cooperative Development Program work in Rwanda and for the cooperative sector more generally in both Rwanda and similar environments. The report is aimed at multiple audiences, including Land O'Lakes Venture37 staff, USAID/Washington and USAID/Rwanda representatives, the government of Rwanda, members of the Rwanda CLP, and activity beneficiaries including apex body and cooperative leaders.

EVALUATION QUESTIONS

The key evaluation questions are listed below, along with the sub-elements included in each. The Evaluation Matrix document (Annex 1) shows how the qualitative and quantitative data sources contributed to answering these questions.

Table 1: Evaluation Questions

#	Evaluation question	Sub-questions
1	What has been the impact of the CD4 project on project-supported *apex bodies*?	• Business performance changes • Membership level changes • Governance changes • Management capacity changes • Awareness of apex bodies among members • Value proposition to members • Any changes made because of project learning/dissemination • Most impactful activities and lessons learned for apex bodies
2	What has been the impact of the CD4 project on project-supported *primary cooperatives*?	• Business performance changes • Changes to member household revenues and well-being • Changes in membership levels • Management capacity changes • Value proposition to members • Changes in member contributions and investments, any changes made because of project learning/dissemination • Most impactful activities and lessons learned for primary cooperatives

3	What has been the impact of CD4 on the broader cooperative enabling environment?	• Impacts on government regulations (laws, policies and their implementation) and coordination of actors in the cooperative sector? • Impacts on development community support (from government, private sector, donor funding, research community, local leaders) for cooperatives? • What specifically was the impact of learning agenda research and dissemination and the CLP? • Which CD4 activities led to the biggest changes in the enabling environment? What are lessons for future projects?
4	What were the effects of and responses to COVID-19 pandemic in the CD4 project?	• How did the pandemic influence CD4's results? • How did CD4 adapt activities to COVID in the short term? • To what extent did cooperatives, especially CD4-supported cooperatives, help to mitigate member losses? • Did CD4 help the cooperative sector to recover and learn from the pandemic crisis in the long run?
5	What role does gender play in the CD4 project outcomes?	• Have the program outcomes differed based on gender? • Have cooperative policies toward women and women's participation in the cooperatives changed? • What was the impact of CD4 on women's broader autonomy and equality in their households? • Lessons learned for the future on how to increase women's empowerment through cooperatives?
6	What role does age group (youth) play in the CD4 project outcomes?	• Have the program outcomes differed for youth vs. for older participants? • Have cooperative policies toward youth and youth's participation in the cooperatives changed? • Lessons learned for the future on how to increase youth involvement in cooperatives

EVALUATION METHODS AND LIMITATIONS

This evaluation uses a mixed methods approach to answer the evaluation questions described in the section above. The evaluation used a mixture of quasi-experimental and pre-post design, comparing data collected from baseline, midterm and annually to those collected during this final evaluation. For the quantitative portion, primary data was collected annually by the CD4 team using a Performance Measurement and Monitoring System (PM2) tool with cooperatives to measure changes in their practices, a Social Capital and Perceived Value (SCPV) survey with cooperative members to understand changes in value of cooperative membership, and financial data from cooperatives and apex organizations to understand changes in performance. Results have been disaggregated by gender and age to determine the specific effects on women and youth, and certain key metrics have been compared not only to baseline but also to a comparison group, to help parse out the effect of the program.

The qualitative portion includes primary data collected by the evaluator from focus group discussions (FGDs), key informant interviews (KIIs) and a scorecard workshop conducted during the final year, and

compared to earlier results at baseline and mid-term. The scorecard workshop was an exercise conducted with key cooperative sector stakeholders in which they provided scores on various elements of the cooperative enabling environment. FGDs were conducted with cooperative members of both program and comparison cooperatives to explore their perceptions of how their cooperative governance, performance and the value of their membership changed over time, and to see if the program cooperative members reported larger changes. KIIs with cooperative, union and federation leaders, government representatives, CD4 staff, and contracted coaches were used to understand their perceptions of the changes and impacts of CD4 on the cooperative sector.

QUANTITATIVE

Monitoring data

Monitoring data for outputs of the project came from several sources. Individual registration forms were filled out for each individual member of the program and comparison cooperatives and included information such as gender, age and position in the cooperative, and also filled for any individual who attended an event even if they were not a cooperative member, and noted their organizational affiliation. Event logs and attendance lists were collected to note the content and type of event (coaching, training, CLP meeting, workshop, etc.) and which individuals were present. A learning agenda tracker was completed by CD4 program staff as different research reports were contracted out and then completed, to track the progress of the learning agenda work. Data on cost-share and leverage provided by program organizations (mostly in-kind meeting space and staff time, or capital investments made with outside grant support), Venture37 itself (Land O'Lakes Inc. staff time), and other sources was collected with back-up documents and compiled into Venture37's cost-point system, with later exports used to calculate total leverage. Finally, a list was compiled every year of organizations using CDP-developed tools by the CD4 program staff, with data collected on non-program cooperatives using the tools by program apex bodies who shared the tools with them.

Impact data

Three key tools were used to collect quantitative evaluation data to measure outcomes of the project. The SCPV survey was conducted with a representative sample of both program cooperative members (every year) and comparison cooperative members (in years 3 and 5), and include questions about which services the members received from their cooperative, their rating of the quality of each service, their level of awareness of the union and federation of which their cooperative was part, their level of trust in the cooperative and apex leaders and structures, the frequency with which they engaged with their cooperative or apex body in various ways, cooperative rules and enforcement, and the number and quality of services provided by the union and federation. These data were used to calculate a perceived value score for each cooperative and each apex body, as well as a two social capital scores one for behavioral domains (trust) and one for structural domains (engagement opportunities, rules).

The PM2 assessment was completed each year with all program cooperatives and apex bodies, led by a CD4 program staff member but with participation of a group of organization leaders and members. The PM2 tool included 2 sections (leadership and management capacity) for apex bodies and 6 sections (leadership, adaptive capacity, management capacity, operational capacity, supply, processing and marketing, and productivity and financial performance) for primary cooperatives. In each section, multiple questions, each with a scoring rubric, were discussed and scored, then averaged together to give a total score.

Financial data was collected annually with data from the previous full calendar year from every program cooperative and apex body, using provided templates, and with the help of finance coaches in the case of the cooperatives. They include data reported from the cooperatives and unions about their revenues, income distributed to members, and equity. They also include estimated Value of Services scores, which are calculated using a questionnaire about services provided which are then quantified using set formulas.

Secondary data review

In addition to the formal quantitative tools, the evaluator also reviewed reports and other information sources and used them to compile a summary database by organization. Sources reviewed included final reports on the Gender Action Research and other learning questions, grant award contracts and completion reports, CD4 annual and semi-annual reports and prior evaluations, detailed comments in PM2 assessments, and requested information filled in by CD4 program staff upon request, for example noting the key intervention and actions taken for each cooperative and apex body.

Sample selection

All tools mentioned above involved census data except for the SCPV survey. For this survey, all program cooperatives and selected comparison cooperatives were included, but with a stratified random sample of members from each cooperative selected to participate in the survey. For sampling within each cooperative, the CD4 team took the full list of active members and used a random number generator to select the planned number of individuals to survey, as well as a back-up list. For each cooperative, the proportion of females, youth, and leaders in the selected sample was checked to make sure it corresponded to the overall cooperative population proportions; where it did not, substitutions were made on the list of sampled names until the sample and population proportions were equal.

SCPV data was collected on the comparison group of cooperatives in years 3 and 5 of the CD4 project. Cooperatives for the comparison group were selected based on the following criteria: 1) they were not served by the CD4 program, 2) they had a similar coverage of geographic areas and value chains and 3) they did not statistically differ from the program group on average on several key variables (membership size, years in operation). Due to resource constraints, it was not possible to get equal numbers of comparison cooperatives as for the activity supported group; instead, 6 comparison cooperatives were selected in Rwanda. For the selected comparison cooperatives, the registration tool was used to collect member information prior to SCPV administration, but no other data was collected.

The planned sample size was 25 members for most program and comparison cooperatives, but for a few cooperatives with less than 100 active members the sample was reduced to 10-15, and for the largest cooperative, the Modern Farmer's Association of Byumba (IAKIB) in the dairy value chain, the sample was expanded to 80. In the end the actual sample diverged slightly from the plan, with a higher number of respondents in some cooperatives and a lower number in others. Table 2 shows the proportion of members represented for each group of cooperatives. It shows that while some cooperatives are represented more than others in the sample, the range for each key sub-group is still generally the same. The only exception is IAKIB, the largest cooperative, which is under-represented; however, if the sample or sample weighting were adjusted to make it more proportionate, then IAKIB's results would dominate all the others. The decision was made to use the sample as-is without adjustments to give a more balanced weight in the sample to the cooperatives. However, when doing statistical testing cluster-robust standard errors were used.

Table 2: SCPV survey sample compared to sampling frame

Cooperative group	# members in Y5	Y5 SCPV planned sample	Y5 SCPV actual sample	% of members in survey	Range of % members represented
IAKIB	4,000	80	91	2%	2%
Other Cohort 1	1,597	236	236	22%	6%-37%
Cohort 2	1,658	140	135	15%	5%-34%
Comparison	1,329	110	109	16%	5%-27%
TOTAL	**8,584**	**566**	**571**	**18%**	**2%-37%**

Quantitative Field Work

For most years, the data collection of all annual data collection tools occurred between June–August, prior to annual report submission in November. Dates for the data collection in 2023 for each of the tools were:

- **Cooperative member lists:** May 1-31
- **Finance data:** June 12-30
- **PM2:** June 15-July 7
- **SCPV survey:** July 17-August 1

Challenges and limitations of quantitative data collection

Perceived value and social capital score design flaws: The methodology for calculating the perceived value score and social capital scores was designed by TANGO International at baseline, approved by CD4 staff, and seemed like reasonable metrics for most of the project. However, after conducting the analysis over the years, it has become apparent that the perceived value (PV) score and the structural domain social capital (SC) scores, particularly for apex bodies, have design elements which tend to bias them downward in a way that can be misleading. The PV score can only be high if a large number of services have been received (out of 13-18 possible) by a given cooperative member, and it puts far more emphasis on quantity than quality. The structural SC scores can only be 100% if members attend meetings with leaders and other members daily, which is unrealistic, especially with apex leaders. To compensate for these flaws, the sub-components of the PV score (number of services and quality) are shown disaggregated, as are other quantitative measures of perceived value like the level at which a member would recommend their cooperative to others and what percent say their revenues were higher because of their cooperative. Qualitative comments are also shown related to satisfaction, trust level, strength of rules, etc. in the cooperative.

Financial data limited time frame and errors: Financial data was always collected for the previous full calendar year, so the year 5 data came from January-December 2022. This meant that financial performance changes which happened in 2023 were not captured.

Comparison group limitations: Due to budget constraints, there is no comparison group for apex bodies, which if included could have helped to better measure the impacts on those organizations. Also, the comparison group was only included starting in year 3, so no comparison can be made for the full period. Furthermore, only membership list and SCPV data was collected for the comparison group, there is no comparative PM2 and financial data to help parse out whether changes in these variables were due to CD4 or would have happened anyway. There also was not comprehensive data on age of members in

some of the comparison cooperative member lists. Finally, comparison primary cooperatives for maize were members of IAIBU union, which was also supported by CD4, and the support provided to IAIBU by CD4 likely had a spillover effects on the maize comparison cooperatives; in horticulture and dairy the comparison cooperatives chosen are in entirely different unions, as per the preferred methodology. To partially compensate for these limitations, qualitative data was collected on both comparison and program cooperatives, and the differences in those results can help with attribution of program impacts in these missing areas.

QUALITATIVE

Focus Group Discussions

The evaluation conducted FGDs with cooperative members that covered topics such as governance, management, and benefits of the cooperative as well as household well-being a gender equality. Tips for flexible probing and clarifications, as well as a mandatory follow-up on changes over time/because of CD4, were included for each question.

The evaluation selected cooperatives to participate in the FGDs purposively, one to represent each value chain for both participant and comparison cooperatives. Within each cooperative, two FGD were conducted, one with men and one with women. Member participants of the cooperatives were chosen purposively by the lead evaluator to ensure exclusion of leaders and representation of youth. Due to low representation (only 12% of membership), youth were not interviewed separately, but the interviewers were instructed to be sure they get their perspectives during the discussions. In practice, about 90% of those selected participated, but with less youth represented than expected, and a few leaders attended as they were not designated as such in the member list.

Table 3, below, shows the sample for each value chain versus the sample frame, with a total of 7 of 19 program and 4 of 6 comparison cooperatives included. Program cooperatives were selected to give some representation of all three value chains and both cohorts, and IAKIB was deliberately included in addition to another cohort 1 dairy cooperative as it was expected to have a unique experience as a very large cooperative. Although this leads to overall 33% representation for the dairy value chain and 37% representation for the maize value chain, which is fairly similar. Horticulture is slightly overrepresented in comparison (50%) but this was unavoidable if they were to be included at all, since there were only two program horticulture cooperatives. The decision was made to include them because CD4 staff suggested they had a very different experience from the other value chains and it would be important to gain qualitative information on their perspective.

Table 3: FGD Sampling Plan

Sub-group of primary cooperatives	Total # in program (sample frame)	Sample size for FGDs		% Program coops represented
		In program	Comparison	
Dairy, cohort 1	6	2	2	33%
Maize, cohort 1	4	2	1	50%
Horticulture, cohort 1	2	1	1	50%
Dairy, cohort 2	3	1	0	33%
Maize, cohort 2	4	1	0	25%
TOTAL	**19**	**7**	**4**	**37%**

Key Informant Interviews

The evaluator interviewed key stakeholders, including CD4 staff (including Union Advisors), coaches, other implementing partners, advisors, cooperative leaders, Federation and Union leaders, and government representatives, with unique guides for each (see Annex 11). The KIIs sought to understand their participation in the CD4 project and the changes they have noted due to CD4. Table 4 shows the number included in the KII sample compared to the sample frame for each group.

Table 4: KII Sampling Plan

Type of stakeholder	Sample frame	Who is in sample frame	Planned & actual sample	Who is included in sample
CD4 high level staff	3	Chief of party, Deputy chief of party, Monitoring, Evaluation and Learning (MEL) Manager	3	All
Primary cooperative leaders, program & comparison	25	All program cooperatives and all comparison in the SCPV survey	11	Same as for FGDs
Supported apex bodies leaders	5	GILICU, RWAMACU, IKOAIBU, IAIBU, NCCR	5	All
Government & Civil Society	13+	RCA, DCOs in 3 districts, Ministry of Commerce, Joint Action Development Forum, 4 national federations, Association of Microfinance Institutes of Rwanda, University of Lay Adventists of Kigali, Agriterra	5	RCA, 3 DCOs, National Dairy Farmers' Federation of Rwanda (NDFFR)
Coaches and implementing partners	18	Finance coaches, governance coaches, BDS coaches, Katie Carlson consulting, Picture Impacts, Paper Crown Rwanda, RICEM	8	• 1 finance, 1 governance, and 1 BDS coach • Paper Crown/Katie Carlson (same rep) • Picture Impacts • RICEM
CD4 Rwanda staff	9	2 Cooperative development managers, Gender & Youth Inclusion specialist, 4 Union Advisors, 2 MEL assistants	7	All except MEL assistants

Scorecard workshop

The evaluation used a group scoring exercise with two different scorecards to better understand the changes in enabling environment and development community support for cooperatives as a result of CD4. Scores were determined through a workshop with key stakeholders with full group and small group discussions to assign scores from 0-10 for the different scorecard elements. The elements (shown in Table 5 below) and the scoring criteria were jointly decided by the stakeholders at baseline to be used throughout the project.

This scorecard and methodology were first developed by TANGO International at baseline. They conducted a full day workshop with participating stakeholders selected by CD4 staff in 2019 and including

representatives of apex bodies, primary cooperatives, academia, and NGOs with active projects in the Rwanda cooperative sector. The same group was revisited at midterm in 2021, and the final evaluation conducted a half-day workshop with the same group on August 10, 2023. During the final evaluation, several additional participants were invited, including additional civil society, apex bodies, primary cooperatives. A total of 14 of the 21 invitees attended.

Table 5: Scorecard 1 & 2 Elements

#	Elements included per scorecard
Scorecard 1: Level of enabling environment in Rwanda to support cooperative development	
1.1	Availability and access to information and knowledge sharing (of cooperative development concepts)
1.2	Policy, laws, and regulations governing cooperatives are set
1.3	Governance (Leadership) and structured management in terms of paid staff, and structure of coops, unions, federations
Scorecard 2: Level of support to Rwanda cooperative development from the development community	
2.1	Government financial support to cooperative sector (investments in supporting infrastructure, extension services; subsidies on inputs to cooperatives, etc.)
2.2	Trainings, field visits, information sharing (provided by external actors)
2.3	Market linkages
2.4	Access to finance
2.5	Donations, Grants provided to cooperatives from government, NGOs, etc.

The blank scorecards with their dimensions and scoring criteria were shared in advance with invited participants in English, depending on language skills, with paper copies also provided on the workshop day in Kinyarwanda. Participants were asked to review and start reflecting on the scores they would give and why as pre-work. Annex 12 shows the list of organizations, and specific representatives, invited to attend the final scorecard workshop, compared to who actually attended.

Qualitative Data Collection

The research team consisted of five members: the lead researchers, and four local Rwandan research assistants. Research assistants were recruited for strong qualitative data collection experience. The lead researcher trained the research assistants from August 7-8, 2023 on the data collection tools and goals, best practices for FGDs and KIIs, and CD4 project background. The lead evaluator also participated in the first few field data collection events, from August 9-15 to provide oversight and feedback to research assistants. The research assistants led the FGDs and KIIs with cooperatives, apex organizations, district government officials. One research assistant conducted each interview, recording the discussion and providing verbatim transcripts translated to English. These qualitative interviews were conducted between August 9-22, 2023. The lead evaluator led the facilitation of the scorecard workshop, while the research assistants facilitated the small-group discussions. The scorecard workshop took place on August 10, 2023.

Challenges and limitations of qualitative data collection

Some limited knowledge among KII participants due to turn-over: In a few instances, the leader who was interviewed to represent a cooperative, union or other organization was elected relatively recently, so

they were not able to answer all questions comprehensively about the changes over 5 years or about the cooperative's participation in particular CD4 activities. This was particularly noticeable in the question about participation in the CLP and other learning dissemination events: several leaders said that they personally did not participate, but maybe the former leaders did. This was also the case for NCCR, where the current executive secretary has only been in place for 2 years, and so he was not able to say with confidence how CD4 supported NCCR earlier in the program and what was done with the grant provided to them near the beginning of the project. To mitigate this challenge, the evaluator tried to triangulate information wherever possible, for example through asking CD4 staff or checking member responses in FGDs about topic where the leader was not able to reply.

Lack of continuity in scorecard workshop participants: The evaluator believed and the CD4 team agreed that there were some important organizations not included in the baseline and final midterm evaluation scorecard workshops, so for the final scorecard workshop, 7 additional organizations were invited. Furthermore, among the organizations included at baseline and midterm, many sent different representatives to the final scorecard workshop, some because there has been a leadership transition in the meantime. As a result, only 5 of the 14 attendees of the final workshop also attended an earlier workshop. This lack of continuity calls into question the comparability of the scores given over time. To compensate for this, participants were familiarized with the earlier scoring and justification results provided at mid-term and baseline and asked to assign scores based on the change they observed since those periods. This should have helped make the score more comparable but may not have fully resolved the issue. However, the final group was still more representative of the sector as a whole than the earlier groups at baseline and mid-term, and the evaluator believes that they provided more comprehensive insights as a result. For example, the earlier scorecard workshop did not include RCA and only had 1 cooperative representative, while representatives of RCA and 3 different cooperatives were present for this final workshop.

FINDINGS

INTRODUCTION

The progress of CD4 on its key performance indicators can be found in Annex 2. CD4 Rwanda managed to meet or exceed its targets for 10 indicators, while 8 indicators fell short of their targets. Targets were substantially exceeded for financial performance metrics like apex revenue, primary cooperative revenue change, and quantified value of member income of services. Targets were also slightly exceeded for number of cooperative members served (total and for each sex) and number receiving training related to women's empowerment, and for most of the metrics related to broader dissemination and mobilization including funds leveraged for cooperative development, organizations attending CLP events, number of organizations using CLP tools, and number of learning questions completed.

There were also mostly positive by slightly mixed results on cooperative capacity improvements, as measured both by the PM2 survey and SCPV surveys. All the supported apex organizations improved 1 full level on the PM2, but 2 primary cooperatives did not, so that goal was only met at 94%. Targets were met for number of cooperatives and apex bodies making any management improvements (with 18 of 19 cooperatives improving) and those making governance improvement by one level (with 14 of 19 cooperatives improving).

However, CD4 fell short of its goal on number of learning dissemination events and publications, as well as on the percent of female participants in trainings (82% of target achieved). Member equity on average exceeded the goal if the broader definition (counting full total equity, including grants and donations) is used, substantially in the case of apex bodies (6 times the target, driven by big increases for NCCR), though it fell short for cooperatives (45%). However, if the narrower definition of member equity (with grants and donations removed) is used, then it shows a downward trend over time and only 16% of the goal for both cooperatives and apex bodies was reached at Year 5/LOP.

On perceived value, these results tended to be more consistently below target, though with some qualifications. Apex organizations final PV score exceeded the goal for essential services. However, the non-essential services and overall PV scores for apex bodies, and all the PV score disaggregates for cooperatives, failed to reach the target (with 60-74% achievement). A key reason for these low scores, however, is that the PV score calculation was biased downward, as will be described in the findings section below.

The remainder of this section will provide the detailed findings per activity component: 1) Improving the cooperative enabling environment through capacity building of apex organizations, 2) Improving cooperative business performance using technical assistance to primary cooperatives, and 3) Improving development community support for cooperatives through learning agenda research and dissemination. Results on cross-cutting topics that span each of these components are then highlighted separately, including women's inclusion and empowerment, youth inclusion and empowerment, and the effects of and responses to the COVID-19 pandemic.

COMPONENT 1 RESULTS: IMPROVING THE COOPERATIVE ENABLING ENVIRONMENT THROUGH CAPACITY BUILDING OF APEX ORGANIZATIONS

CD4 Activities with Apex Organizations

Table 6 below shows the main support that CD4 Rwanda provided to the 5 apex bodies. The national confederation, NCCR, received different support than the others, with a much larger grant and a lower level of coaching. The goal had originally been for NCCR to act as an implementing partner to help run the CLP and other activities with member organizations, but due to issues with a leadership transition they did not implement as per the plan.

For the four supported unions, CD4 provided the standard TA package, including coaching on the three modules of governance, financial management and business development services that are also offered to primary cooperatives. Common actions taken with the support of coaches included revamping financial record keeping, starting to use financial reports for decision making, creating a budget for the first time, creating or revision a business plan and strategic action plan, and creating a recruitment plan for attracting new member organizations. A union advisor was also provided per district in 2021 to support the unions on actions like setting up revenue generating activities, hiring professional staff, attending all annual general meetings (AGMs) of members on behalf of the union to facilitate communications, applying for loans and grants, seeking out and negotiating with new buyers, etc. In addition to the TA and grants, all the apex bodies were supplied a computer and a printer by CD4.

Table 6: Apex Body Summary and CD4 Support

Apex body	Type	Value chain	District	Period worked with CD4	# members 2023	Support given by CD4
RWAMACU	Union	Maize	Rwamagana	2018-2023	20	$10.4K grant, standard TA package
GILICU	Union	Dairy	Gicumbi	2018-2023	10	$6.4K grant, standard TA package
IKOIABU	Union	Horticulture	Bugesera	2018-2023	5	Standard TA package
IAIBU	Union	Maize	Bugesera	2021-2023	14	Standard TA package
NCCR	Confederation	All	National	2018-2023	10	$15.6K grant, governance and finance training

Capacity Changes of Apex Organizations

Management capacity, as measured by the PM2 assessment and triangulated by qualitative data, increased for all supported apex bodies, though it was lower for NCCR than for the 4 supported unions.

Table 7, below, shows the results of the PM2 assessment for the 5 supported apex bodies. All showed improvement overall and on the two component sub-scores, though there was a higher change and higher final score levels on average for leadership than for management capacity. For overall scores IKOIAIBU had the highest percent change and NCCR the lowest, though this was partially a result of their starting levels—those with higher starting scores had less room for improvement and ended up with a lower percent change.

Table 7: Apex Body PM2 Results

Cohort	PM2 Overall Score			PM2 Leadership Score			PM2 Management Capacity Score		
	Baseline	Final	% change	Baseline	Final	% change	Baseline	Final	% change
RWAMACU	1.3	2.3	77%	1.25	2.25	80%	1.6	2.2	38%
GILICU	1.67	2.33	40%	2	2.25	13%	2.13	2.47	16%
IKOIABU	1.2	2.23	86%	1	2.75	175%	1.4	2.27	62%
IAIBU	1.73	2.9	68%	1.5	3.25	117%	1.87	2.8	50%
NCCR	2.6	2.9	12%	2.5	2.75	10%	2.6	3	15%
TOTAL	**1.7**	**2.53**	**49%**	**1.65**	**2.65**	**61%**	**1.92**	**2.55**	**33%**

Qualitative research supported this finding of substantially increased leadership and management capacity among the apex bodies. KII respondents shared that previously union leaders did not understand responsibilities, executive committees were holding very few meetings, decisions were often not taken collaboratively, they all had no sub-committees, and record keeping was poor. After the CD4 coaching there were improvements in each of these areas, including more meetings, more collaborative decision making, a market committee added in 3 of the 4 unions, and record keeping much improved, with functional financial reports for all. Three of the unions (all except IKOIAIBU) and NCCR all added accountants during the project period, and a few added other staff like a manager or an agronomist. NCCR also acquired Quickbooks accounting software and training, so now uses only

electronic financial record keeping and reporting, and their current leadership has now been in place for two years and their capacity and knowledge has improved compared with the earlier transition period.

Apex Membership Levels, Member Awareness & Recommendation Score Changes

In the annual SCPV survey cooperative members were asked about their awareness of the union of which their cooperative as a part, and for those aware of the union, they were asked to provide a score (from 1-10) of how likely they would be to recommend joining the union to another producer. Apex bodies were also asked how many member organizations they had at baseline and end of project. There were mixed results on this topic, with membership numbers and member awareness increasing for some but not all of the apex bodies.

All apex bodies tried to recruit new member cooperatives, and union advisors assisted with this. GILICU, RWAMACU and IAIBU were all successful in adding several new member cooperatives. However, for RWAMACU's there was contradictory data, where in their KII they reported a jump from 16 to 20 cooperatives but also said only 15 are active, while CD4 staff did not report an increase at all. Meanwhile, IKOIABU and NCCR did not experience any shift in number of members.

As shown in Table 8 below, the level of awareness for unions among CD4 program cooperative members was 71% by year 5 (42% higher than for the comparison cooperatives), a statistically significant 22% increase from baseline. This is 10% higher increase than for comparison cooperatives, also statistically significant. However, this varies by value chain, with awareness of the cooperative union dropping slightly over time among program cooperative members, and a higher increase in this metric for comparison cooperative members. The likelihood that a cooperative member would recommend their union to others increased by a statistically significant 14% over time, though this was not statistically different from the level of change in comparison groups.

Table 8: Cooperative member awareness and recommendation results over time

Cooperative Type	Value Chain-Union	Union awareness among cooperative members		Member apex recommendation score	
		Final	Level change	Final	% change
Program	GILICU	63%	22%	7.1	7%
	RWAMACU	91%	30%	6.9	15%
	IKOAIBU	55%	-12%	6.1	21%
	IAIBU	74%	34%	7.8	16%
	Total	**71%**	**22%*** **	**7.0**	**14%*** **
Program vs. Comparison Difference	Dairy	53%	23%	1.8	40%
	Maize	25%	3%	-0.4	12%
	Horticulture	29%	-29%	2.1	11%
	Total	**42%**	**10%*** **	**1.1**	**1% (ns)**

Statistical significance in this and subsequent tables (only checked and displayed for change over time and program vs. comparison) is denoted using: ***=99% level of significance, **=95%, *=90%, (ns) =Not Significant

In comparison to these quantitative results, in KIIs, all apex body leaders said they believed the awareness of their organizations increased, among actual and potential members, and also with the local authorities and other stakeholders. All leaders of the program cooperatives were aware of the

unions and most reported an improvement in support from the union during the project period. Exceptions included Kotingoza, which said they had a good relationship with their union until 2022, but it declined in 2023 under new leadership; Kogiagi which says GILICU stopped visiting them because they owe the union money; and IAKIB where the president said GILICU support increased, but the zonal leader said it was disappointing and did not meet expectations. By contrast, leaders of comparison cooperatives (which worked with unions not supported by CD4) mostly said their union was not active or did not support them much. Regarding federations, the leaders of both comparison and program cooperatives reported that they either knew nothing about or did not have any interactions with them. Those who did comment said federations work with unions, not cooperatives directly, so they have no clear notion of their value.

Member services & perceived value of apex bodies

The SCPV survey asked all cooperative members who were aware of the apex bodies to which their cooperatives belonged to share which services they received from the apex body and the quality of each service. The number of services and quality were then used to generate a perceived value (PV) score. Results show improved PV scores for 3 of the 4 supported unions only, and even for those with substantial improvement from very low initial scores the final result was still relatively low.

Table 9 below shows the formal perceived value score for each supported union as well as the two factors which make up the PV score.

Overall scores are still low at final period (22% on average), though the quality of service component of the score was much higher (83%). The low total PV scores are clearly driven by the number of services component, and the methodology required the number of services received by each member to be divided by maximum services reported by any single person for that value chain (ranging from 9-12), resulting in very low scores. Despite the downward bias, there were large statistically significant increases over time for quality and overall PV scores. However, there were also increased for the comparison group, so there was not a statistically significant difference in differences for program vs. comparison for overall PV score, only for quality level (39% higher).

Table 9: Perceived Value scores for apex bodies

Cooperative Type	Value Chain-Union	Final- Total services			% change- Total services		
		# services	quality of services	Overall PV score	# services	quality of services	Overall PV score
Program	GILICU	2.7	85%	19%	15%	88%	101%
	RWAMACU	1.8	51%	16%	23%	31%	86%
	IKOAIBU	2.3	71%	18%	-7%	145%	146%
	IAIBU	2.5	87%	25%	-16%	25%	3%
	Total	**2.7**	**83%**	**22%**	**9% (ns)**	**84%*** **	**106%*** **
Program vs. Comparison Difference	**Dairy**	**1.4**	**31%**	**14%**	**61%**	**5%**	**125%**
	Maize	**0.5**	**-4%**	**3%**	**10%**	**-136%**	**-50%**
	Horticulture	**1.1**	**34%**	**12%**	**30%**	**183%**	**202%**
	Total	**0.5**	**44%**	**35%**	**49% (ns)**	**39%*** **	**36% (ns)**

According to qualitative information from KIIs with apex and cooperative leaders and CD4 staff, all the supported unions added new revenue streams and related member services during the project period.

Three unions added two new revenue generating activities, one of which was suppling livestock drugs or agricultural inputs through a pharmacy or agro-input store which they opened. GILICU also added a fodder production activity, selling fodder to their members, and RWAMACU added a maize-shelling service, using newly-acquired threshing machines. IAIBU did not add an input shop; instead it added a maize shelling service. A few unions also provided, and increased, other services: for example, GILICU says it helps cooperatives if they get cheated by buyers, and RWAMACU and IAIBU said they increased advisory visits to cooperative members. Further substantiating this, cooperative leaders and members mentioned that they received new services from the apex bodies, like provision of inputs, livestock drugs and fodder and several said that unions improved their services for market facilitation, advocacy and connecting them to other partners (like CD4). The NCCR leader at first claimed that the services it provided to members went up, including advocating for cooperative interests, sharing information, providing technical training. Then later during the same KII he said services went down because of funding problems, as European donor funding ended due to war in Ukraine.

From FGDs, results were more mixed, without clear trends across value chains like in these quantitative results. In dairy, no IAKIB members were aware of GILICU at all, while for KOGIAGI 1 or 2 participants in each FGD said that they knew the union and that it provided strong support, and for KOIAIKA almost all members in both FGDs were aware of and had very positive opinions about union support. Members of Kotingoza, the horticulture cooperative, were not aware of IKOAIBU and only mentioned past negative interactions with a union entity. In the maize value chain, members of both FGDs at IZMGM, which worked with IAIBU union, were very aware and had positive views of union support. But for RWAMACU the results diverged between the two cooperatives: COCUMAKI had high awareness and favorable views in both FGDs, whereas in GWIZA RW34 FGDs no women were aware of the union at all, and among men a few said they knew the union but thought they had leadership problems in the past and now did not know if and how the union worked with their cooperative.

NCCR indicated that they have been conducting more meetings with and visits to member unions and cooperatives. This is backed up by KIIs with GILICU and IAIBU leaders, who reported and improved relationship with NCCR; the unions went to some meetings and trainings at their office, and NCCR helped train some of their member cooperatives. But RWAMACU did not mention any change in federation or confederation relationships, and IKOIABU leader said the federation has not interacted with them at all recently.

Apex Body Social Capital Changes

Cooperative members also provided feedback on the social capital they received from being a member of the apex organizations. Social capital is measured as a combination of the member's level of trust and confidence in apex organizations' decisions and actions (behavioral domain), and their level of engagement with the apex organizations (structural domain). Results of both quantitative and qualitative data suggest mixed results on social capital changes.

Table 10 shows that behavioral domain social capital scores increased by a statistically significant and substantial level overall, with increases for all the program apex bodies; this was also statistically higher by 29% than for the comparison group. Apex structural social capital scores also increased for two unions but decreased for the two others, and the overall change was a statistically significant -6% and not different from the comparison group. Final structural scores are still very low, at 15% on average; this is because the maximum score can only be obtained if a member has daily meetings with union

leaders, which is completely unrealistic, so it is more useful to just focus on the score change over time and versus the comparison group. The decrease in this score for two of the cohort 1 apex bodies is likely related to the drop in meeting frequency during and after COVID-19 compared to the baseline in 2018.

Table 10: Apex Body Social Capital Scores

Cooperative Type	Value Chain-Union	Apex Behavioral SC Score			Apex Structural SC Score		
		Baseline	Final	% change	Baseline	Final	% change
Program	GILICU	30%	46%	53%	20%	15%	-24%
	RWAMACU	37%	49%	33%	16%	14%	-12%
	IKOAIBU	31%	40%	29%	8%	14%	86%
	IAIBU	31%	55%	74%	11%	16%	48%
	Total	**32%**	**47%**	**47%*** **	**16%**	**15%**	**-6%*** **
Program vs. Comparison Difference	Dairy	12%	24%	32%	10%	6%	-9%
	Maize	11%	6%	-14%	5%	-1%	-32%
	Horticulture	12%	25%	48%	3%	13%	164%
	Total	**12%**	**19%**	**29%*** **	**7%**	**5%**	**18% (ns)**

In qualitative interviews and FGDs, participants were not asked explicitly about social capital and trust, though comments on member attitudes and contributions to the union can act as a proxy to some extent. The IAIBU leader reported that in past two years the member cooperatives have started to contribute shares, and the GILICU leader indicated that member cooperatives have signed agreements stating they will only buy fodder and livestock drugs from GILICU; these actions suggest increased trust between the organizations. On the other hand, RWAMACU reports that its member cooperatives are worried that RWAMACU will ask them to contribute money to help pay an outstanding debt that RWAMACU owes, which indicates lower trust. Similarly, one KII participant, an IAKIB zonal leader, said they don't feel GILICU is providing them enough support and instead only just asked them for financial contributions. This was in contrast to the IAKIB president's opinion, but still indicates mixed and not fully positive trust levels.

Apex Body Income & Services Values

As part of that financial data collection, apex bodies completed a worksheet to quantify the value of the services that they provide to members, which was then added together with values of income distributed to members to generative this indicator. The results of that quantification, as well as qualitative findings, show a substantial increase in the apex value of services. Income distributed by apex bodies to members, which is was lumped together with services in a single indicator, was zero at baseline and during all years of the project, as the apex bodies were not selling products on behalf of members. Thus, this metric only focuses on value of services.

Table 11, shows that value of services for members increased for all supported apex bodies, though the level of increase was lower for IKOIAIBU and IAIBU than the others.

Table 11: Apex Body Value of Services to Member Results

Apex body	Value of Services to Members

	Baseline	Final	Change
RWAMACU	$7,810	$12,359	$4,549
GILICU	$868	$6,225	$5,357
IKOIABU	$182	$1,096	$914
IAIBU	$0	$1,006	$1,006
NCCR	$17,959	$85,680	$67,72
TOTAL	**$26,819**	**$106,366**	**$79,547**

As already discussed earlier, KII findings showed increased services provided by unions, including access to fodder, drugs, fertilizer and seeds, support with market access and contract enforcement, some increased trainings and visits, like to support with elections. This seems to substantiate the increase in value of services.

Apex Revenue and Member Equity Changes

Financial data also measured revenues earned by apex organizations, and member equity for these organizations, the latter defined as total equity (assets minus liabilities) minus grants and donations. Quantitative and qualitative data both show a substantial increase in revenues for apex bodies over the CD4 project period, because many of them added revenue generating activities for the first time, but a decrease in member equity for 4 of 5 apex bodies, largely due to increased liabilities.

As shown in Table 12, when comparing baseline to final, all unions show a net increase in revenues over time. However, this masks data from year 3, when RWAMACU had very high revenues of over $16,000, which then dropped again in years 4-5. For member equity (measured here according to the narrower definition, as calculated total equity minus grants and donations), all 4 unions experienced a decrease over the project period, with only NCCR seeing an increase.

Table 12: Apex Revenue and Member Equity Results

Apex body	Revenues			Member Equity		
	Baseline	Final	Change	Baseline	Final	Change
RWAMACU	$0	$2,613	$2,613	$2,404	$926	-$1,478
GILICU	$0	$6,828	$6,828	$1,671	$1,559	-$112
IKOIABU	$0	$1,322	$1,322	$338	-$637	-$975
IAIBU	$0	$104	$104	$10,907	$4,911	-$5,996
NCCR	$104,231	$183,660	$79,429	$43,092	$60,940	$17,848
TOTAL	**$104,231**	**$194,527**	**$90,296**	**$58,412**	**$67,699**	**$9,287**

Results from qualitative data backed up the quantitative findings on revenues. Leaders of all four supported unions reported all reported increased revenues due to adding revenue generating activities, though with variable success. GILICU added forage production/sales and a pharmacy to sell livestock drugs; IAIBU and RWAMACU both acquired maize shelling machines and provided a threshing service to members; and IKOIABU started selling inputs to members and renting out part of the physical building it purchased for its office. RWAMACU, however, first saw increased revenues and then a dramatic decline.

This was primary because they took a big input stock loan which they failed to repay, and no agro dealer will lend them new input stocks, so they are not selling much at all now. Another reason is that their maize shelling machine broke and was only recently repaired, so they were not earning money on the threshing service.

The explanation for declining member equity given by CD4 staff in KIIs, and also substantiated by some comments in apex leader KIIs, is that all the supported unions have acquired new capital (new offices, agro-input shops, maize shelling machines), and the outstanding debt and the depreciation of these assets each year count as liabilities which act to reduce the level of equity. This does not mean that member shares (which are only one component of member equity) themselves have declined, in fact it may be the opposite. In the case of IAIBU, for example, the leader specifically said they earned 2.6 million RWF in new member shares over the past 2 years, as member cooperatives purchased shares for the first time. But in most unions, there has not been a big increase in member numbers and share values per member have not changed, or at least not enough to offset the high liabilities. Member equity levels are expected to shift when the capital starts to show returns on the investment, in 2024 or 2025.

It is also worth pointing out that NCCR does not earn any revenue from business, it operates on government and donor funding and some member fees, and these values account for the total in Table 12. The leader said they have been debating trying to start a business, likely a packaging factory, but they need help to make a good business plan and acquire initial investment capital. He also said that CD4 did not work with them at all on developing this or other revenue generating ideas.

Sustainability of Apex Impacts

Three of the four supported unions said that they thought the changes they made due to CD4 would be sustainable because CD4 imbued them with enduring skills, created a sense of ownership, and helped them to be more financially self-sufficient. New revenue-generating activities will continue because they bring profits, and they will then be able to use those profits to fund continuing other changes they have made like hiring new staff. However, the IAIBU leader indicated they may have trouble continuing their maize threshing service business because 2 of the 4 threshers use gasoline instead of diesel, which is very expensive, and that they may need outside support from other sources to continue paying their accountant in the future. On the other hand, the RWAMACU leader was pessimistic and said the changes made with CD4 were not likely to be sustained; they already stopped paying the staff CD4 funded for 6 months so no longer have those staff, and he said that leadership skills will last only for another few years and be lost when new leaders are elected.

COMPONENT 2 RESULTS: IMPROVING COOPERATIVE BUSINESS PERFORMANCE USING TECHNICAL ASSISTANCE TO PRIMARY COOPERATIVES

Introduction

CD4 provided a standard coaching TA package including coaching on governance, financial management and business development as well as close follow-up on BDS from union advisors to 19 primary cooperatives. A number of cooperatives also received one of two gender interventions, and three received grants. Table 13 below shows basic information about the primary cooperatives supported by CD4 and the key support provided to CD4 by each. It also displays the 6 comparison cooperatives to show the basic similarities and differences. The comparison cooperatives are in similar geographies to the program cooperatives, but an attempt was made to use different districts for the same value chain

to draw comparison cooperatives from unions not served by CD4; it ended up being impossible to avoid this issue in maize, so the comparison cooperatives are members of the CD4 cohort 2 union IAIBU.

Table 13: Primary Cooperative Basic Information & CD4 Support Given

Primary cooperative	Value chain	District (Affiliated Union)	Year CD4 support began	# members 2023	Support given by CD4
BTK	Dairy	Gicumbi (GILICU)	2018 (Cohort 1)	69	• $14.1K monetary and in-kind grant (milk cooling tank, cans) • Standard TA package • Gender trainings
COCUMAKI	Maize	Rwamagana (RWAMACU)	2018 (Cohort 1)	54	• Grant of $3.75K used for purchasing land • Standard TA package • Gender trainings
COOPEMOBU	Dairy	Gicumbi (GILICU)	2018 (Cohort 1)	126	• Standard TA package • Gender trainings
GWIZA RW34	Maize	Rwamagana (RWAMACU)	2018 (Cohort 1)	392	• Standard TA package • Gender trainings
IAKIB	Dairy	Gicumbi (GILICU)	2018 (Cohort 1)	4,000	• Reduced TA package • Quickbooks software support • Gender trainings
ISUKA IRAKIZA	Maize	Rwamagana (RWAMACU)	2018 (Cohort 1)	65	• Standard TA package • Gender trainings & GAR
KAMA	Dairy	Gicumbi (GILICU)	2018 (Cohort 1)	237	• $7.8K monetary and in-kind grant (milk vat, pump, cans) • Standard TA package • Gender trainings & GAR
KOGIAGI	Dairy	Gicumbi (GILICU)	2018 (Cohort 1)	346	• Standard TA package • Gender trainings
KOHUNYA	Maize	Rwamagana (RWAMACU)	2018 (Cohort 1)	57	• Standard TA package • Gender trainings & GAR
KORAMWOROZI	Dairy	Gicumbi (GILICU)	2018 (Cohort 1)	115	• Standard TA package • Gender trainings & GAR
KOTINGOZA	Horticulture	Bugesera (IKOAIBU)	2018 (Cohort 1)	64	• Standard TA package • Gender trainings
KOJYAMUNGE	Horticulture	Bugesera (IKOAIBU)	2019 (Cohort 1)	72	• Standard TA package • Gender trainings & GAR
CEPMU	Dairy	Gicumbi (GILICU)	2021 (Cohort 2)	430	• Standard TA package • GAR
GISHARI Farmer's Cooperative	Maize	Rwamagana (RWAMACU)	2021 (Cohort 2)	75	• Standard TA package • GAR
IZMGM	Maize	Bugesera (IAIBU)	2021 (Cohort 2)	422	• Standard TA package • GAR
Jyambere Muhinzi Mworozi Bwisige	Dairy	Gicumbi (GILICU)	2021 (Cohort 2)	149	• Standard TA package

KOIAIKA	Dairy	Gicumbi (GILICU)	2021 (Cohort 2)	96	• Standard TA package • GAR
URUMULI Nyarugenge	Maize	Bugesera (IAIBU)	2021 (Cohort 2)	457	• Standard TA package
Wisigara Nsinda	Maize	Rwamagana (RWAMACU)	2021 (Cohort 2)	29	• Standard TA package
CECOLA ZIRAKAMWA	Dairy	Rwamagana (RWAMACU)	Comparison	55	• N/A; No info on outside help
CODAEGA	Dairy	Rwamagana (RWALU)	Comparison	76	• N/A; Support from 2 outside NGOs, significant grants
DUFACO	Dairy	Rwamagana (RWALU)	Comparison	93	• N/A Support from 1 outside NGO, some grants and loans
DUSANGIRE AMAJYAMBERE	Maize	Bugesera (IAIBU)	Comparison	524	• N/A; No info on outside help
TWITEZIMBERE-NYARUGENGE	Horticulture	Kayonza (FACUVEP)	Comparison	23	• N/A; Support from 4 outside NGOs, some grants
UMUCYO	Maize	Bugesera (IAIBU)	Comparison	517	• N/A; Support from 4 outside NGOs, some grants, $8.3K of loans

Results of deeper analysis of Event Log data combined with results of KIIs with CD4 staff, coaches and cooperative leaders found that there was an average of 86 coaching sessions provided to cohort 1 cooperatives and 42 sessions provided to cohort 2 cooperatives, divided roughly equally between the three domains for 50% of the cooperatives. However, business development coaching was not provided to 5 cooperatives at all and only 3-5 sessions were provided to 4 other cooperatives. The cooperatives still in start-up phase were generally those which received less BDS coaching, as they needed to concentrate first on financial management and governance. In KIIs with cooperative leaders several mentioned receiving a computer and printer or speakers from the project. CD4 staff confirmed that a computer and printer were provided to all program cooperatives, though only those in cohort 1 received a Jabra speaker, for use in remote coaching sessions during the COVID lockdowns. So, the computer and printer can be considered part of the Standard TA package.

An exception to the "standard" TA package was IAKIB, which received far fewer training sessions than others (only 37) because they had participated in the previous CD3 program and were deemed advanced on governance and business development, so they received far fewer total training sessions and mostly those they did receive were in financial management and focused on Quickbooks software. Among all cooperatives, an average of 49% of members attended a training or coaching session, though this varied dramatically, with 8 cooperatives with attendance from 45%-90% of total members, 9 cooperatives with attendance from 5%-40%, and one (IAKIB) with only 2% attendance. Generally, the proportion of members attending at least one coaching was inversely correlated to the size of total members.

KII results revealed more details of how union advisors worked with cooperatives. In addition to the coaching, technical support was also provided to the cooperatives by the union advisors, who participated in coaching modules, supported cooperatives to complete deliverable associated with these modules (sometimes visiting 1-2x per week during those coaching module periods). When there was not an active coaching module, the union advisors visited each cooperative in their district on a rotating basis, roughly 1-2 times per month each and attended their general assembly meetings, and during those times

supported cooperatives to come up with solutions for their biggest needs. For example, union advisors helped with the hiring process for accountants (Bugesera maize coops), supported in networking with buyers and negotiating new agreements, helped them in various stages of starting a new revenue generating activity, reviewed finance records and reports, facilitated annual PM2 assessments, and more. The union advisors were added in 2021 as part of an adaptive response, to help cooperatives and union recover rapidly from COVID-19 by providing them support from an agent who would be close to them and regularly available to assist with market access and other issues.

Three cooperatives also received direct grants from CD4 (BTK, COCUMAKI and KAMA), following an application process. Values ranged from $3.75K to $14.1K and they were used to finance operations expansions and addition of new revenue streams. Both dairy cooperatives who received grants had an in-kind component of the grant in which CD4 provided milk cooling machines, milk storage vats, milk pumps and/or milk cans. Kojyamunge also applied for a grant and was initially accepted, but it fell through because the cooperative was not able to meet the requirements.

Finally, members of cooperatives in cohort 1 received what is noted as "gender trainings" in Table 13, and 8 cooperatives across both cohorts received "GAR." The "gender trainings" took place from 2019-2020 and included discussion sessions on gender roles with men and women separate and together, women's safe spaces group meetings, a Women's Leadership Training in Kigali, gender champion meetings, and a "trading places" workshop in which couples swapped roles. The GAR work took place in 2022-2023 and was essentially entrepreneurship training provided to 15 women per participating cooperative. More details on all of these activities are discussed in the women's inclusion and empowerment section later in this report.

Primary cooperative capacity changes

Quantitative data showed sizeable improvements in total PM2 scores for all cooperatives except for IAKIB. There was some variation in performance for the 6 component domains, with lowest scores for "financial performance" and "supply, processing and marketing." Qualitative data also generally showed and improvement, with more consistently positive comments on capacity improvements in program cooperative KIIs and FGDs versus those for comparison cooperatives. A few program cooperatives experienced fraud but then replaced leaders improved afterwards and still saw a positive net increase in leadership and management scores over the period. The one exception was IAKIB, where FGD results showed major governance issues, worse than what the quantitative data suggested.

Table 14 below summarizes the key results of the PM2 survey, which measured cooperative capacity on six key domains, over the course of the project.

The average increase in the total score was 25%, to a final score of 2.71 out of a maximum of 4 points. There was very little deviation between cohort 1 and cohort 2 cooperatives, though horticulture cooperatives started at a lower level and had a higher percent increase (39%) than cooperatives in the other value chains. 17 of the 19 cooperatives experienced improvement of a full level (0.25 points) or more. There was some variation within the different domains: leadership and management capacity also saw a full level of improvement or more by nearly all cooperatives and an average 52% improvement, while the domains on "supply, processing and marketing" and "productivity and financial performance" had 10 cooperatives with one level of improvement, and the percent increase was 16% and 23%, respectively. The adaptive capacity and operational capacity domains lie in between these extremes, with 15-16 cooperatives showing 1+ level of improvement, though average operational capacity scores

increased by 24% on average while adaptive capacity score increased by 33%. Governance score is also shown in the results, though that was calculated using an average of questions from several of the other 6 domains; it showed overall 41% improvement overall.

Table 14: Primary Cooperative PM2 Results

Cooperative Type	PM2 Total Score			PMS Governance Score		PM2 Leadership Score		PM2 Adaptive Capacity Score	
	Baseline	Final	% change	Final	% change	Final	% change	Final	% change
Dairy Avg	2.25	2.80	25%	2.78	33%	2.49	40%	2.69	39%
Maize Avg	2.16	2.63	21%	2.60	39%	2.31	46%	2.59	17%
Horticulture Avg	1.89	2.62	39%	2.40	41%	2.38	84%	2.42	32%
Cohort 1 Avg	2.20	2.75	25%	2.70	38%	2.50	44%	2.63	29%
Cohort 2 Avg	2.13	2.63	23%	2.60	32%	2.24	50%	2.60	28%
TOTAL Avg	**2.17**	**2.71**	**27%**	**2.66**	**41%**	**2.40**	**52%**	**2.62**	**33%**

Cooperative Type	PM2 Management Capacity Score		PM2 Operational Capacity Score		PM2 Supply, Processing and Marketing Score		PM2 Financial Performance Score	
	Final	% change	Final	% change	Final	% change	Final	% change
Dairy Avg	2.50	41%	2.89	18%	2.84	17%	3.40	9%
Maize Avg	2.19	39%	2.50	20%	2.93	10%	3.25	12%
Horticulture Avg	2.17	45%	2.80	47%	2.75	22%	3.24	26%
Cohort 1 Avg	2.41	43%	2.82	24%	2.93	13%	3.23	13%
Cohort 2 Avg	2.20	36%	2.54	17%	2.76	17%	3.47	10%
TOTAL Avg	**2.33**	**44%**	**2.72**	**24%**	**2.87**	**16%**	**3.32**	**23%**

Results of KIIs and FGDs also indicated leadership and management capacity improvements for most program cooperatives over the course of the project. CD4 staff KIIs suggested that convincing cooperatives of the value of hiring more permanent staff like accountants, managers, veterinarians and agronomics, was one of the biggest impacts the program had. On average, the program cooperatives added 1.7 new staff members, increasing from 2.9 staffers at baseline to 4.6 at final, though 8 cooperatives started with no staff at all and 6 of those added 1-2 by the end of the project. Program cooperative leaders in KIIs all reported high increases in governance and leadership, for example more formal and fair elections, substantially improved financial record keeping, increased sub-committees, addition of zonal or sub-zone meetings in the case of the larger cooperatives to facilitate member participation, improved understanding of leaders, and in some cases members, of roles and responsibilities, with members more proactively holding leaders accountable.

In program cooperative FGDs, nearly all the comments about cooperative leadership indicated good to very good status of leadership, with trust in leaders, fair elections, frequent meetings and communications, and high technical skills, with substantial improvements over the 5 years. The major exception to this was in IAKIB, where both male and female FGD participants expressed strong dissatisfaction with leaders because of delayed milk payments (by 3 months), fraud that happened during COVID, a lack of awareness about what central leaders are doing and why they made several big purchases, partly because the cooperative is so large so they only elect zonal leaders, who then elect

central leaders, and never attend central meetings. But even at IAKIB the members said their leaders and staff were knowledgeable (women pointed to lower milk rejections and said improved and were very complementary of zonal leaders; men said the leaders use their knowledge to defraud members). Also, there were some mixed opinions expressed in COCUMAKI; men FGD participants were very positive and cited improvements in governance and major improvements in technical capabilities, while a few women said the new committee is not calling enough meetings and transparency has gotten worse. However, in women's groups they still said leaders and staff were very capable and there was a marked improvement in their capacity over the five years.

Comments on governance and leader technical capability were more mixed in comparison cooperative FGDs and tended to be negative. Only for Twitizembere did both men and women indicate high satisfaction with leadership and sizeable improvements. For the other three, either the men's or the women's FGD had more negative comments about the cooperative leadership and said it had not improved or even gotten worse. In one cooperative, they reported that leadership has been getting better, but then the president recently resigned and they don't have full members of their audit committee, which makes it hard to properly run the cooperative. In another, some members said that a recent audit uncovered inconsistencies that have not been corrected and that some leaders still are not elected. Even at Twitizembere, which had the best results, come members complained that leaders need more training and have given bad technical advice, like telling them to plant at the wrong time.

Based on information from CD4 staff, and substantiated by KIIs and FGDs, four of the program cooperatives (and one comparison cooperative for which information was available) had fraud or severe financial mismanagement uncovered during the project period. In all those cases the RCA investigated, and the guilty leaders were replaced and had legal action taken against them. Mostly this happened around 2020-2021 (much happened during COVID because of lower oversight when meetings could not happen), and over the past two years, new leaders have been in place who are managing the cooperative much more honestly and transparently.

Primary cooperative strategic and operational changes

Data collected on actions taken by each cooperative, the full details of which can be found in Annex 14, show that both program and comparison cooperatives seem to have made positive changes in their business planning and operations, but there were a larger number of, and more substantial changes that should result in improved business performance made by the program cooperatives.

According to data provided by the CD4 team, all 19 CD4-supported cooperatives took the following actions as a result of CD4: adding new revenue generating activities (with an average of 1.7 new revenue streams), starting to keep financial records, making creating a budget, creating a gender action plan, and creating a youth engagement plan. Additional common changes by program cooperatives included using financial reports for decision making (up from 2 to 18 cooperatives); negotiating an average of 4 new buyer agreements (18 cooperatives), adding sub-committees (18 cooperatives) particularly for tender, marketing and gender; making investments, for example in new shops or machinery or land (17 cooperatives); creating a strategic plan (17 cooperatives) or business plan (16 cooperatives), hiring accountants or other permanent staff (14 cooperatives), and creating new buyer agreements.

According to data provided by the CD4 team many cooperatives added agro-input shops or vet pharmacy shops, some added new milk collection points (MCPs), and some started buying and selling a new crop (for example, many maize cooperatives added horticulture crops, and many dairy cooperatives

started trading in maize). The KIIs with select program leaders all confirmed these new revenue activities. One new income generating activity in GWIZA RW34, however, has been delayed. GWIZA RW34 said that they have certificates ready for selling inputs (vegetable seeds and fertilizers), but there was some type of technical delay. The KIIs revealed that there are other revenue generating activities across the cooperatives that are in the pipeline but have not yet started, and which were not counted by the CD4 team. For example, the leader of KOGIAGI said that they plan to open a livestock drug pharmacy and to sell cow feed and organic fertilizer, but those projects are still in development. Furthermore, Kotingoza diversified the types of vegetables that they grow, but the new varieties were not counted as unique new revenue streams.

Primary cooperative revenues and member equity changes

Annual financial data collection included revenues per cooperative as well as member equity, defined as total equity (assets minus liabilities) minus grants and donations. Member share contributions are one asset that count toward net member equity, but they are not the only component. These quantitative financial results and qualitative findings both show that revenues increased for the majority, though not all, program cooperatives (at a slightly higher level than for comparison cooperatives), while member equity decreased for many, largely due to increased liabilities because of high capital investments that have not yet provided profitable.

Table 15 below shows the changes in revenue for CD4 program cooperative; it is disaggregated by cohort but also separates out IAKIB from the other since its revenue is so much higher than the others.

Results show that overall, there was revenue increase of $1.4 million total for all cooperatives from their baseline year to the final year of the project, with 15 of 19 of cooperatives experiencing increases. A higher proportion of the Cohort 2 cooperatives saw increased revenues than Cohort 1, which is a bit surprising given that they had less time in the program, but the key explanation is likely that the baseline year for those cooperatives was 2020, when their revenues were likely down due to COVID, and so the increase is due to their post-COVID recovery.

Change over time for the program cooperatives in member equity is shown in Table 15 as well. There was an overall decrease of $190, 500 from baseline to final, with net decreases for all three disaggregated groups. Only 9 out of 19 cooperatives had an increase in this metric. The explanation given for this by the CD4 staff was that many cooperatives made investments over the project period, which counts against them as a liability in accounting principles (due to depreciation and debts owed), so it lowers their total equity and by extension their member equity. Even where some cooperatives saw increases in contributions of members through shares, this increase in assets was still often outweighed by the increase in liabilities. This position will be reversed when those capital investments start showing returns and becoming profitable (as profits are another asset that count toward member equity), but these are not expected until 2023-2025. Even those that might be profitable as of 2023 would not yet show up in the financial data here, for which Year 5 is the calendar year 2022.

Table 15: Primary Cooperative Revenue and Equity Results

Cohort	Revenues				Member Equity			
	Baseline	Final	Level of change	% coops increased	Baseline	Final	Level of change	% coops increased
IAKIB	$3,002,664	$4,079,008	$1,076,344	Increased	$268,692	$122,702	-$145,990	Decreased

Other Cohort 1	$830,028	$976,723	$146,695	73%	$136,250	$99,538	-$36,712	45%
Cohort 2	$297,406	$489,905	$192,499	86%	$65,576	$57,744	-$7,832	57%
Total	**$4,130,098**	**$5,545,636**	**$1,415,538**	**79%**	**$201,826**	**$279,984**	**-$190,534**	**47%**

These quantitative results are substantiated by the qualitative data for 5 of the program cooperatives, though there were divergences for two program cooperatives. KOGIAGI shows increased revenues in the quantitative data but in KIIs the leader reported a recent decline in revenues to do drought. By contrast, GWIZA RW34 showed a decrease in revenues in the financial quantitative data, but in KIIs reported an increase, because they were successfully aggregating maize again in 2023 after not doing it in 2022. In both these cases the discrepancy in results seems to be explained by the fact that year 5 quantitative financial data were counted from January-December 2022, but additional changes occurred in January-August 2023 which are not included in those finance data.

The KIIs suggested that revenue increases occurred because of the addition of new revenue generating activities, as discussed in detail in the previous section. But there were also other reasons given; leaders of 3 out of the 7 program cooperatives in the KIIs (IAKIB, COCUMAKI, KOIAIKA) said that they experienced increases in the scale of their core production aggregation businesses. These scale increases occurred because of a decrease in side-selling (with more members sharing a higher portion of their produce through the cooperative, due to stricter rules, higher prices, or increased trust in and commitment to the cooperative), an increase in the number of members and non-members selling to them, and/or because they opened new MCCs or MCPs. Additionally, 3 out of 7 cooperatives (KOIAKA, IZMGM, GWIZA RW34) also said that they found more lucrative markets and obtained higher prices, which helped them to increase revenues.

Program cooperative revenue increases generally outpaced that for comparison cooperatives. Three of the four comparison cooperatives had average increased revenues of $4,700, compared to $25,400 on average for program cooperatives excluding IAKIB. Related to this, two of the comparison cooperatives reported two new revenue streams established, while two had no new revenue streams.

Regarding member equity, qualitative data contradicts the quantitative findings, in that most FGDs and KIIs suggested increased member contributions, which should correlate with member equity; they did not mention the issue about investments and liabilities at all. The discrepancy is very likely due to the fact that cooperative leaders, and especially members, do not understand the accounting principles for calculating equity. KII results suggested that member share value and other mandated contributions were increased by many program cooperatives (and including KOGIAGI, IZMGM, GWIZA RW34), and only decreased by one (IAKIB) near the beginning of CD4. The KOTINGOZA leader did not mention shares but said that members used to make flat 2,000 RWF contribution when they sold produce, but now they pay 20% of the sales made. These trends of increasing member share value were also present in the comparison cooperatives; 3 of 4 mentioned raising the value of a share in the past 5 years. Some cooperatives, like KOTINGOZA, said that some members left because of the increased required contributions, but most did not suffer large drops in members, suggesting total share value should have increased. Overall these findings suggest that perhaps the value of member shares themselves has increased even if net member equity (with liabilities subtracted out) has decreased. Effectively, this shows that there is a higher commitment of members to their cooperatives, but the back-end the money available for cooperatives to

pay back members who seek to withdraw and cash-out of the cooperative is still lower because of the high liabilities on their books.

Primary cooperative value of incomes and services to member changes

Each year as part of financial data collection, a guided worksheet was used to quantify the value of services provided from each cooperatives to its members, and incomes distributed back to members from the sale of produce (that is, the revenues on sale of member production, minus a retained amount) were also recorded. Qualitative and quantitative findings both show a substantial increase in value of services for all CD4-supported cooperatives, but increases in incomes to members only for around half of cooperatives.

Table 16 below shows the changes in income distributed to members and value of services to members. It shows that there was an increase in value of services of $283,396 total over the project period, with 100% of cooperatives experiencing an increase. Income to members had much more mixed results, with only 9 of 19 cooperatives showing an increase, and many decreasing the income to members over the period.

According to CD4 staff commentary, the first key factor is that lower revenues for some cooperatives led to lower income to members. But there were also cooperatives with increased revenues and decreased income to members; this happened where the cooperative did a lot of buying and selling of non-member production and where they had revenue generating activities that operated on their own, without the need to purchase cooperative member produce, for example cultivating crops directly in a central greenhouse or cooperative-owned farmland or selling inputs or services to members.

Table 16: Primary Cooperative Value of Income and Services to Members Results

Cohort	Income distributed to members				Value of Services to members			
	Baseline	Final	Level of change	% coops increased	Baseline	Final	Level of change	% coops increased
IAKIB	$1,030,559	$1,287,771	$257,212	Increased	$193,107	$273,030	$79,923	Increased
Other Cohort 1	$657,186	$626,316	-$30,870	45%	$90,498	$257,966	$167,468	100%
Cohort 2	$165,213	$321,531	$156,318	43%	$3,909	$119,837	$115,928	100%
Total	**$822,399**	**$947,847**	**$125,448**	**47%**	**$94,407**	**$377,803**	**$283,396**	**100%**

Qualitative results from KIIs and FDGs generally supported the quantitative results, showing an increase in member services (see details on this in the next section), though there was little commentary on the income distribution issue aside from a few complaints that the cooperative used to pay out bonuses or pay on time and does not anymore. The main source of such comments were IAKIB members, which contradicts the quantitative results since they show that IAKIB was one of few cooperatives with increased income to members during the period.

Primary Cooperative Value to Members

In the SCPV survey, cooperative members were asked which services they received from their cooperatives and what the quality level was for each service received, and this was used to calculate an aggregated perceived value (PV) score. SCPV survey data and qualitative data from FGDs both show that

there was generally an increase in member perceived value of or benefits from their cooperatives, related to both increased number and increased quality of services provided. Final levels and magnitude of change are both higher for program than comparison cooperatives.

Table 17 below shows the Perceived Value (PV) score results on total services (essential and non-essential combined) from the SCPV survey.

Results show that generally there was a statistically significant increase in PV score over time of 25% for all program cooperatives, though cohort 1 cooperatives had a much larger increase than cohort 2 (35% versus 7%), largely because they started with a lower initial score. When comparing value chains, the final PV scores were similar across value chains, but the percent change was highest for horticulture and lowest for dairy, while in maize the highest portion of cooperatives experiences improvement (6 of 8). Generally, score increases seem to have been driven by increases in service quality more than a change in number of services provided. Nearly all program cooperatives (18 of 19) saw increases in their quality scores, while only 8 had an increase in number of services. Additionally, on all metrics the program cooperatives scored better than the comparison cooperatives, with a final PV score 11% higher and an increase in PV score over that was 41% higher and statistically significant.

Table 17: Perceived Value Scores for Primary Cooperatives

Program or Comparison	Value chain or cohort	Final- All services			% change- All services			% of coops with increase over time		
		#	quality	PV score	#	quality	PV score	#	quality	PV score
Program	Dairy	8.01	88%	41%	-7%	13%	3%	33%	100%	44%
	Maize	7.95	89%	42%	-1%	16%	15%	50%	100%	75%
	Horticulture	8.22	83%	45%	16%	15%	36%	50%	50%	50%
	Cohort 1	7.71	87%	40%	14%	15%	35%	50%	92%	67%
	Cohort 2	8.52	90%	44%	-7%	16%	7%	29%	100%	43%
	Total	**8.01**	**88%**	**42%**	**6%*** **	**16%*** **	**25%*** **	**42%**	**95%**	**58%**
Comparison	Dairy	5.71	80%	26%	-23%	-1%	-21%	0%	33%	0%
	Maize	7.20	86%	37%	-9%	7%	0%	50%	50%	50%
	Horticulture	4.31	92%	31%	-36%	5%	-29%	0%	100%	0%
	Total	**5.97**	**84%**	**31%**	**-21%*** **	**3%***	**-16%***	**17%**	**50%**	**17%**
Cohort 1 vs. Comparison		**1.73**	**2%**	**10%**	**35%**	**12%**	**51%**	**33%**	**42%**	**50%**
Cohort 2 vs. Comparison		**2.54**	**6%**	**13%**	**14%**	**14%**	**23%**	**12%**	**50%**	**26%**
Total Program vs. Comparison		**2.03**	**4%**	**11%**	**27%*** **	**13% (ns)**	**41%*** **	**25%**	**45%**	**41%**

Qualitative findings substantiate these results of increased member perceived value and larger improvements for program versus comparison cooperatives. When asked about cooperative benefits and services in FGDs, participants from both program and comparison cooperatives tended to share positive thoughts, though there was a higher degree of positivity and emphasis given in program cooperatives on average. There was also a larger difference in reported change in benefits over time, with comparison cooperatives mostly indicating little to no change program cooperatives indicating a small to substantial improvement. The only program cooperative with negative sentiments was IAKIB,

with wholly negative comments in the male FGD, saying that the cooperative is paying for milk late and essentially all the services it used to offer (inputs, bonuses, insurance, bank loan access) are no longer available. In the IAKIB women's FGD they also indicated that services had declined, but they mentioned several that were still available as well (easy market access, trainings; and they said forage, drugs and other inputs can still be accessed through the cooperative). In contrast, among the comparison group for two different cooperatives both male and female FGD participants agreed that services declined over time (CODAEGA, DUFACO) while for the other two cooperatives at least one sex's FGD indicated that services had declined.

Primary Cooperative Member Revenue Changes and Recommendation Scores

The SCPV survey also included other variables which act as additional proxies of perceived value of the cooperative. It asked members to give a score (1-10) of how likely they would be to recommend to others that they join the cooperative, and it also asked them about whether they had increased revenues for the commodity targeted by the cooperative over the full 4-year period, and whether they earned more revenue with the cooperative than they earned without it. Quantitative and qualitative findings both show that the majority of cooperative members had increased revenues during the project period, though this was modestly higher for program versus cooperative members, and members believed that their cooperatives helped them earn higher revenues, but that was only very slightly better for program cooperatives.

Table 18 shows that the change in recommendation score is positive and statistically significant for all over time, but relatively low, with 58% of program cooperatives experiencing an average increase. The difference in differences for program vs. comparison was not significant overall, but was significantly higher (7%) for cohort 1. Regarding revenues, both the percent who said revenues increased over time and those who attributed this to their cooperative were statistically higher for program over comparison group, though the revenue increase difference was a large magnitude (15% higher).

Table 18: Primary cooperative recommendation score and member revenue changes

Cooperative intervention	PC recommendation score				Revenue increased over 5 years	Revenue would have been lower without coop
	Baseline	Final	% change	% coops increased		
Cohort 1	7.3	7.9	10%***	75%	86%	97%
Cohort 2	7.8	7.9	2% (ns)	29%	93%	98%
Total Program	7.4	7.8	6%***	58%	84%	96%
Comparison	7.4	7.6	3% (ns)	67%	69%	91%
Cohort 1 vs. Comparison	**-0.1**	**0.3**	**7%***	**8%**	**17%**	**7%**
Cohort 2 vs. Comparison	**0.4**	**0.3**	**-1%****	**-38%**	**25%**	**8%**
Program vs. Comparison	**0.1**	**0.2**	**3% (ns)**	**-9%**	**15%*****	**5%*****

Qualitative findings generally support these trends. Six of the 7 cooperatives interviewed through FGD indicated household revenue increases. However, the men in IAKIB indicated that the delayed payments by the cooperatives caused some of them to have to sell cows because they could not pay for their inputs or laborers and thus expect their revenue to decrease in the future. Only one cooperative, Kotingoza. reported decreased revenues over time because of pest attacks on their horticulture plots

Among comparison cooperatives, results on household revenue changes were more mixed. In 5 of 8 FGDs, participants seemed to generally indicate that revenues went up because of increased productivity and/or good and increasing cooperative prices, while in 3 of the FGDs all or some said that revenues were decreasing (because of natural disaster, livestock mortality, or suspension of cooperative collective marketing in the case of CODAEGA). Results were contradictory, however, because all cases of negative comments came from the FGD for one sex, and the FGD for the opposite sex of the same cooperative indicated positive revenue changes.

Primary Cooperative Social Capital Changes

The SCPV survey also included questions about social capital, which serves as another proxy measure of member value in the cooperatives. Social capital includes levels of trust in cooperative leaders and institutions (behavioral domains) and level of engagement in the cooperative and enforcements of rules and norms (structural domains). Quantitative and qualitative data both show modest increases in social capital, both behavioral (increased trust, confidence in leaders) and structural (no side-selling and other rules enforces, meetings happen and are well attended) over time, with higher increases for program cooperatives than for comparison.

Table 19 shows that there was a statistically significant increase of 17% in behavioral social capital scores (which measure trust level in the cooperative) across program cooperatives, and 13 of 19 program cooperatives experienced an increase. The average change was much higher for cohort 1 and cohort 2, and overall there was a statistically larger change for cohort 1 and total program versus comparison. For structural domain scores (which measure the strength of cooperative rules and norms—especially on side-selling— and level of member engagement) there was not a statistically significant change over time for program cooperatives as a whole, just for cohort 2. But both cohorts had a statistically significant difference in differences over the comparison group, at 11% overall.

Table 19: Primary cooperative social capital scores

Cooperative intervention	SC Behavioral domain score			SC Structural domain score			% Coops with an increase over time	
	Baseline	Final	% change	Baseline	Final	% change	Behavioral	Structural
Cohort 1	77%	91%	25%***	45%	46%	5% (ns)	67%	58%
Cohort 2	92%	95%	4%***	41%	47%	16%***	71%	86%
Total Program	82%	93%	17%***	43%	46%	9% (ns)	68%	68%
Comparison	81%	81%	1% (ns)	38%	36%	-2% (ns)	50%	33%
Difference in differences	**Cohort 1 vs. Comparison**		**24% (ns)**	**7%**	**10%**	**7%*** **	**17%**	**25%**
	Cohort 2 vs. Comparison		**3%*** **	**3%**	**11%**	**18%*** **	**21%**	**52%**
	Program vs. Comparison		**16%*** **	**5%**	**10%**	**11%*** **	**18%**	**35%**

Qualitative data is generally in line with these quantitative results on behavioral social capital. In all program cooperatives except for IAKIB there were positive comments in FGDs regarding member inclusion in decision making and increased member contributions, indicating higher engagement and trust cooperatives than in the past. Trust was lower at IAKIB because of recent issues with fraud, delayed payments, and a higher gap between members and central leaders given that the cooperative is so large.

By contrast, among the 4 comparison cooperatives included in FGDs, two of them clearly have low trust in their leaders (CODAEGA, DUFACO), shown in comments in FGDs with both sexes. They talked, for example, about lack of transparency, unwise decision making, difficulty replacing bad leaders, voting influenced by person feelings. Only in Twitizembere FGDs did both sexes show high trust and confidence in their leaders and cooperative. UMUCYO had positive indications of social capital in the women FGD and in the men's FGD around half the respondents were suspicious of the leaders, said they feared mismanagement. Part of the concern raised there was that there are no longer general meetings with all members, instead they have a smaller group of only 120 members who meet, so some feel excluded and disengaged.

Qualitative findings also indicate an increase in structural social capital, though they suggest a larger improvement than the quantitative data indicate. In 5 of the 7 program cooperative in FGDs responses from participants of both sexes suggested that either all sell their production through the cooperative, and/or that side-selling has decreased and they sell more through the cooperative now than before. Reasons given for the change were that the cooperative is now offering a higher price, or they were convinced to do so as they became more involved in the cooperative and understood the purpose, or it is easier to deliver to them with a new collection point added. One exception was Kotingoza, where members suggested they don't sell horticulture products through the cooperative, but they did say that the required percent of their sales that they must give back to the cooperative increased to 20% from an earlier fixed level of 2,000 RWF. The other exception was IAKIB, with members saying they side sell much more now because IAKIB has been making payments with a delay of 2-3 months.

Several participants in almost every program cooperative FGD also said that their time commitment had increased, with more participation in meeting or other activities. IAKIB was again an exception-- men said there were not even meetings that they could chose to attend, though two women said they were now attending more meetings.

By contrast, in the comparison group only Twitizembere cooperative FGDs reported that members all sell to the cooperative and meeting attendance is high; for UMUCYO women generally indicated high contributions, but men said that side-selling had increased because the cooperative has not been making payouts as promised, and for CODAEGA and DUFACO both sexes said they are discouraged and are selling less to the cooperative and/or attending fewer meetings. In the DUFACO FGD two members said that they had never sold to the cooperative because their collection point was too far away.

Primary Cooperative Membership Changes

Results from both qualitative and quantitative data show that there was relatively little change in member levels over time, only around 4% increased, and that both membership changes and portion of youth and women members are generally the same on average for program versus comparison cooperatives.

Table 20 shows data about cooperative membership for program versus comparison cooperatives, and the result is that there were very few changes in membership over time and no substantial differences by cohort or between program or comparison—generally all had an increase of 4% members on average and in 2023 they have on average 43% female and 12% youth members. Around 9 of 19 program cooperatives had a member increase, with others mostly remaining static, though three had membership decreases. By contrast, only 2 of 6 comparison cooperatives saw member increases, but

none saw any decrease. Overall, this shows that CD4 did not have much of an impact on membership levels or composition.

Table 20: Primary Cooperative Membership Changes

Type of Cooperative	# members at baseline	# members in 2023	% coops with increased members	% change in total members	% female members 2023	% youth members 2023
Cohort 1	5,461	5,597	50%	3%	40%	12%
Cohort 2	1,624	1,658	50%	5%	44%	14%
Total Program	7,085	7,255	47%	4%	42%	13%
Comparison	10,721	10,896	33%	3%	44%	11%

Qualitative findings generally support the conclusions above, though they suggest that there might have been a slight impact on member levels by later in 2023 which did not appear in the quantitative data. In KIIs, four program cooperative leaders reported moderate to large increased member numbers.). GWIZA RW34 in particular seems to have had a big change, as members and the leader reported an increase from 300 to nearly 600 by August 2023, with 70+ people joining in 2023 alone, which would not have been reflected in the quantitative results, as member lists were collated earlier in the year. But qualitative findings also showed three cooperatives with stagnant or declining membership. IAKIB had no change in membership levels during these 5 years, after a very large increase in members in the two years before CD4 started. KOGIAGI and KOTINGOZA reported slight decreases in member numbers, the former reportedly because of dissatisfaction when incentives were not given, and the latter because of discontent over the increase in required contributions to the cooperative per sale. Similarly, all 4 comparison cooperative leaders indicated that they had either a small increase in members (6 maximum) or a decrease in members over the past 5 years. Even Twitizembere, which had the best outcomes on many other metrics, had very small member increases, which may be because the value of a share was raised significantly.

Sustainability of Primary Cooperative Impacts

There were mixed results regarding the likely sustainability of cooperative changes made because of the CD4 program.

In KIIs, most CD4 staff, union advisors, DCOs, coaches and cooperative leaders believed that the changes CD4 made would be sustainable. The reasons for this included that: cooperatives made some key changes that were self-sustaining like adding new revenue streams that were profitable, training was not just hypothetical but involved a lot of hands-on deliverables creation with follow-up, the approach left key decisions about strategy in the hands of the cooperative and thus created a sense of ownership, and the coaching was provided not just to current leaders but also to other members and staff. Where a cooperative had permanent staff— who will outlast elected leaders— this was a key factor expected to contribute to future sustainability. The finance coach, for example, commented that he had worked with some cooperative accountants for 3-4 years and saw much greater skill development among them than others, and had confidence that in the future they can manage records and financial reporting fully independently.

However, there were some concerns raised about sustainability by some stakeholders and for a few specific cooperatives. The governance coach said that the skill he imparted and deliverables developed (strategic plan, business plan, etc.) will likely last another 2 years, but then the new leaders will need to be trained anew and assisted to update those deliverables. The DCO in Bugesera was concerned that bookkeeping and other skills will diminish when CD4 ends because the coaches and union advisors were providing rather intensive assistance to cooperatives with bookkeeping and financial reporting. A few cooperatives, including KOTINGOZA, said that they will attempt to continue offering trainings to members, but that the quality and number of members reached will likely diminish without CD4 oversight and financial support. And a few other cooperatives, particularly IZMGM said that they might face challenges without capital support from CD4 or another external donor.

COMPONENT 3 RESULTS: IMPROVING DEVELOPMENT COMMUNITY SUPPORT FOR COOPERATIVES THROUGH LEARNING AGENDA RESEARCH AND DISSEMINATION.

Results of this evaluation show that the enabling environment for cooperatives in Rwanda has generally improved by a modest amount in the past 5 years, largely because of initiatives by the government of Rwanda, but also because of actions of the private sector and NGO projects like CD4. The main contributions from CD4 were supporting RCA on development and dissemination of the new cooperative policy in 2021, facilitating the Cooperative Learning Platform (CLP) which has strengthened cooperative networks and knowledge sharing, and supporting RICEM to run events like the CLP and Cooperative Leadership Seminar (CLS).

Learning Agenda Research & Dissemination- CLP, CLS, MEL sharing

Generally, findings indicate that dissemination of CD4-generated learnings was done well in Rwanda, with high participation and engagement in CLP, CLS and other events, and most cooperative leaders reporting that MEL data was shared back with them and used to shape their plans. However, improvements could have been made in terms of sharing findings even more widely and building more ownership over the research agenda, as there was relatively low awareness or recall of any of the specific sponsored research reports other than GAR.

Six different learning agenda questions with relevance to Rwanda were addressed through research reports completed between December 2020-May 2023, as shown in Table 21 below.

Table 21: Learning Questions Summary

Research question topic	Country	Completed
Which revenue models 1) are cooperative apex organizations using to offer value to their members and 2) generate enough revenue to sustainably support the existence of the apex organization? How can these models be applied in Rwanda and/or Malawi?	Rwanda & Malawi	December 2020
Effectiveness of Gender Action Plan through implementation of Gender Action Research	Rwanda	May 2023
Understanding How Cooperatives Use Financial Reports to Make Decisions	Rwanda	December 2020
How are cooperative policy, legal and regulatory frameworks facilitating or hindering the development and effectiveness of cooperatives?	Malawi and Rwanda	January 2023

Comparative advantages and disadvantages of cooperatives and conventional firms and their resilience during the COVID-19 pandemic	Rwanda and Kenya	December 2021
What was the effect of COVID-19 pandemic in the short-run on dairy, maize and horticulture coops in Rwanda and Malawi?	Rwanda, Malawi	September 2020

The results of each report were disseminated through sharing out sessions at CLP events and by email to key stakeholders. In addition to these specific research reports, efforts were also made to share learnings from the CD4 work itself, from sharing materials and annual report with the government to sharing back MEL data with cooperative and apex body leaders and discussing changes needed based on those results.

Several CD4 staff said that the learning agenda research reports represented a major contribution of CD4 because of the rich information and findings, which can be useful for many stakeholders in the Rwanda cooperative sector for decades to come. However, they agreed that there were some weaknesses in dissemination, with findings only shared in limited dissemination workshops as part of CLP events then via email, and no local ownership taken of the research agenda by a local partner. That is, CD4 staff led the process of determining the list of research questions (though they did convene a group of mixed stakeholder for input in generating the list) contracted researchers, received initial research reports and provided input for revisions, and lead dissemination, and they reported that other stakeholder viewed the results as “CD4 research” which CD4 was responsible for carrying forward into action. The concern on ownership was substantiated by KIIs with leaders of NCCR and RICEM, the two organizations that helped lead CLP events. When asked whether they were aware of the research report findings, even when prompted directly, the RICEM leader did not mention any CD4-funded research reports at all. Instead he spoke about research from other sources, and the NCCR leader only mentioned the GAR report and some of the findings from that, which was the one shared at the May 2023 CLP event that NCCR led.

GILICU and RWAMACU leaders both indicated that they attended some dissemination events. They also mentioned that their cooperative's quantitative results were shared back with them, though they only specifically gave the PM2 data as an example. The other two unions said that they did not attend any learning events or discuss MEL results with CD4, and the IAIBU leader just said the union advisor sometimes discussed results conversationally with him. Five of the 7 program cooperative leaders said that they participated in at least one CLP event, and even 1 comparison cooperative leader said he attended a RICEM-led CLP and CLS event.

The IZMGM leader said that learnings from the CLP helped them decide to start a savings group in their cooperative and to increase membership fees. Other than this example, no cooperatives mentioned taking any particular actions due to learnings in the CLP. Several KII participants also brought up the District CLPs which RCA has spearheaded as an expansion of the national CLPs. The RCA leader, CD4 staff, some union advisors and DCOs said this have been functioning well so far and were optimistic about their potential as a way to engage local communities and spread the benefits of the CLP approach more widely.

All CD4 staff, almost all union advisors, the RCA director and the RICEM leader all commented that from their observations, the CLP events were very well attended, had high engagement of participants, and were impactful in that they fostered valuable knowledge and experience sharing and strengthened

connections between the cooperative stakeholders in attendance. The RICEM director gave an example that emphasized how the CLP forum could be used to spread important information on policies and opportunities: he said that the Rwanda Revenue Authority presented at a CLP event to inform cooperative leaders of a new policy wherein they could deduct businesses expenses from the 30% VAT tax they owed using good quality physical record. The CLS which RICEM also facilitated, with CD4 financial support, were similarly well-received and impactful, according to several KII participants, and more skills and learnings were shared in these since the duration was longer. A number of stakeholders suggested that the CLS be conducted more frequently.

Regarding the sharing out of learnings from MEL results to cooperatives and apex bodies, CD4 staff said that CD4 shared SCPV, PM2 and finance data with both primary coops and apex bodies in December-Jan 2022 and 2023. It was done by the Cooperative Development and MEL Manager, or where this was not possible, the union advisors. They also shared finance data results with finance coaches in more depth to discuss with cooperatives as part of their coaching sessions. MEL data sharing meetings were held one by one with each cooperative, with 8 people from the cooperative--the executive committee and 2 other members – in attendance. Data sharing was also done informally before each new coaching cycle, though it mainly focused on the PM2.

When asked in KIIs whether MEL data was shared with them, 5 of the 7 program cooperative leaders interviewed indicated that CD4 had shared and discussed such data with them. However, the level of detail they mentioned varied, with some specifically mentioning the PM2 or finance data and saying that a chart was shared and discussed, and others mentioning vaguely that some results on the cooperative performance were shared back. The COCUMAKI leader said he was new to the position, so though he did not participate in a data sharing session perhaps the former leader did, and the IZMGM leaders said he was aware of the data sharing but was not personally present.

Those who participated in the data discussions said that they made changes to their operations based on the MEL data, and tried to improve in the areas they were weak, though none provided any specific examples. CD4 staff also provided an example of impact for BTK, which was not included in KIIs. When they were discussing the SCPV results with BTK, they looked at the low percent of members aware of GILICU and asked for the BTK chairman's reflections on that. He suggested that it was because some people don't attend AGMs, and together they made a plan to assign cooperative delegates take notes on what union representative present at AGMs to share later with absent members.

Government Policy

Results showed that awareness of and positive opinions of government policy were high, contributing to a strengthened enabling environment for cooperatives. However, there was still room for improvement suggested in terms of disseminating information about policies down to more cooperative members and gathering more input from normal members for the next round of revisions.

In 2021, the RCA issued a new 5-year cooperative development policy, with new provisions that included stricter enforcement mechanisms for cooperatives to police members who do not comply with by-laws, *on increased capacity building and performance assessments of coops, increased knowledge sharing using CLP, and more promotion of women and youth.* Relatedly, the RCA managing director mentioned a number of important new government initiatives in the cooperative sector. She said that previously the government was focused on cooperative promotion, but now they have shifted into prioritizing cooperative development, meaning strengthening the capacities and performance of the

10,000 cooperatives that already exist. Within this, they are focusing on improving monitoring of cooperatives, through their Cooperative Informational Management System (CIMS) to keep track of data on each cooperative electronically, categorizing cooperatives in terms of capacity and performance levels to better develop and target training modules, and pushing for cooperatives to become self-reliant, earning money through business instead of relying on government and donor funding.

A number of KII participants talked about the new cooperative policy of 2021 indicating that there is a high level of awareness of the policy. Nearly all participants said it made important improvements. Nearly every stakeholder mentioned a completely different provision that they appreciated, though there were a few more common themes. First, several people mentioned that the new policy strengthens the cooperative's ability to punish side-selling or to kick out members who do not buy shares or who otherwise violate by-laws, and they said this strengthens the cooperatives. Several other stakeholders mentioned that the policy increases the accountability of leaders and helps protect normal members from exploitation by leaders. A few stakeholders also said that the policy provides useful clarity on how cooperatives should use profits.

Of all stakeholders interviewed, only the NCCR leader was critical of the new policy, saying it had a lot of flaws and needed to be revised before its full 5-year period ended. Specifically, he said that not enough cooperative stakeholders, especially normal members, were consulted when the policy was drafted, and that it still gives too much power to cooperative presidents and does not properly distinguish the roles between the Board of Directors and Executive Committee. He is currently part of a group commissioned by RCA which is gathering input to suggest further revisions of the policy.

Scorecard 1 Results on General Enabling Environment

The evaluation brought a broad range of stakeholders together, as part of the scorecard workshop exercise, to reflect on the current state of the cooperative enabling environment at baseline, midterm and final evaluation periods. For the first scorecard they discussed three aspects of the enabling environment for cooperative development in Rwanda, providing a score out of 10 for each element, along with explanations of how they chose those scores and what justifies any changes to the scores over time. Table 22 shows the elements and scores over time for scorecard 1, while full results, including detailed justification for each score and the list of workshop participants, can be found in Annex 12.

Table 22: Scores for Scorecard 1 on General Enabling Environment

No.	Element	2019 Score	2021 Score	2023 Score	% change
Rwanda Scorecard 1 Results					
1.1	Availability and access to information and knowledge sharing	4.3	4.8	7.1	65%
1.2	Policy, laws, and regulations governing cooperatives	7	5	6.6	-6%
1.3	Governance & management of cooperatives & apex bodies	5	5	6.35	27%

The findings from this first scorecard exercise showed an increase over baseline for two elements, and a static score for the third element. "Availability and access to information and knowledge sharing" was rated as having the biggest improvement (65%). The key reasons given for the change were an increase

in information access and dissemination channels, including higher availability and use of phones and other technologies to communicate to coop leaders, staff and members, more meetings and relevant more radio and TV programs.

The next element "Governance (Leadership) and structured management in terms of paid staff, and structure of coops, unions, federations" also had a moderate score increase (+27%) because cooperatives have hired more paid staff, leadership mandates are being better fulfilled now partly because of support from NGOs like CD4 and RCA, with its new CMIS electronic system for organizing and tracking cooperative information, and because unions are much more functional than in the past. But there is still a lot of room for improvement, with most cooperative leaders still predominately male and older, low sustainability of learnings since trained leaders are replaced after a few years, and some leaders still not trying to fulfill their responsibilities.

The only element that did not improve was "Policy, laws, and regulations governing cooperatives are set." This element saw a big decline from baseline mid-term, then a recovery at final, for a net -6% decrease. The main reason for the dip at mid-term was poor enforcement of government policies during COVID and limited awareness of the new policy enacted that year due to lack of meetings. The score improved again in 2023 because now awareness of the new policy is relatively high among cooperative leaders, with RCA employee 300 new district cooperative officers to help with dissemination and enforcement, and the participants found that the new policy had some good provisions which would help cooperatives increase their self-sufficiency. There was still room for improvement, however, due to low dissemination of the policy down to cooperative members, poor enforcement of some regulations like term limits, and the fact that farmers' views were not consulted adequately when the new policy was designed.

Scorecard 2 Results on Support of the Development Community for Rwanda Cooperatives

The second scorecard, which was also completed by stakeholder participants at the final scorecard workshop, focused on support of both the domestic and international development community for cooperatives in Rwanda, divided across five elements. Summary results are shared in Table 23, while full results can be found in Annex 12.

Table 23: Scores for Scorecard 2 on Development Community Support to Cooperatives

No.	Element	2019 Score	2021 Score	2023 Score	% change
Rwanda Scorecard 2 Results					
2.1	Government financial support to cooperative sector	5	7	8.45	69%
2.2	Trainings, field visits, information sharing by external actors	4.5	4.5	5.7	27%
2.3	Market linkages	4	4.5	6.3	58%
2.4	Access to finance	4.4	5	6.55	49%
2.5	Donations, Grants provided to cooperatives from government, NGOs, etc.	4.9	5.7	6.4	31%

All five elements of Scorecard 2 on the scorecard on development community had score increases from baseline to midterm and then to final, some substantially so. The one with the highest final score was

"Government financial support to cooperative sector," increased by 69%. Many examples were given of improvements in government support for infrastructure including roads, electricity, cooperative equipment and facilities, irrigation systems and a large milk powder factory, in addition to support that already existed at baseline like extension agents and a fertilizer subsidy. The only negative comment made was that some areas still need infrastructure improvements, not all geographies have been served yet.

The next element with the highest score increase was "Market linkages," which by 58%. Reasons for the improvement included support from RAB, NAEB and NGOs to cooperatives to negotiate contracts and find markets have helped some get improved prices and other terms, and that generally there are more buyers now and higher use of contracts, including in Kinyarwanda. Most participants appreciated that the government fixes minimum prices, but says there is still some price fluctuation and those prices are too low in many cases. But there are still weaknesses in this domain, with many buyers or sellers breaking contracts and cooperatives not earning a large portion of profits available in the market because they have poor limited storage and packaging options, issues with quality (partly because of bad roads) and almost always sell their production raw instead of processing into higher-value products.

The element "Access to finance" experienced a score increase of 49%. Reasons for the score increase included that there are now more financial institutions (at least 1 per sector, the SACCO) and that more financial products are now available for cooperatives including digital products, loans that can be accessed without collateral like the Seed Capital/Development Fund, and more opportunities for individual members to get loans through their SACCOs or with their cooperative acting as guarantor. However, there is still room for improvement because many cooperatives and members are not aware of these opportunities, financial literacy for managing and repaying loans is low, and many financial products for farmers to still have high interest rates.

The element "Donations, Grants provided to cooperatives from government, NGOs, etc." saw an increase of 31%. The improvement is because the level of funding had increased and has led to a high level of increased capital investment for cooperatives, like building MCCs, cold rooms, getting cars and computers, etc. However, the participants mentioned a number of criticisms, including that donors tend to serve mostly large cooperatives, that many donors only give technical assistance when cooperatives need financial support, that many donations are not in line with cooperative needs, and that there are major sustainability problems (short-term financial support only without a transition plan, capital equipment falls into disuse because of the lack of planning for maintenance, electricity, or skills on how to use).

Finally, the element "Trainings, field visits, information sharing (provided by external actors)" had an increase of 27%. Improvements included that trainings are now more focused on topics of high need for cooperatives, and a higher number and more diverse array of cooperatives are receiving external training. But lingering weaknesses include relatively low follow-up/field visits after a training is given, not enough coordination and tool sharing among training providers, and that certain individuals (mostly leaders, who do not then pass the information on to members) get multiple trainings while others do not get the opportunity to participate.

Other Findings on Enabling Environment

Comments about the enabling environment in KIIs tended to generally support the findings from the scorecard workshops. Many participants commented on the improved government support, including

saying that district and sector agronomists have been visiting more frequently and that RCA has heightened their attention and enforcement of the cooperative policy, with more frequent audits and punishment of fraudulent officials, and the DCOs in each district who are demanding regular cooperative reports and doing visits and trainings with them. Many also mentioned a generally increased level of donor support, especially after COVID, and more willingness of financial institutions to lend money to cooperatives, though a few lamented that the process for applying and receiving a loan is slow and requires a lot of paperwork. A number of KII respondents also said they had seen some improvements in the markets, with an increase in the number of buyers and more common use of formal contracts and the prices of some commodities up at least moderately, but lingering problems like buyers breaking contracts and that they still wish prices were even higher.

RESULTS FOR CROSS-CUTTING AREAS OF INTEREST: WOMEN'S EMPOWERMENT, YOUTH INCLUSION, AND COVID-19 EFFECTS

Female Inclusion & Empowerment in the Cooperative Sector

Promoting women's empowerment within cooperatives, but also in business and in the household, was a major aim of the CD4 program. Findings suggest that the CD4 trainings did have substantial positive impacts, especially on women's confidence, men's attitudes about women working outside the household, and women's business management practices. However, barriers mentioned include community norms on asset ownership, gender-based violence, and high time poverty are still a major problem for many of the female program participants.

CD4 Interventions on Women's Empowerment

From an analysis of Event Log data, across all CD4 gender and women's empowerment activities, there were 887 unique cooperative member participants, of which 56% were women.

In all 12 cohort 1 cooperatives, "gender transformative trainings" were provided to a group of leaders and members between July 2019 and August 2021. All cooperatives except IAKIB had 6-9 events focused on gender, including different foundational training sessions with men and women combined or separated, women's leadership training, a special "gender champions group" formed to carry forward action in the cooperative on gender, a "women's safe spaces" group for women to meet alone and discuss issues they are facing, and in 4 cooperatives a "trading places" workshop and activity was held, in which couples agreed to exchange roles for a day and then discuss the experience afterwards. At IAKIB only one gender-related event was held, a women's leadership training. There were also two 2-day Women's Leadership Program events held in Kigali in December 2020, attended by selected female representatives of the cohort 1 cooperatives. Between 39-117 total unique cooperative members attended these trainings per cooperative, with the highest numbers (110+) at GWIZA RW34 and KOHUNYA.

A different gender intervention was delivered by CD4 in the final two years of the project, under the name Gender Action Research (GAR). The design here was to provide entrepreneurship training to selected women, without including an explicit gender component to 4 cooperatives which received the earlier gender transformative trainings and 4 that did not. The hypothesis was that those women who previously received gender trainings would have better outcomes. 120 total women (15 each across 8 cooperatives) received a 12-session entrepreneurship and business skills training customized for a rural, low literacy audience. Women were selected who had at least some primary education and an existing

business, even if it was very small. The curriculum was delivered in 1 day sessions with 2 weeks in between each of the 12 sessions, and women were given homework assignments and encouraged to work together with a "buddy" who lived nearby to complete them.

How Program Impacts Differed by Sex

An analysis was done to compare key outcomes on the SCPV between male and female respondents, and results between the male and female FGDs were also compared. Both quantitative and qualitative findings indicated that women in cooperatives supported by CD4 had outcomes that were roughly the same as men, while the gap between men and women in comparison cooperative was higher, and thus the level of apparent impact or improvement caused by the program was higher for women.

Table 24 shows that on average women in the program had SCPV results that were the same or slightly better than men. By contrast, in comparison cooperative women in all cases SCPV results were worse than for men on average (though statistically not different). The gap between program versus comparative results was larger for women than for men on all metrics, statistically significantly s so in most cases. For example, this metric was 21% for the total PV score and 8% for proportion of members who reported a revenue increase over the period. This indicates a program impact on gender.

Table 24: Select SCPV Results Disaggregated by Sex

Cooperative Type	Gender	Final- Total services			% change- Total services			PC Recommendation		Revenue up over 5 years
		#	quality	PV score	#	quality	PV score	Final	% change	
Program	Women	7.87	87%	41%	3%	14%	16%	7.86	5%	88%
	Men	7.95	87%	40%	-2%	16%	10%	7.57	5%	87%
	W vs. M	**-0.08**	**0%**	**1%**	**6%*** **	**-2%***	**6% (ns)**	**1%**	**1%** **	**-1% (ns)**
Comparison	Women	5.7	84%	30%	-24%	0%	-20%	7.7	-167%	63%
	Men	6.6	85%	34%	-15%	8%	-5%	7.6	-114%	72%
	W vs. M	**-0.91**	**-2%**	**-4%**	**-9% (ns)**	**-8% (ns)**	**-15% (ns)**	**-53%**	**-9% (ns)**	**-9% (ns)**
Program vs. Comparison	Women	2.2	3%	11%	27%	14%	36%	0.1	172%	25%
	Men	1.4	2%	6%	12%	8%	14%	0.0	119%	15%
	W vs. M	**0.83**	**2%**	**5%**	**15%*** **	**7% (ns)**	**21%*** **	**53%**	**10% ** **	**8%*** **

As an alternative way to look at how sex affected SCPV result, a multiple regression was conducted to measure the correlation of various factors, including sex, with the overall PV score.

The model used for the regression was:

Total PV Score = a + b(Program vs. comparison category variable) +c*(Year category variable) + d*(Value chain category variable) + e*(female dummy variable) + g*(youth dummy variable) + h*(leader dummy variable)*

Results are shown in Table 25 and further confirm that there was no significant difference in PV score for women versus men.

Table 25: Results of Multi-Factor Regression on Total PV Score

Independent Variable	Correlation coefficient	Significance level

Program (vs. comparison)	14.9%	99%
Y2 (vs. Y1)	14.2%	99%
Y3 (vs. Y1)	13.5%	99%
Y4 (vs. Y1)	13.8%	99%
Y5 (vs. Y1)	13.5%	99%
Horticulture (vs. Dairy)	-0.1%	Not significant
Maize (vs. Dairy)	-0.6%	Not significant
Female	-1.1%	90%
Youth	1.9%	Not significant
Leader	4%	99%

Similar to these quantitative results, the FGDs indicated that women outcomes were the same, though with some slightly better or worse. On average for program cooperatives, the level of positivity expressed was roughly the same between men and women's FGDs. The only exceptions to this were that women gave a generally more positive assessment of their household revenue changes over time, and women also had lower awareness of their union than men. Even on the specific questions about women's role in the cooperative and household, the women's groups gave roughly similar-- actually slightly higher--ratings than the men.

In comparison cooperative FGDs, women scored some areas higher than men and other areas lower, with larger divergences between sexes than in program FGDs. Women on average shared more positive comments than men (for both level and magnitude of change) for cooperative benefits, level of inclusion and leader technical capacities. However, women in these comparison cooperatives gave substantially lower scores than men for: change in household revenues, level and size of change for women's role in the cooperative, and magnitude of change for women's role in the household. That women had more negative opinions of these areas than men in the control group but not in the program group suggests a potential impact of CD4 on women's empowerment and revenues.

Impacts of Earlier Gender Transformative Trainings

Of the 7 program cooperatives included in qualitative research (5 of which received the gender transformative trainings, 2 of which received the GAR), leaders of 6 (all except KOTINGOZA) specifically highlighted how CD4 gender trainings made a big impact on women's confidence and involvement in the cooperative. In nearly all program FGDs with both genders, members said that women's empowerment and involvement in the cooperatives have gone up, and all mentioned CD4's gender or GAR trainings and how this has had an effect, both in the cooperative and in the household. The only exception to this was IAKIB, in which no members participated in CD4 gender trainings and they reported only very small changes in women's role in the cooperative. Many FGDs indicated a mindset shift among both women and men as a result of the training, leading to an increase in them working together both in the cooperative and the household. One KII said that that two different cooperatives continued women's safe spaces meetings after the project stopped facilitating and supporting them financially, and that many women started businesses because of those first trainings which were still active and successful 2-3 years later. In FGDs with program cooperatives, 46% of participants on average (excluding IAKIB, which was an outlier with 0%) had received some type of gender training. This was much higher for those in cohort 1 who received the earlier trainings (51%) than for those which received GAR (35%), which is

logical as those trainings had much wider coverage. Though there were positive indications of female empowerment progress in all FGDs, those with the earlier gender transformative training shared more comments about men's realization of unfair gender norms in the households and efforts to support women more with housework.

In comparison cooperative FGDs, there were also mentions of positive and improved women's involvement. They said that the changes came from the big emphasis put on gender equality and female empowerment by the government and by other NGO partners they work with. However, changes sounded more minor and were less specific, and in several they highlighted that they had not received any type of training targeting women or gender issues. Women in the UMUCYO FGD specifically said that they would like to get some type of training to feel more empowered, maybe around starting businesses.

Impacts of Gender Action Research Program

Some key highlights of the results from the official Gender Action Research report include that:

Impacts of the GAR work according to the official report include increased adoption by participants of recommended business practices such as recording transactions (97%), separating business and household money (88%) starting saving money for the business (68%), offering limited credit sales (54%) and attracting new customers (28%). Another key impact was increased confidence among the participants, with more saying they were now confident to take on leadership roles in the cooperative (52%) and their community (38%). The final impacts were generally the same for women in cooperatives who received the earlier gender transformative trainings versus those who did not, though the former had an initial advantage, with higher confidence to discuss gender issues openly and easier participation in the activities.

Lingering barriers for all women even after the GAR training included severe time poverty and lack of access to capital and property. Only 28% of participants said they hold large assets like property or livestock in their own name, and 50% of those were widows. Women also reported a lot of disruptive behavior by men in their households including demanding access to their business money, not allowing them to attend training, sometimes sabotaging their business. But still, 83% reported an increase in leadership within their household, 70% of participants said that their relationship with their husband improved over the course of the training, and 26% said their husbands supported them to participate in the program by helping care for children.

Results of the KIIs and FGDs supported the official results of the GAR report and emphasized a few key aspects. First, many respondents emphasized how the training boosted women's confidence, leading to more participation and leadership in the cooperatives but also the broader community, and more women standing up for themselves in the household. Second, they confirmed the point that women did learn business skills which they found very useful and several women and husbands reported did already help them to earn more money. Third, the program did help to engender some mindset shifts in the household, with men recognizing that their wives could be successful in making money and that it might be fair for them to help with more housework; this outcome actually surprised the GAR facilitators, as they thought the entrepreneurship training without explicit gender discussions and trainings would not have such an effect.

GAR might also have had an impact on women's cooperative membership levels, according to the CD4 Gender Inclusion specialist. She said that before 2021 many women were not officially registered members of the cooperative and were just considered as informally replacing or representing their husbands, and this restricted the benefits they could obtain from cooperative membership. But, in order to participate in the GAR program a minimum number of women needed to be registered, so the cooperatives made a concerted push to officially register those women under their own names.

KIIs also suggested that the GAR work had substantial spillover effects outside of the 120 participants, to others in their cooperatives and communities, as each participant, and each program cooperative, was equipped with a handbook (which were very accessible, with few words and a lot of visuals), and many used them to lead trainings of other women in their cooperatives or less formally shared the handbooks and learnings with their families (including male relatives, not just females) and acquaintances. The CD4 Gender inclusion specialist said spillover effects extended to other cooperatives as well, since learnings were shared out widely in dissemination events and there was a lot of interest, with cooperatives who did not participate in GAR asking the participating cooperatives for more information, particularly in Bugesera.

Other Findings on Gender Equality and Women's Empowerment

Qualitative research also suggested that there has been a general increase in women's empowerment in cooperatives and households, across both comparison and program cooperatives, and which is a result of a national government push. The CD4 intervention impacts described above might go beyond, but there is an underlying trend of improved gender equality in Rwanda as well.

Participants from all the unions and cooperatives included in the qualitative research-- both program and comparison groups-- said that they have increased women's participation, with stricter adherence to the national rule that 30% or more leaders must be women, and with many of them saying that they exceeded that, with most reporting that 2-3 members are female out of 5 total on the executive committees, marketing committees, and audit committees. Several cooperative mentioned ensuring that there are female leaders in other sub-committees and among the zone; GWIZA RW34 actually said that 90% of its leaders in such lower positions are women. Some cooperatives prioritized women when hiring new staff, especially accountants, and the former Union Advisor for Gicumbi said that there has been an increased in female MCC staff.

Many KII participants also mentioned that women have increased confidence and more are volunteering to be leaders in the cooperative (as opposed to being nominated, to fit a quota). From quantitative registration data 3 of the 19 program cooperatives president is a woman, and in 10 the vice president is a woman, with an average of 2 female members of the Executive committee per cooperative. For unions, 3 of 4 have female vice chairperson (all except GILICU, for which the only female executive committee member is an Advisor). This information was confirmed for the selected cooperatives that took place in KIIs. However, some of them qualify this progress, saying that there is a lot of turnover in the positions held by women (IKOIABU, RWAMACU), in part because husbands don't want them to hold those positions.

A small number of KII participants talked about other programs or initiatives to support women, outside of increased leadership. It was mentioned in both KIIs and FGDs that women's savings groups have been formed within some cooperatives (COCUMAKI, KOTINGOZA, IZMGM). TWITIZEMBERE, a comparison cooperative, said that it has a program for giving small livestock (goats and sheep) to its members, and it

put a priority on giving those to female members first. GWIZA RW34 reported that they have a similar program planned to give goats to members, starting with women, and said they already help women obtain chickens. Also, leaders of 4 cooperatives (3 program, 1 comparison) reported that they saw an increase in female members in their cooperative during the project period.

Youth Inclusion & Empowerment in the Cooperative Sector

Findings show that youth involvement in program cooperatives remains quite low and has not changed much in the 5 years of the project, partially because this was not a focus area of CD4, though existing youth members of CD4 cooperatives had relatively higher changes in SCPV survey outcomes when compared to older members.

CD4 Actions on Youth Inclusion and Empowerment

CD4 did not have a specific activity devoted to youth inclusion in cooperatives, and staff did not expect to see much impact in this area as a result. However, a few small actions were taken related to youth as part of other activities. In coaching and training sessions, including the GAR, CD4 stipulated that youth had to be included, if there were any youth members in the cooperative. The governance coaching curriculum included advice about trying to recruit more youth members and involve them in leadership. The Union advisors who supported all program cooperatives and unions were youth, originally members of the Rwanda Youth in Agribusiness Forum (RYAF). Many cooperatives gave preference to youth when hiring staff during the project period, though as of 2023 still only 46% of staff are youth. Of course, this is still much higher than the 12% members who are youth.

How Program Impacts Differed by Age

An analysis of SCPV survey data separated by age group suggests that the project had a higher relative impact on youth cooperative members than on older members, in that there was a bigger gap for youth in program versus comparison cooperatives than there was for older members.

Table 26: Select SCPV Results Disaggregated by Age

Cooperative Type	Age group	Final- Total services			% change- Total services			PC Recommendation		Revenue up over 5 years
		#	quality	PV score	#	quality	PV score	Final	% change	
Program	18-35	8.60	89%	44%	-8%	16%	6%	8.03	5%	84%
	35+	7.81	87%	40%	2%	16%	13%	7.63	6%	87%
	Diff	**0.8**	**2%**	**4%**	**-10%****	**0%****	**-8%***	**0.4**	**-1% (ns)**	**-3% (ns)**
Comparison	18-35	3.25	70%	15%	-55%	-11%	-56%	7.50	-3%	50%
	35+	5.76	84%	29%	-25%	3%	-22%	7.27	-1%	60%
	Diff	**-2.5**	**-14%**	**-13%**	**-30% (ns)**	**-14% (ns)**	**-34% (ns)**	**0.2**	**-2% (ns)**	**-10% (ns)**
Program vs. Comparison	18-35	**5.35**	**18%**	**28%**	**47%**	**28%**	**61%**	**0.53**	**8%**	**34%**
	35+	**2.05**	**3%**	**11%**	**27%**	**13%**	**35%**	**0.36**	**7%**	**27%**
	Diff	**3.30**	**15%**	**17%**	**20%*****	**14% (ns)**	**26%*****	**0.17**	**1% (ns)**	**7%*****

For nearly all metrics in Table 26 youth in the comparison group had lower average results than the older members, and in particular the youth had larger decreases over time in the number of services they received and their overall PV scores than older members. By contrast, on most of the variables shown in this table, in program cooperatives, particularly in cohort 1 cooperative, youth had results that were either higher than or the same as older members. However, for youth these decreased somewhat

during the period, though by a greater degree for the comparison group than the program group. The estimated impact of the program, as measured by the difference in differences between program vs. comparison groups, was higher for youth, with a statistically significant 26% higher difference in difference for PV score and 7% higher reported increased revenues.

Table 25 in the preceding section on women shows results of a multiple regression on total PV score, and those results indicate that, controlling for other factors, youth have statistically higher PV scores than older members (by 4%), at the 90% significant level.

All Other Findings Related to Youth

Generally, KII and FGD results for both program and comparison cooperatives indicate a low number of youth members (because of lack of interest by youth and barriers like lack of cows), relatively few changes over the past 5 years, and no particular initiatives to support youth other than prioritizing youth for staff positions when they hire them. One of the main areas of youth involvement mentioned was as transporters for the larger dairy cooperatives, those positions are dominated by youth.

However, there were some exceptions. A few cooperatives have youth committees (IAKIB, GWIZA RW34, IZMGM, Jyambere Muhinzi) to try to empower the existing youth and attract new youth members. UMUCYO, a comparison cooperative, reported a large increase in youth members in the past 3 years, up to 54 by 2023 (though that is still only 10% of their total members), said they were attracted by benefits like accessing seeds and obtaining loans for agricultural activities, and pushed because of job market challenges IAKIB employs 15 youth as vet officers. KOAIKA is planning a big youth recruitment push in October 2023. TWITIZEMBERE said when it began giving livestock to member it prioritized youth, though that still just involved 4 youth (out of their total 6 youth members).

Effects of and Responses to COVID-19 Pandemic

COVID-19 led to major problems during the CD4 project period, with the project working remotely for 10 months, providing coaching and CLP activities virtually to reduced audiences, and with cooperatives and members struggling with market access, input availability, and increased fraud due to lack of oversight. However, many cooperatives, both program and comparison, continued marketing member produce and/or supported members in other ways. CD4 did not provide a lot of support to beneficiaries during COVID, but it made adaptations to the program activities—adding BDS support and some direct grants-- to help cooperatives and unions recover rapidly once lock downs ended.

Effects of COVID on and Responses by Cooperatives

Many sources, including KIIs, FGDs and the results of the learning agenda report on the effects of COVID indicated that the pandemic caused cooperatives to struggle in many ways. The top findings from the research report were that cooperatives experiences: i) reduced deliveries from members because of transport restrictions/diversion of delivery of products by members to non- cooperative buyers, ii) loss of buyers of and closure of markets for products, iii) lower prices for products sold by the cooperatives, iv) higher operational costs imposed by government restrictions, and (v) loss of members.

KIIs and FGDs confirmed that CD4 cooperative experienced some, but not all, of these issues. The COCUMAKI leader said sales temporarily were suspended, then when they resumed the price was unfavorable. This forced them to remove the 10 RWF/kg fee they previously charged per sale, and thus revenues suffered. The GWIZA RW34 said that the former leader misappropriated fund during COVID, for which he later was replaced and punished. The IZMGM leader said that the cooperative lost the

market during COVID, though they still collected from farmers to sell later (hence the members may not have perceived a difference), but unfortunately a lot of the maize got spoiled in storage before sale, so they lost money. At KOAIKA the leader said they continued buying some milk but volumes reduced dramatically and thus so did profits. KOGIAGI suspended sales, and said this led to some staff leaving and members still not trusting them and doing more side-selling even now. However, all cooperatives reported that they lost very few members during COVID.

In FGDs program cooperative members mostly reported that their cooperatives gave them some support to get through COVID, particularly in continuing to collect and sell their production, though meetings were suspended for all. Some cooperatives provided additional support as well, including KOAIKA, which sent mobile money payments of 10,000 RWF to every member and set up Ejo Heza accounts for all member just after the pandemic, GWIZA RW34 which provided some free seeds and maize and bean for consumption to members, IZMGM gave 5 kg maize to each member. For KOTINGOZA the situation was bit different since horticulture products were not sold collectively even before COVID, but they said that cooperative membership helped them get through COVID because they had vegetables on the collective cooperative land in the swamp and were still able to consume or sell it through the pandemic.

But there were some exceptions. At KOGIAGI, women FGD members seemed to think that sales continued during COVID, though payments were delayed and there was some mismanagement, though male participants said (as was confirmed by the leader KII) that sales were suspended entirely and they had to sell through IAKIB. However, IAKIB members (and the leader) all said that sales were fully suspended during COVID, the cooperative gave them no support, and that during that time leaders committed fraud, because there was no oversight with no meetings happening. In KIIs the IAKIB president and zonal leader confirmed mismanagement during COVID, though the latter said a big part of the problem was that fewer staff were available during the period to cover a big burden of work and they made mistakes.

Comparison cooperative members had similar responses to program cooperatives to this' most of the 4 continued sales during COVID and there extra support: CODAEGA provided maize flour to members and conducted virtual trainings, and TWIZIEMBERE members access loans through their cooperative savings groups and also immediately gave Ejo Heza to members after COVID ended, and UMUCYO gave rice and flour for consumption to members and provided loans to some, and they rented cars to help members transport their production. However, DUFACO completely closed its doors and had no sales or support during COVID.

Effects of COVID on and Responses by CD4 Program

CD4 staff said that COVID disrupted their work for around 10 months total, dramatically slowing down implementation in addition to causing revenue drops for cooperatives. If COVID had not happen program impact likely would have been much higher. The team continued work from home throughout and tried to adjust strategies. For example, they provided Jabra speakers, printers, computers to the cooperatives and shifted to virtual coaching. Unfortunately, with this coaching they had to reduce attendance per cooperative to 4-5 people only, from 10 previously. They mostly focused on financial management coaching and a little governance coaching. But they had to concentrate only on simple and small deliverables like the goals, vision, mission. When trainings in person again resumed CD4 provided masks and hand sanitizer for coaching sessions. CD4 also introduced grants in the last two years and

added BDS coaching and union advisors to help with market access and business strategies, to support the cooperatives to recover from COVID.

In KIIs the coaches were very complementary, saying that CD4 did everything it could to support during COVID, and they did make some progress with virtual coaching, though some cooperatives did not have the facilities (with only 1 computer it was difficult to train all well, some lacked good internet connection) and they couldn't do much until lockdown ended and in-person training resumed. The DCO in Bugesera said that many cooperatives suffered a loss of trust and continuity after COVID, while those who worked with CD4 had a distinct advantage, since they had continued doing remote coaching together, and trust and rapport was maintained with members and leaders.

FGD and KII results with cooperatives and unions all indicated that CD4 did very little to help the cooperatives through the pandemic, and that instead it just supported them afterwards to recover quickly, with new coaching, BDS support from union advisors, and grants for some. KOTINGOZA reported getting a 7 million RWF grant from the Ministry of Environment for building a greenhouse which they received (after support from the CD4 Union advisor in applying) shortly after COVID and which was instrumental in their recovery. There were very few mentions of remote coaching happening, with one coming from a female FGD member of KOGIAGI-- she said CD4 tried to train them all remotely, but they only came two times and then it stopped, though she thought they continued to train leaders remotely.

The GILICU leader was more complementary than others about CD4 support. He said CD4 helped by giving them remote capacity building about crisis management, remote working, and about business development services. Since then they have actually continued using digital platforms for selling drugs to cooperatives, a. CD4 also helped them to get up to date info on government policies and other issues related to pandemic, and then gave them a grant in 2021 which helped substantially with COVID recovery. RWAMACU also mentioned getting some remote trainings from CD4, which motivated them to keep trying despite the challenges. But both other unions and many cooperatives explicitly said they received no support from CD4 during COVID. These results likely do not indicate that they didn’t receive the computers, speakers and remote training which CD4 staff said was offered, but that the cooperative leaders did not consider it in their answer and instead were thinking of monetary support.

Other COVID-related Findings

Some actions were taken in the broader cooperative sector in response to COVID, with the aim to increase resilience to future crises. For example, RICEM said that post-COVID they facilitated experience sharing so cooperatives who came up with good strategies to get through the pandemic could share with others, and they also said that virtual training increased; they already offered virtual training through their online campus, but started using it more with cooperatives than before during and post COVID. As another example, RCA said it introduced a rule that cooperatives could not draw down their accounts fully during the pandemic, when meeting were not happening so expenses could not be properly approved. They think this helped to reduce mismanagement and losses to cooperative members.

CONCLUSIONS, AND RECOMMENDATIONS

MAIN IMPACTS OF CD4

Increased revenues for cooperatives and unions: All CD4 program cooperatives added new revenue streams and negotiated new buyer agreements, and many made other strategic business changes including making capital investments that are expected to show a return by 2024-2025, focusing on increased quality of value-added product, or increasing the scale of their operations by buying from more non-members or taking actions to reduce side-selling by members. This led to an increase in revenues for 80% of cooperatives through the end of 2022, and is likely to lead to future revenue increases. As for unions, all four supported by CD4 added revenue generating activities for the first time and all except RWAMACU are on track for those activities to continue in a self-sustaining manner. The new revenue activities also constituted new services to members in most cases, increasing perceived value scores and general positive views of cooperatives and unions.

Professionalizing cooperatives and unions: Quantitative and qualitative data both indicated sizeable improvements in governance, leadership, and management capacity for nearly all program cooperatives and unions. Before CD4 many unions existed just on paper but earned no money, provided no services, barley held meetings. After CD4 the four supported unions all were holding regular meetings, created strategic plans, and many hired staff and began to earn money and provide services. Financial management, including recording keeping, budget making, and using financial reports to make decisions, improved substantially in all cooperatives and unions. Cooperatives hired 1.7 new permanent staff members on average, and 6 of them added staff for the first time, and nearly all created business plans, strategic plans and added new sub-committees to manage activities like marketing and procurement.

Increasing women's confidence and shifting attitudes on gender: The results of the GAR report, qualitative input from multiple sources, and disaggregated SCPV results all indicate that CD4 has had a substantial positive impact on women, through increasing confidence and interest in leadership positions of those women who participated in trainings, shifting attitudes (of both men and women) on gender roles in the cooperative and household, and helping women to improve their small businesses and earn more money. Though the earlier gender transformative trainings did not receive a dedicated evaluation like GAR, results of this current evaluation suggest it had significant impacts that lasted several years, given that the last training happened in 2020 and in 2023 men and women in FGDs were citing lessons and impacts of the training. Disaggregation of SCPV results showed that women had outcomes very similar or slightly better than men, in terms of services received from their cooperative and revenue levels, and the apparent impact measured by the difference in differences for program vs. comparison cooperatives was higher for women than men.

Enabling environment improvements: Qualitative results consistently indicate moderate improvements on the cooperative enabling environment over the past 5 years in Rwanda, including increased government support and investment in infrastructure, improved government policy and implementation by RCA, increased buyers and formal contracting, increased availability of financing options for cooperatives and their members, and improved functioning of unions and other apex bodies. Many of these changes happened independently of CD4 and can more fairly be attributed to the RCA and other government institutions, but CD4 did play a role in financially supporting the revision of the cooperative policy in 2021, raising awareness of that policy and other issues via the CLP, CLS and other events, and strengthening apex bodies to better serve the cooperative sector.

WEAKNESSES AND AREAS CD4 COULD HAVE BEEN IMPROVED

Governance oversight of IAKIB, fraud checks: IAKIB accounted for a very large portion of the members served by this project, but unfortunately it had several negative outcomes including fraud and other governance issues, overall reduced management capacity scores, reduced member services, and high member dissatisfaction, thus lowering the total impact of CD4. The cooperative had fewer total coaching and training sessions than all other cooperatives despite being in cohort 1 and being the largest cooperative, with only 2% of members receiving any training, which CD4 staff said was because they had received support from the earlier CD3 project and already high capacities. This was likely a mistake; given how many cooperative members were impacted by IAKIB, CD4 should have given it equal if not more attention in terms of coaching oversight days, though it could have adapted the content to fit the specific advanced needs of the cooperative. For example, one key reason for the discontent expressed in IAKIB FGDs was that there were long payment delays for milk (leading to increased side selling), and a sense that leaders were making wasteful purchases, exacerbated by low member connections to leadership during COVID. CD4 could have helped IAKIB leaders to recognize these issues and to create a better communication plan to members about the reasons for these decisions and how and when they were working to resolve them. It seems that CD4 staff were aware of and made some efforts to correct issues at IAKIB; they were aware of the fraud issues and were trying to support the new leadership in making improvements. But IAKIB also seemed to be of a blind-spot for CD4, partly because of the assumption staff made that they were high level and needed less support, which led to less monitoring than in other cooperatives, and also because IAKIB was not included in qualitative work during the mid-term evaluation (which it probably should have been, as the largest cooperative by far). And in fact, there were fraud cases in four total cooperatives including IAKIB, many of which happened during COVID when oversight of all parties (CD4, RCA, and members) over leaders was necessarily low. CD4 helped to catch and report the fraud in only one of these cases, which is a partly positive results, but suggests that perhaps there should be a more formal focus on fraud monitoring as part of financial coaching in all cooperatives in the future.

Lack of support to help with production challenges: Several key informants suggested that CD4 should have added interventions to help cooperatives with increasing production and improving post-harvest activities (transport, storage, value-added processing), as sometimes low productivity is the biggest barrier to a cooperative's success, even if governance and management are very good. Furthering this suggestion, the biggest request of cooperative members and leaders in FGDs and KIIs for future support was help deal with production challenges like climate change, pests, low productivity cows, transport challenges, post-harvest losses, etc.

Some coaching and logistics adjustments needed: Several coaches and union advisors said that transport compensation needs to be higher and take geography into account instead of using a universal rate (for example, because transport is more expensive in mountainous areas), and several also said that the coaching schedule within a given module moved too quickly and should be spread out a little to give participants more time to absorb the information and to deal with any schedule delays and adjustments. The finance coach suggested making each coaching module last 1 full year instead of 6 months, while the firm leading the GAR work said that the 6-month entrepreneurship curriculum should be spread out to 9 months in the future.

More should have been done on youth involvement: Quantitative data and several comments in the qualitative research showed that youth involvement was a weak area for CD4: the project did very little

to promote youth involvement in cooperatives, and very little changed in this area. One union leader was very worried about the trend of low youth interest in cooperatives and said that if the current trend remains by 2040 there will be no more cooperatives, when all the older members are gone. Reasons cited for continued low youth engagement included that youth were not interested in participating in agriculture in general or cooperatives in particular because it is not profitable; that many youth face barriers to entry like lack of land, lack of cows, or high member share and fee costs; and that some youth are deterred by the fact that cooperatives are mostly full of older members, though they might join a youth-only cooperative, especially if it puts an emphasis on social activities.

Finance access for cooperatives should be done earlier and allocated more resources: Many KII participants suggested that access to finance is crucial for success of cooperatives and CD4 should have made it a fundamental part of the program from the beginning instead of adding it after COVID. Many of these same stakeholders agreed CD4 had a good approach in ensuring cooperatives first had a foundation in governance and financial management and generated a solid strategic plan to use resources fairly and wisely, but after that is in place then finance access should be facilitated quickly, perhaps in year 2.

Scale was relatively small: Several stakeholders said that CD4's main weakness was that it only worked with 19 cooperatives in three districts, while there are 10,000 cooperatives across Rwanda that all need support. Many stakeholders also said that more members should have been including in training and coaching sessions in each cooperative, particularly because this would create a wider pool of people with knowledge and skills to draw from when selecting leaders, so learnings would not be lost when new leaders were elected.

Learning dissemination of research findings was relatively limited: Several CD4 staff raised this as an area of weakness, as the reports of the commissioned research contain a myriad of useful information and recommendations that is underutilized. There was one dissemination event per report, and reports were shared out via email with stakeholders, but this still resulted in a fairly small group of people accessing the findings of each. CD4 staff also said there needed to be more local ownership of the research agenda, which was borne out by the finding that the leaders of RICEM and NCCR, who helped lead CLP events, did not seem able to cite details of any of the research reports, except for GAR.

Misleading indicator results based on PV score calculations: The PV score is calculated for a given member by dividing the number of services they reported receiving by a denominator that is the largest number of services received from the relevant type of organization in the given value chain by anyone else in the survey in year 3. The resulting denominators used were rather large, 9-12 for apex bodies and 13-18 for primary cooperatives for total services. As an example of why this is misleading: a dairy cooperative member who reported receiving 6 good-quality services from their cooperative, was satisfied with that and happy with their cooperative, could only have a maximum PV score of 33%. For the social capital structural domain scores, that is calculated using a score for frequency of different types of meetings, and the maximum score could only be obtained in many cases if meetings were "daily," which is unrealistic and not even desirable. Meeting frequency was especially low during COVID-19, resulting in scores of "zero" for many members on these domains in Year 2-3. In particular, the apex body score here was flawed because it was calculated using a single question, how often the member met with representatives of their union or federation. Furthermore, there are other pieces of data that could have been useful to capture at a household level to more directly measure CD4 impacts but which

were missing in the SCPV survey, such as data on women's role and empowerment in the household and on household revenues, and how these variables have changed over time.

RECOMMENDATIONS

For future CDP projects in Rwanda and similar contexts

Reallocate resources from apex bodies to primary cooperatives: Consider reallocating more project resources from apex bodies to primary cooperatives, as currently most unions and federations in Rwanda are not providing services and generating revenues of their own, so building them up into functional, sustainable business entities takes a lot more work, and also because cooperatives are closer to the farmer members, so when they improve it has a much more direct impact on the ultimate beneficiaries. Potentially still work with unions in some way, however; for example, if there is a service which is difficult for cooperatives to provide well on its own, like forage production since it requires a lot of land, some support could be given to the union to introduce that service in their district, or a financial management software and coaching could be provided to union accountants via an intensive introduction training and small regular follow-up sessions. Particularly consider working with unions where they already have good governance, so less time has to be put in to make them functional. But generally still prioritize working directly with more cooperatives, and allocate more of a grant pool to them.

Continue using Union Advisors or a similar position: Union advisors were found to be very impactful; all unions and cooperatives said they helped them a great deal, and many of the key substantive actions taken by cooperatives and unions—adding staff, adding revenue streams, making investments in new MCPs or drying shed or shops, applying for grants and loans— came about with substantial support from these advisors. Even if the project does not work with unions in the future, a similar position should be included, and from the beginning of the project, not just for the last two years, and in a permanent role instead of on a contractual basis. That is, there should be a full-time staffer who lives out in the district near the cooperatives, visits 5-10 cooperatives regularly and works closely with them to completed coaching deliverables or take key actions to address their core issues. Potentially allocate more funding to these positions than to the coaches themselves. Like in CD4, consider hiring only youth for these positions, as another way of increasing youth engagement.

Provide finance access to cooperatives as soon as possible after good management foundations are established, ideally by year 2, and with some type of finance access provided to all cooperatives, not just a small sub-set. Suggestions related to this include expanding the grant pool offered, putting more effort into connecting cooperatives with appropriate outside grants and loans, ensuring cooperatives have a good repayment plan for loans in place including contingencies (several cooperatives and unions were really struggling because of failure to pay off a previous loan, which made it hard for them to take new ones), ensuring any in-kind equipment or grants given are truly aimed at cooperative needs, and requiring some cost-share by the cooperative to receive any grants, to build up their sense of ownership and self-reliance.

Add support to cooperatives on production, processing and marketing, as in some cases interventions in these areas would have the biggest impact on improving a cooperative's business performance. This could include a bigger focus on helping cooperatives to acquire productivity-boosting inputs, irrigation systems, quality drying and storage facilities including cold rooms for horticulture (through direct grants,

external finance access, and/or creating better strategic plans), providing or coordinating access to best production and post-harvest practice trainings, or putting a higher emphasis on ensuring cooperatives hire a permanent, skilled agronomist or veterinarian.

Include direct coaching for financial reporting for all supported organizations. Do no omit this support for organizations that seem more professional, like IAKIB, as doing so led to weaknesses and lower impacts. And if apex bodies and service providers are supported, consider providing them close financial coaching as well, as CD4 did for unions with positive results. If organizations seem strong and well-established at baseline, or have graduated from an earlier program, then perhaps they can receive more tailored trainings and support services, with low-intensity but regular monitoring happening even for the basics like financial record keeping to ensure they stay on track. As part of this, the project should also consider support digitization of financial records comprehensively for all participants, maybe having it rolled out to cooperatives by a union with its member unions. Also, strive to ensure every organization has a permanent accountant so that finance skills are not lost when new leaders are elected, and over time those individuals will need less and less oversight by coaches on financial reporting.

Continue GAR work with modifications: Continue and scale up entrepreneurship training for women as it has clear impacts, but make the curriculum more gender-sensitive (for example, explicitly plan for discussion of gender barriers and how to deal with them) and incorporate men more to get their buy-in and support. Consider a combination of the GAR entrepreneurship training and broader gender trainings done earlier by CD4, and ensure that interventions continue throughout the full duration of the project, with a transition plan so they can continue after the project. Long-duration work like this is needed to shift attitudes and norms in the household and community which continue to be a barrier to female empowerment even when their own knowledge and skills have improved. Consider having multiple types of gender programs to support a broader array of women, not just those who are interested and able to run a business. This could include basic gender training for all members focusing on ways women can be more empowered in their daily lives, with entrepreneurship training then provided to a sub-group as in GAR. In addition to the trainings, add other project activities to support women, particularly in reducing time poverty or helping them access key assets for production, as these are major lingering barriers to empowerment. One suggestion on how to do this is to ear-mark grant money for female cooperative members, or for cooperatives to fund initiatives that support women, for example providing them with livestock, childcare centers, water tanks, or easy cooking stoves.

Do more to increase youth involvement in cooperatives. For example, CDP could organize an internship program to bring in youth as full-time staff for cooperatives at least on a temporary basis. It could also scale up the impactful union advisor role in future projects and continue to hire youth in those roles. It can also help cooperatives add revenue streams that are more lucrative and involve application of technology (AI services, bookkeeping using software, marketing using social media), which may attract youth. CDP could encourage supported cooperatives to reduce member share and fee prices, or to offer a discount for youth in particular. Also, because a key barrier for youth involvement in cooperatives is lack of access to key assets like land and livestock, the activity could consider supporting cooperatives to implement initiatives to support youth in overcoming these barriers, for example funding a program to provide cows or other livestock to potential youth members if they agree to join the cooperative. Finally, CDP could consider targeting and helping to increase membership levels of youth-only cooperatives.

Strengthen sharing of research learnings by building local ownership of the research agenda, summarizing reports in accessible formats, finding new channels for wider dissemination. Hiring a dedicated communications person may be one way to improve this: they could organize more dissemination events, summarize report findings into more accessible formats and translate them into Kinyarwanda, and find other creative ways to share learnings more widely. If research reports were made more accessible they could also be shared out to cooperative leaders and members as a part of related coaching sessions or union advisor visits. Another idea could be to mandate further sharing of MEL and research learnings with more cooperatives and cooperative members with any organization that receives a grant. A way to increase local ownership over the research agenda would be to put local CLP implementers (RICEM and/or NCCR) in charge not just of the dissemination events but also the learning question design, research oversight, and creation of a wider dissemination plan, with CD4 just providing funding and back-up support.

Increase scale in terms of number of cooperatives and members served, if possible: To increase impact, future CDP activities should consider increasing the number of cooperatives supported as much as possible and working in new districts, budget-permitting, while still maintaining the key impactful elements of the intervention design. Reallocation of some of the apex body and research funding might help free up funds to serve more cooperatives. To reach more members within each cooperative, the CDP staff and coaches can help cooperatives create a clear plan for specific leaders or delegates to share training with others and can provide ear-marked funding as part of a support fund or grant to cover transport reimbursements for members who attend those trainings.

Make adjustments to SCPV survey and PV score calculations: Consider shifting the SCPV survey entirely to be called "Member Impact Survey" and include questions each year about household revenues and women's empowerment as well. For PV score, change the calculation so that it does not involve dividing the number of services received by a very large denominator of maximum possible services, which biases it downward. Instead, consider asking each cooperative member how many services they would still like to see from their cooperative and doing a calculation like PV score = (# actual services/(# actual + # desired services))*average quality of actual services. Consider reducing the number of social capital questions or perhaps omit them altogether, as they were not very informative or used during adaptive management. But if structural domain questions are maintained, shift them so that a maximum score can be obtained with a low meeting frequency, maybe 1 = meet 2+ times per month, 0.8 = meet 1 time per month, etc. And for apex body structural capital, add 1-2 other questions besides just meeting frequency with the union, maybe an explicit question about how much they trust the union or feel supported by them.

For Rwanda cooperative sector more generally

Work with financial institutions to help improve financial products for cooperatives: Cooperatives still struggle to access finance, so more efforts should be made to increase awareness among all cooperatives of existing suitable financial products, particularly from SACCOs, and how to work with them and work should be done with financial institutions to help design even more loan products which suited to cooperatives, for example that draw on their production and financial history instead of requiring collateral. Also, many several cooperatives struggle with debt—some CD4 cooperatives were not offering services because they were allocating money to pay down debt, others were on a blacklist

and could not lend any more money. Because of this, more focus should be given by NGOs and government agencies to ensure that when a cooperative takes a new debt it has a very strong business plan, including diversified revenue sources and contingencies, has negotiated good lending timeline and terms so that it can afford to repay, and has communicated well with cooperative members so that they are aware of the responsibility and risks of the loan. Also, efforts should be made to assist cooperatives that are currently saddled with a debt to come up with a repayment plan that does not damage their current operations significantly, communicates the issue well with members, and seeks out support from the original lender or new lenders or donors to pay down the debt in a manageable way (including renegotiating debt terms, trying to get partial debt forgiveness).

CDP Implementers and other NGOs should do more through and in support of RCA: The RCA has a strong audit function and has improved oversight and enforcement recently, as well as drafting and disseminating of the new cooperative policy and providing support to cooperatives through its new 300 DCOs. However, it still has limited capacity and struggles to reach all cooperatives that need oversight and support. The RCA director suggested that NGO projects like CDP could help with its current project to rapidly assess and categorize cooperatives by capacity level (which should help them to better "triage" and tailor their more intensive oversight and support work), either by running some of the categorization work directly or providing the RCA with financial or in-kind resources (tablets) to increase their capacity to accomplish the work quickly. One DCO said it would be helpful for projects which work closely with cooperatives to provide formal written reports on their observations of those cooperatives, and to encourage and support the cooperatives to complete the reports they are supposed to submit regularly to the RCA. One gender specialist also suggested that NGOs support RCA to run a broad gender assessment (or its policies and of cooperatives it supports) and to create a gender empowerment action plan. This could be a fruitful channel for external funding as the RCA is well organized, has respected authority over cooperatives, and it has the ability to have broad-reaching impact on the cooperative sector.

Create sustainable market for cooperative services: The RICEM leader said that the institute has the capacity now to offer beneficial trainings and facilitate knowledge sharing events like the CLP and CLS independent of external support if there is funding, which he thinks can and should some from cooperatives saying for the services. He said that financial cooperatives are already paying 75% of the cost of RICEM trainings themselves, and they transitioned to this gradually. The same idea should be introduced to agricultural cooperatives for trainings and other services from RICEM and other cooperative service providers, first with interventions funded externally so that the cooperatives understand their value and build up their financial resources and ability to pay, but then with cooperatives asked and convinced to pay 10% of the cost, then 25%, and on up until they bear most of the cost. And in the meantime, until cooperatives are able and willing to pay for services, RICEM and other cooperative service providers can be strengthened by helping them find other clients (like NGOs or foundations who want to commission research) and to improve their marketing strategies.

ANNEXES

1. Evaluation Matrix
2. Full indicator table
3. Full Finance summary table results with analysis

4. Full SCPV Excel table results with analysis
5. Full PM2 Excel table results with analysis
6. Membership/Individual Registration results with analysis
7. Folder with additional quantitative results (event log and attendance sheet, support and actions by coop, leverage, organizations using CDP tools)
8. Stata .do files for all regression analysis
9. Qualitative data analysis Excel table
10. Folder with all qualitative results (KII, FGD and scorecard discussion detailed transcripts)
11. Folder with finalized qualitative data collection tools
12. Rwanda Final Scorecard Workshop results
13. Learning Agenda detailed summary table, including findings
14. Excel table of support given and actions taken by organization