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EFFECT OF DAIRY VALUE CHAIN SUPPORT ACTIVITIES AND PERFORMANCE OF MILK COLLECTION CENTERS OF DAIRY FARMERS COOPERATIVE OF BYUMBA, GICUMBI DISTRICT

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ABSTRACT

This study assess the effect of Dairy Value Chain Support Activities on performance of Milk Collection Centers in Gicumbi district. The specific objectives of this study are: to assess the effect of milk collection and transportation activities, to assess the effect of Rwanda Dairy Development Project (RDDP)'s support activities and to examine effect of Cooperative leadership on performance of Milk Collection Centers under Dairy Farmers Cooperative IAKIB in Gicumbi district. The descriptive and correlational research designs was used for this study and 921 Respondents represent study population with sample size of 169, obtained using Slovin's formula at 10% marginal error and simple random sampling and census technique was used to select the respondents. The questionnaire and interview guide were used as tools for data collection. Validity test was also performed for validation of questionnaire and data analysis was performed using SPSS IBM 23 and MS Excel whereby descriptive statistics, correlation and regression coefficients were used to present and interpret the findings. The study revealed that; the Milk collection and transportation activities, RDDP Support Activities and IAKIB Leadership and management are strongly correlated with performance of Milk Collection Centers since r=0.853**), r=0.883**, r=0.871**, respectively, as (r>0.7<1). The study revealed that Milk Collection and transportation activities, RDDP Support Activities and Cooperative Leadership, resulted an increase of 20.3%; 37.4% and 41.7% for the MCCs performance under IAKIB Cooperative, respectively. The study concluded that Dairy Value Chain support activities have significantly contributed on performance of Milk Collection centers under IAKIB Dairy farmers Cooperative in Gicumbi. The study recommended the establishment of MCCs performance monitoring system as well as organizing the Milk Collectors and transporters into Cooperatives. The study will benefit the dairy farmers' cooperatives, policy makers and academia.

KEYWORDS: Diary Value Chain support activities, IAKIB Dairy farmers' Cooperative, performance, Milk Collection Center, Rwanda Dairy Development Project (RDDP)

1.0. INTRODUCTION

The world milk production reached 811 MT in 2017, 1.4% higher than in 2016 and across geographic regions, milk output expanded in Asia, the Americas and Europe while it stunted in Africa and declined in Oceania (Nanda, et al., 2022). About 150 million households at the global level are engaged in milk production. Global trade in dairy products was costed to about USD 45 billion in 2017, significantly up from USD 39 billion in 2016 (Global Dairy Industry, 2018). Eastern Africa is the leading first milk-producing region in entire Africa, representing 68% of the African's milk production. The countries such as Kenya, Ethiopia and Tanzania are among the biggest milk producers (Bingi & Tondel, 2015).

The livestock sub-sector stands in third position in Rwandan Agriculture for Gross Domestic Product (GDP) after food crops and forestry. It contributes to about 3% of the country's GDP and 9,4% to national agriculture. The 5th Population and Housing Census in Rwanda (2022) indicated Rwandan Population count 13,246,394 distributed in 3,312,743 Households of which 2,280,854 (69%) households are engaged in agriculture activities (crop production or animal husbandry). 1,463,347

(64.2%) households are both crop farming and animal rearing but 205,924 (9.0%) are in animal rearing only (NISR, 2022). The increase of cattle in numbers is due to efforts deployed by the Government of Rwanda to support vulnerable families, and in this regards, 25,499 cows, were distributed to poor families in 2019/20 (MINAGRI, 2020). The Government of Rwanda made the effort that contributed to social protection and nutrition through GIRINKA and small livestock distribution. So far 380,162 cows have been distributed under GIRINKA since its inception. The Ministry targeted the distribution of 23,746 cows to poor households and 25,499 were achieved due to the involvement of private sector in this program.

The Government of Rwanda has encouraged the construction milk collection centers (MCCs) with support of Government funds or private sector, in order to enhance the collection of the produced milk. The MCCs are the strong links in the national dairy chain. They are key to the development of a strong and widespread decentralized channel of milk collection and processing for dairy products. Currently, the country account 132 Milk Collection Centers with a total installed cooling capacity of 483,000 liters per day. 60 MCCs have been rehabilitated, 4 MCCs connected to the 3- phase electricity, and 50 Milk collection points constructed. A total of 83,201,580 liters of milk have been channeled through MCCs representing an MCC utilization rate of 49.5% and 70,385,689 liters were supplied to processing plant (MINAGRI, 2022). When farmers are connected to the formal market via MCC, the quality and quantity of local milk can increase and farmers can also earn higher incomes. The dairy value chain in Rwanda is made up of smallholder farmers that produce milk and trade among themselves or largely supply milk to informal milk aggregators (transporters), milk kiosks and buyers (restaurants, grocers) and formal milk aggregators, milk collection centres (MCCs) and largely artisanal cheese makers (Heifer international, 2018).

Rwanda Dairy Development Project (RDDP) is a dairy project that contributes for improvement the livelihood of rural households by focusing on food security, nutrition improvement and empowerment of women, youth in a sustainable way through dairy value chain development. It was designed to reduce the poverty through expanded and marketing of quality milk that generates income, employment and improves the nutrition status of rural households. The project aims to achieve this by linking existing and new smallholder dairy producers to market demand driven by improved quality, reduced transaction costs and increased investment all along the dairy value chain. The 45MCCs upgraded into SMEs and now operational and these SMEs are able to pasteurize and supply milk in the nearby communities (e.g., Hospitals, health centers, schools and universities, prisons, home based ECDs etc.), prepare fermented milk, yoghurt, cheese, butter, etc. This is being done by supporting the SMEs to develop business plans and being financed through RDDP matching grants (RDDP, 2020). Thus, the overall goal of RDDP is to contribute to pro-poor national economic growth and improve the livelihood of resources for poor rural households' especially dairy cattle farmers.

IAKIB is dairy farmers cooperative of Byumba, Kinyarwanda dubbed "*Impuza Amashyirahamwe y'Aborozi ba Kijyambere ba Byumba*" or literally translated as *Dairy Farmers cooperative of Byumba*. In this study, instead of using Kinyarwanda Cooperative name, English literally translated name has been used together with cooperative Kinyarwanda abbreviated name IAKIB "Dairy Farmers Cooperative IAKIB".

The Dairy Farmers' cooperative IAKIB was formed in 2003 by Beneficiaries of Girinka Program through support of Heifer International in 2000 especially with widows who were heading their households, so that a cow supports the livelihood improvement for their families (Statement by Agnes Mukangiruwonsanga, the President of IAKIB and reported by (Newtimes, 2023). The cooperative started with 200 members but it currently has 704 members of whom 384 are women. It started with each member contributing Rwf 6,000, but currently, one has to part with Rwf300,000 to become a member. Dairy Farmers' cooperative IAKIB has had steady progress towards commercialized dairy farming as statistics from its finance shows that as of 2016, it had a turnover of about Rwf2.3 billion (Newtimes, 2023).

1.1.Problem Statement

Majority of Milk collectors from the farm level are classified among the informal ones and yet has major contribution in collecting and transporting the milk from farmers' milk collections points to Milk Collection Centers (MCCs) (MINAGRI, 2022). The Milk collectors' activities, are the key in improving quality of milk supplied to MCCs as well as processors and yet lack of the technical skills and

license to the milk collectors prevent them to do their work formally though, activities of forming cooperatives of Milk Collectors initiated. For example, according to IFAD Supervision Mission report 2021, 18 Milk collectors and transporters and 18 Milk Sellers cooperatives have been formed and supported by Rwanda National Diary Platform (RNDP) (IFAD, 2021), the progress is still on the lowest progress comparing the size of Dairy Value Chain in Rwanda. According to MINAGRI Annual report (2021-2022), the Government projects such as Rwanda Dairy Development Project (RDDP) and development partners' strategic interventions in the dairy value chain development provided equipment, electrification and support in improving the Milk Collection Centers' management, however, there is no report indicating which extent the support provided contributed to its performance and sustainability. Many cooperatives in Rwanda face governance structure challenges attributed to leadership, management skills, poor financial management, reporting and controls (Kibibi, V. & Irechukwu E.N, 2021).

However, there is no formal studies conducted to assess the effect of leadership on the performance of Milk Collection Centers. Given, the above problems, this study intends to establish relationship between dairy value chain support activities including Milk Collection and transportation activities, Rwanda Diary Development Project (RDDP) projects support activities such as *MCCs rehabilitation, equipment provisions, and training*, and Cooperative leadership on performance of Milk Collection Centers in Dairy Farmers Cooperative IAKIB in Gicumbi district.

1.2. Research Questions

i. What are the effect of milk collections and transportation activities on performance of Milk Collection Centers under Dairy Farmers Cooperative IAKIB in Gicumbi district? ;
ii. What is the effect of Rwanda Dairy Development Project's support Activities such as *MCCs rehabilitation, equipment provisions, and training* on performance of Milk Collection Centers under Dairy Farmers Cooperative IAKIB cooperative in Gicumbi district?
iii. What is the effect of Cooperative leadership on performance of Milk Collection Centers under Dairy Farmers Cooperative in Gicumbi district?

2. METHODOLOGY

The study uses correlational research design and Regression analysis as well as causal effect relationship among the dependent and Independent variables to investigate associations between variables under the study. In this regard, the survey was conducted to different respondents with different locations, then The SPSS IBM 23 and MS Excel spreadsheet was used to analyze the data.

This study has was conducted in Dairy Farmers Cooperative IAKIB located in Gicumbi District, Northern Province of Rwanda and the selection of case study was based on the facts that it is the largest Cooperative with many Milk Collection Centers (10) and cover big area in districts (10 Sectors) and has big number of beneficiaries (704) benefited from RDDP Project.

The simple random sampling and census were used to select 169 sample population from 921 study population. The sample size was determined using Solvin formula:

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

whereby **n**= Sample size, **N**= Population, **e** = Level of significance or Marginal error (10%)

thus, $n = \frac{N}{1+N(e^2)} = \frac{203}{1+203(10\%^2)} = 67$

$$n = \frac{N}{1+N(e^2)} = \frac{704}{1+704(10\%^2)} = 88$$

Table1: Showing the detailed sample size

Respondent	Population	Sample Size	Sampling techniques
Milk collectors and transporters	203	67	Simple random sampling
Dairy Farmers members of IAKIB cooperative	704	88	Simple random sampling
IAKIB Cooperative leader	1	1	Census
MCC Managers	10	10	Census
RDDP Project Staff	2	2	Census
Gicumbi District Veterinary	1	1	Census
TOTAL	**921**	**169**	

Source: Researcher, 2023

3.0. RESEARCH FINDINGS AND DISCUSSION

3.1. Respondent rate

The findings presented in ***table 3*** showed that 167 questionnaires were returned back and successfully answered with returned rate of 99.4% because 1 RDDP Staff didn't respond. As the overall respondent are 169, one respondent who is Cooperative President was only held in Key Performance Interview and also 1 Respondent who is RDDP Staff didn't respond.

Table 2: Showing response rate of respondents

	Questionnaire	Response rate or non-response rate
Turned back	167	99.4%
Non turned back	1	0.6%
Total	**168**	**100.0**

3.2. Category of respondent

The findings presented in table3, revealed that, 88 respondents (52.4%) are Dairy Farmers Members of IAKIB, 67 respondents (39.9%) are Milk Collectors and Transporters; 10 respondents (6.0%) are MCC Managers, 1 respondents (0.6%) is RDDP Project Staff and 1 respondent (0.6%) is District Veterinary. IAKIB Cooperative president was only held in Key Informant Interview to discuss on the findings.

Table 3: Showing the category of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dairy Farmer (Member of IAKIB)	88	52.4	52.7	52.7
	Milk Collector &Transporter	67	39.9	40.1	92.8
	MCC Managers	10	6.0	6.0	98.8
	RDDP project Staff	1	.6	.6	99.4
	District Veterinary	1	.6	.6	100.0
	Total	**167**	**99.4**	**100.0**	

Source: Researcher, 2023

3.3. Findings in relation to specific objectives

3.3.1. Effect of milk collection and transportation activities on Performance on MCCs between 2018-2022

The findings presented in table (4), indicate that Milk collection and transportation Activities significantly affected the increase of Quantity of Milk Collected per day (Mean=4.58 and Stdv= 0.747), Milk Collection and Transportation Activities affected to the Increase of the MCC operation capacity (Mean=4.44 and Std=0.78), Milk Collection and transportation activities significantly

affected on increasing the speed on which farmers get paid (Mean=4.467 and Std=0.709). This finding indicate that the coordination of milk collectors and transporters, effective collection of milk to agreed village milk collection points in various centers has increased the milk collected and transported to MCCs and this has affected on milk collected and sold by MCCs.

According to study by Umuzigambeho (2017), efficient milk collection is a critical link between the producers and processors, if the dairy sector is to be competitive. In her finding, she indicated that operation of MCCs, size & MCCs location were designed to the needs of producers to rapidly collect their milk in the morning and Afternoon and ensure to convey the milk to bulk chilling for transporting to processors. With similar findings, she figured out that the farmers, particular men, bring family milk to the village collection points, for collection by individual peddlers to carry them with bicycles in metal cans to MCCs particularly IAKIB cooperative's owned MCCs.

Table 4: Showing the statistical description of the effect of Milk collection and transportation activities on Performance on MCCs between 2018-2022

Descriptive Statistics			
Statement	N	Mean	Std. Deviation
Effect of Milk collection and Transportation activities for increasing the Qty of milk collected per day	167	4.5808	.74712
Effect of Milk collection and Transportation activities for increasing the MCC operation capacity	167	4.4431	.78083
Effect of Milk collection and Transportation activities for speeding up the payment of farmers (With 15 days)	167	4.4671	.70953
Valid N	167		

Source: Researcher, 2023

3.3.2. Effect of RDDP support activities on Performance on MCCs between 2018-2022

The findings presented in the table (5) findings revealed that, the MCCs rehabilitation activities have effect to increasing the MCC operation capacity (Mean=3.82, Stdv=1.03), have effect to speeding the payment of the farmers suppliers of milk to MCC (Mean=3.74 and Stdv=1.11), have significant effect to milk collected per day (Mean=4.02 and Stdv=0.96). The findings indicates that Purchase of MCC equipment and materials has effect on increasing milk collected per day (Mean=3.688 and Stdv=1.16), has effect on increasing the MCC operation capacity (Mean=3.83 and Stdv=1.039), has effect to speeding up the payment of the farmers (Mean=3.84 and Stdv=1.04). The findings also indicates that training of Milk collectors & transporters and MCC staff have effect on increasing milk collected per day (Mean=3.688 and Stdv=1.166), have effect on MCC operation capacity (Mean=3.79 and Std=1.14), have slight effect on speeding up the payment of farmers (Mean=3.76 and Std=1.04).

According to **Elnaga A. & Imran A. (2013)**, training is paramount and an imperative tool for the organization to revamp the performance of its members and personnel for growth and success. In their studies, they indicated that the general benefits received from training are increased efficiencies in processes, job satisfaction and morale among organization's members and personnel, increased motivation, resulting in financial gain, increased capacity to adopt new emerging technologies and methods etc.

Table5: **Showing the statistical description of RDDP Support Activities on performance of MCCs between 2018-2022**

MCC rehabilitation activities			
Statement	**N**	**Mean**	**Std. Deviation**
Effect of MCC rehabilitation on increasing MCC operation capacity	167	3.8204	1.03729
Effect of MCC rehabilitation for speeding up the payment of farmers	167	3.7485	1.11786
Effect of MCC rehabilitation on increasing the Qty of Milk collected per day	167	4.0240	.96911
a. Purchase of MCC equipment and materials			
Effect of purchase of MCC equipment & materials on increasing the Qty of milk collected per day	167	3.6886	1.16632
Effect of purchase of MCC equipment & materials on increasing MCC operation capacity	167	3.8323	1.03930
Effect of purchase of MCC equipment & materials for speeding up the payment of farmer	167	3.8443	1.04695
b. Training of milk collectors, transporters and MCC staff			
Effect of training of Milk collectors, transporters and MCC staff on increasing the Qty of milk collected per day	167	3.6886	1.16632
Effect of training of Milk collectors, transporters and MCC staff on increasing MCC operation capacity	167	3.7964	1.14355
Effect of training of Milk collectors, transporters and MCC staff for speeding up the payment of farmers	167	3.7605	1.04253

Source: Researcher, 2023

3.3.3.Effect of cooperative leadership on Performance on MCCs between 2018-2022

The findings presented in table (6) revealed that IAKIB Cooperative leadership has significantly contributed to Speed-up the payment of the farmers, increasing MCC operation capacity and increased milk quantity collected per day (Mean=4.43 & Stdv=0.795, Mean=4.35 & Stdv=0.768, Mean=4.167 & 0.833, respectively) during the period between 2018-2022.

According to **Benmira S. & Agboola M. (2021),** behavioural theory asserts that leaders are largely made, rather than born and that particular behaviors can be learnt to ensure effective organizational leadership. Via informal phone call, **Mr. Isdor Gashirabake**, Gicumbi District Veterinary emphased that the strong leadership between 2018-2022, ignited performance of cooperative, its MCCs and members motivation which resulted in realizing an income generating project like construction of Maize processing plant as well as Animal Feed plant. It is though that, leadership performance was attributed to effective and informed committee. It was indicated that leadership committee performance also were due to partnership with majors projects like RDDP, Land' O Lakes etc. to build technical capacity of the committee in terms of management and innovation in creating the Hub services to farmers. Though, the performance was indicated between 2018-2022 due to an effective leadership, through Key Informant Interview, it was indicated that management of IAKIB Projects overwhelmed leadership committee capacity and finally, dropped down performance of the committee by late 2022.

Table6: Showing the statistical description Effect of cooperative leadership on Performance on MCCs between 2018-2022

Descriptive Statistics			
	N	Mean	Std. Deviation
Effect of IAKIB leadership and management on increasing the Qty of milk collected per day at MCCs	167	4.1677	.83343
Effect of IAKIB leadership and management on increasing MCCs operation capacity	167	4.3533	.76896
Effect of IAKIB leadership and management for speeding up the payment of farmers	167	4.4311	.79516
Valid N	167		

Source: Researcher, 2023

3.4. Analysis of Performance on MCCs between 2018-2022

3.4.1. Correlation analysis

The findings presented in table (7) indicates that the Milk collections and transportation activities are strong positively correlated with the performance of MCCs as Pearson's correlation coefficient (r=0.853**)> 0.7 and is less than 1; RDDP Support Activities are strong positively correlated to performance of Milk collection Centers as Person's correlation coefficient (r=0.883**)>0.7 and is less than 1; IAKIB Leadership and management has positively correlated with performance of Milk Collection Centers as Pearson's correlation coefficient (r=0.871**) >0.7, and less than 1.

These are comparable with data from MINAGRI Annual Report (2022) indicating that a total of 83,201,580 liters of milk were channeled through MCCs of which 70,385,689 liters were supplied to processing plant, and of which 505,740 Liters milk were processed by IAKIB Cooperative. According to IFAD Supervisory Mission report (August 2021) indicated that 18 cooperatives of Milk Collectors and transporters were formed and this is really a good progress in boosting the performance of Milk Collection and transportation activities, thus, boost overall performance of MCCs.

Table 7: Showing the correlation matrix

Correlation Matrix					
		Milk collection & Transportation activities	RDDP support activities	IAKIB leadership & management	Performance of MCCs
Milk collection and Transportation activities	Pearson Correlation	1	.884**	.878**	.853**
	Sig. (2-tailed)		.000	.000	.000
	N	167	167	167	167
RDDP support activities	Pearson Correlation	.884**	1	.874**	.883**
	Sig. (2-tailed)	.000		.000	.000
	N	167	167	167	167
IAKIB leadership and management	Pearson Correlation	.878**	.874**	1	.871**
	Sig. (2-tailed)	.000	.000		.000
	N	167	167	167	167
Performance of MCCs	Pearson Correlation	.853**	.883**	.871**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	167	167	167	167
**. The Correlation is significant at 0.01 level (2-tailed).					

3.4.2. Regression analysis

The findings presented in Table (8) revealed that R squared (R2=0.827), provides the proportion of variance in performance of MCCs, resulted from Milk collection and Transportation activities RDDP support activities; IAKIB leadership and management. Therefore (R2=0.827) predicts that, 82.7% change in performance of MCCs have resulted from Milk collection and Transportation activities, RDDP support activities and IAKIB leadership and management. Then, 17.3% change in performance of Milk Collection Centers under Diary Farmers' Cooperative IAKIB have resulted from others factors rather than Milk collection and Transportation activities, RDDP support activities and IAKIB leadership and management.

Table 8: Showing regression analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.909[a]	.827	.823	.38590
a. Predictors: (Constant), Milk collection and Transportation activities RDDP support activities; IAKIB leadership and management.				

Source: Researcher, 2023

3.4.3. ANOVA

The analysis of Variables (ANOVA) indicates the significance of variables in the model. Therefore, Milk collection and Transportation activities; RDDP support activities; IAKIB leadership and management that have been used in the model are statistically significant, since F (3,163) =258.931 and significance value (P-Value)= 0.00b<0.01 which is accepted level of significance and this implies that there is a positive relationship between Independent variables (Milk collection & Transportation activities; RDDP support activities; Dairy Farmers' Cooperative IAKIB leadership & management) and performance of Milk Collection Centers under Dairy Farmers' Cooperative IAKIB, in Gicumbi district.

The findings are in comparison with the study conducted by **Kibibi V. (2021)** which concluded that adequate institutional management with positive governance policies and institutional management practices contributes to the performance of the dairy industries in Rwanda.

Table 9: ANOVA Table

ANOVA[a]						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	115.678	3	38.559	258.931	.000[b]
	Residual	24.274	163	.149		
	Total	139.952	166			
a. Dependent Variable: Performances of MCCs under Dairy IAKIB Cooperative.						
c. Independent variables: Milk collection and Transportation activities; RDDP support activities; Dairy Farmers' Cooperative IAKIB leadership and management.						

Source: Researcher, 2023

3.4.4. Regression coefficient

Regression equation is denoted as Y= β0+β1X1+ β2X2+ β3X3+ β4X4+ ε, by replacing the symbols by the variables under the study; the generic equation become:

Performance of MCCs (Y) = 0.013+ 0.203(Milk collection & Transportation activities) +0.374 (RDDP support activities) +0.417(Dairy Cooperative IAKIB leadership and management).

The Positive sign for Slop (β0=+0.013) indicates positive performance of Milk Collection Centers (MCCs) as indicate by Positive Slop in the Model.

The regression findings revealed that the Milk Collection & transportation activities has significantly contributed to performance of Milk Collection centers as (β1=0.203), P-value =0.000<0.01 indicating significance level, and considering that other factors affecting performance of Milk Collection Centers remained constant at zero scale. This implies that an increase by one (1) unit in Milk Collection and Transportation Activities, would result to an increase by 20.3% in MCC performance under Diary Farmers' Cooperative IAKIB. The findings is compared with the study by (Makoni et Al., 2014) which indicated that improved efficiency in milk collection and reduction in loss through wastage and spoilage will significantly contribute to achieving an increased income from increased volumes of milk collected and marketed at MCC and this could be a first step to quickly close the milk demand supply gap in dairy sub-sector in Rwanda. The regression findings figured out that RDDP Support Activities has significantly contributed to the performance of Milk Collection Centers as (β2=0.374), P-value =0.000<0.01 indicating significance level, and considering that other factors affecting performance of Milk Collection Centers remained constant at zero scale. This implies that an increase by one (1) unit in RDDP Support Activities, would result to an increase by 37.4% in MCC performance under Diary Farmers' Cooperative IAKIB.

The regression findings revealed that the Dairy Farmers' Cooperative IAKIB Leadership & Management between 2018-2022, has significantly contributed to performance of Milk Collection centers as (β3=0.417), P-value =0.000<0.01 indicating significance level, and considering that other factors affecting performance of Milk Collection Centers remained constant at zero scale. This implies that an increase by one unit in IAKIB leadership & management, would result to an increase by 41.7% in MCC performance under Diary Farmers' Cooperative IAKIB.

The finding is compared with the research conducted by (Supartha W.G & Saraswaty A. , 2019) to analyze the effect of entrepreneurial leadership on cooperative performance. The research result showed that entrepreneurial leadership of cooperative's managers & organizational commitment has significant influence on organization performance.

The study ended recommending that, to improve cooperative performance, there is need to strengthen the entrepreneurial leadership of managers and board members and increase the organizational commitments.

Table 10: Showing regression coefficient

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		β	Std. Error	Beta		
1	(Constant)	.013	.233		.054	.957
	Milk collection and Transportation activities	.203	.098	.162	2.061	.041
	RDDP support activities	.374	.067	.435	5.612	.000
	Dairy Farmers' Cooperative IAKIB leadership and management	.417	.091	.349	4.606	.000
a. Dependent Variable: Performance of Milk Collection Centers (MCCs)						

Source: Researcher, 2023

Conclusion

From the findings, the study concluded that Dairy Value Chain support activities such as Milk collections and Transportation Activities, RDDP Project support Activities such as MCCs rehabilitation, provision of equipment and materials, & training of Milk collectors & transporters with MCC staff and Cooperative Leadership has significantly contributed to performance of Milk Collection Centers IAKIB Dairy farmers Cooperative in Gicumbi.

Recommendation

The study recommended the establishment of MCCs performance monitoring system as well as organizing the Milk Collectors and transporters into formal entity such as Cooperatives of milk collectors and transporters. The study will benefit the dairy farmers' cooperatives, policy makers and academia.

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