Journal of Entrepreneurship & Project Management

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ISSN: 2616-8464

Stratford Peer Reviewed Journals and Book Publishing
Journal of Entrepreneurship & Project Management
Volume 7||Issue 3||Page 106-118 ||June||2023|
Email: info@stratfordjournals.org ISSN: 2616-8464

Contribution of Poultry Farming Products on Farmer's Socio-Economic Well-Being in Rwanda: A Case of Cooperative of Murambi Poultry Farming "COMUPOFA"

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***How to cite this article*: Murekatete L., & Hakizimana J. D. K. (2023). Contribution of Poultry Farming Products on Farmer's Socio-Economic Well-Being in Rwanda: A Case of Cooperative of Murambi Poultry Farming "COMUPOFA". *Journal of Entrepreneurship & Project Management. Vol* 7(3) pp. 106-118.** https://doi.org/10.53819/81018102t2143

Abstract

The Rwanda's economy is largely based on agriculture, but many farmers remain distressed due to low productivity, small family land ownership, rapid population growth, and the use of local farming systems. Poultry production, as one part of livestock production, has a difficult toward miss benefit to add to the poultry sector and poultry are kept within rural areas for consumption and marketing. The objectives of the study were the following: to determine the contributions of poultry farming products, to examine the level of social wellbeing and its correlation. The methodology comprised of a descriptive research design, quantitative and qualitative approaches were used. Target population was 103 farmers of COMUPOFA and all of them were our sample. Sampling techniques used was purposive and census sampling techniques. Data collection instruments were questionnaires and interview guide. The findings revealed that poultry farming products contributed to the social wellbeing after joining the cooperative COMUPOFA as respondents said that eggs, meat and manure contributed to improve food and nutrition security (62.1%) and increased earning and savings (46.6%), increased job opportunities (51.5%), increased harvested crops (41.7%), paying school fees (44.7%), health insurance (41.7%) and poultry products contribute to gain of land, buildings, and equipment (40.8%). The challenges encountered by the farmers were identified: Vaccine, non-Quality and Accessibility (48.5%), large poultry feed prices (57.3%), presence of adulterated poultry food flooding at the market (40.8%), high start-up capital (45.6%), the issues of inclusion of antibiotics (50.5%) and the problem of inadequate water supply (43.7%). In addition, there was correlation between production of eggs, meats and manure and socio-economic wellbeing of farmers characterized by payment of health services, payment of education services, contribution to food and nutrition security and increased income demonstrated by increased of earning and savings. Therefore, since the results of the study showed that there is a significant and positive correlation between poultry products (eggs, meat, and manure) and socio-economic wellbeing among farmers. It is very paramount to conclude that the production of poultry products is positively associated with the ability to pay for health

Stratford Peer Reviewed Journals and Book Publishing
Journal of Entrepreneurship & Project Management
Volume 7||Issue 3||Page 106-118 ||June||2023|
Email: info@stratfordjournals.org ISSN: 2616-8464

and education services, contribute towards food and nutrition security, and increase earnings and savings. Therefore, the study suggests that investing in poultry farming may have positive socio-economic impacts on the livelihoods of farmers. It is in this regard, the cooperative staff, NGOs, and Government agents should continue mobilizing the young people to join or create the cooperative for better improving the level of well-being and continue influencing the community to invest in livestock farming to improve their well-being.

Keywords: *Poultry Farming Products, Farmer's Socio-Economic Well-Being, Cooperative of Murambi Poultry Farming, COMUPOFA, Rwanda*

1. Introduction

Poverty is the greatest constraint to global harmony and the well- being of the peoples of the world. Governments have decided to halve the number of poor and hungry people in the world as expressed in the Sustainable Development Goals. Therefore, studies in all economic sectors are now on for ideas and experiences that can be translated into pro-poor strategies and policies. Keeping poultry can makes a substantial contribution to household food security throughout the developing world. Poultry helps diversify incomes and provides quality food, energy, fertilizer, and a renewable asset in rural households. However, small-scale rural producers are constrained by poor access to markets, goods and services; they have weak institutions and lack skills, knowledge and appropriate technologies. The growth of poultry sector can contribute to enhance nutrition and reduce poverty in rural Rwanda, because a non-negligible number of rural poor are dependent on poultry for food and income, because of widespread protein-energy and micronutrient malnutrition, and because the demand for animal source food-including manure, meat and eggs, is massively increasing.

Moreover, considering different advantages that poultry presents, it is a good way to improve the level of living of people in the rural and hence allow the development of the rural areas in Rwanda. It is worthy to note that processes that may lead to escape from the rural poverty require an entry point. This is where poultry development may prove to be a useful tool, as keeping poultry is an activity in which many poor in rural are involved. However, there are very few studies conducted in Rwanda to assess the contribution of poultry farming on the well-being of the farmers because even those who attempted to do related studies like the study of Eugene et al., (2020) concentrated on poultry production systems, where their study showed that predation (42%), diseases (23%) and lack of credit (20%) were the main challenges but never thought of the wellbeing of farmers.

Another study conducted in Rwanda by Henry (2019) concentrated on poultry farmer needs who showed that biosecurity measures were not commonly used at 96.0% among these participants. Hence, these studies have given less attention to the well-being of farmers. It is in this regard that the research conducted this research to analyze the contribution of poultry farming products on socio-economic well-being of cooperative farmers in Murambi Poultry, Karongi District.

1.1 Objectives of the study

1.1.1 General objective

The main objective of this research study was to evaluate the contribution of poultry farming products on farmers' socio-economic wellbeing in Rwanda.

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1.1.2 Specific Objectives

(i) To determine the contributions of poultry farming products on members of COMUPOFA.
(ii) To examine the level of social wellbeing on members of COMUPOFA.
(iii) To assess the correlation between contribution of poultry farming products and level of social wellbeing improvement of poultry farmers.

1.1.3 Research Hypotheses

(i) What are the contributions of poultry farming products on members of Murambi poultry COMUPOFA?

(ii) What is the change of the level of social wellbeing on members of COMUPOFA?

(iii) What is the correlation between poultry farming products and level of social wellbeing improvement of poultry farmers?

2. Literature review

2.1 Empirical Literature Review

According to Assefa and Halima (2007), smallholder village chicken owners sell chicken and eggs to purchase food items, to cover school fees, to get cash for grain milling services, to purchase improved seeds and to adjust flock size. Tadelle (2001) reported that few farmers exchanged their free-range chicken for food and household items. The impact of village poultry in the national economy of developing countries and its role in improving the nutritional status, income, food security and livelihood of many smallholders is significantly important (Gondwe 2004; Abdelqader 2007; Abubakar et al. 2007).

Family poultry are rarely the sole means of livelihood for the family but is one of several integrated farming activities contributing to the overall well-being of the households. It provides employment and income generating opportunity and is a priority animal for holy day and religious sacrifices (Gueye 2013). Village chicken also plays a role of converting household leftovers, wastes, and insects into valuable and high-quality protein (Doviet 2015).

Odunsi (2003) says that there are only few alternative animal protein sources available in the tropics including chicken and eggs, Odunsi (2003) adds that family chicken meat and eggs contribute 20–30% to the total animal protein supply in low-income and food-deficit countries. Muchenje et al., (2000), reported that village chicken production is part of a balanced farming system, plays an important role in the supply of high-quality protein to the family food balance, and provides small disposable cash income in addition to the socio-religious functions important in the rural people's lives.

Poultry provide major opportunities for increased protein production and incomes for smallholder farmers because of short generation interval, high rate of productivity, the ease with which its products can be supplied to different areas, the ease with which its products can be sold due to their relatively low economic values, its minimal association with religious taboos and its complementary role played in relation to other crop–livestock activities.

A study conducted by Samson and Endalew (2010) indicated that village poultry production is used as a source of income for immediate household expenses. Majority of village chicken production were owned by female and children. This indicated that most of the time women and children are responsible for chicken rearing, while the men are responsible for other farm activities. Chicken and eggs are usually taken to the local market by women and children and

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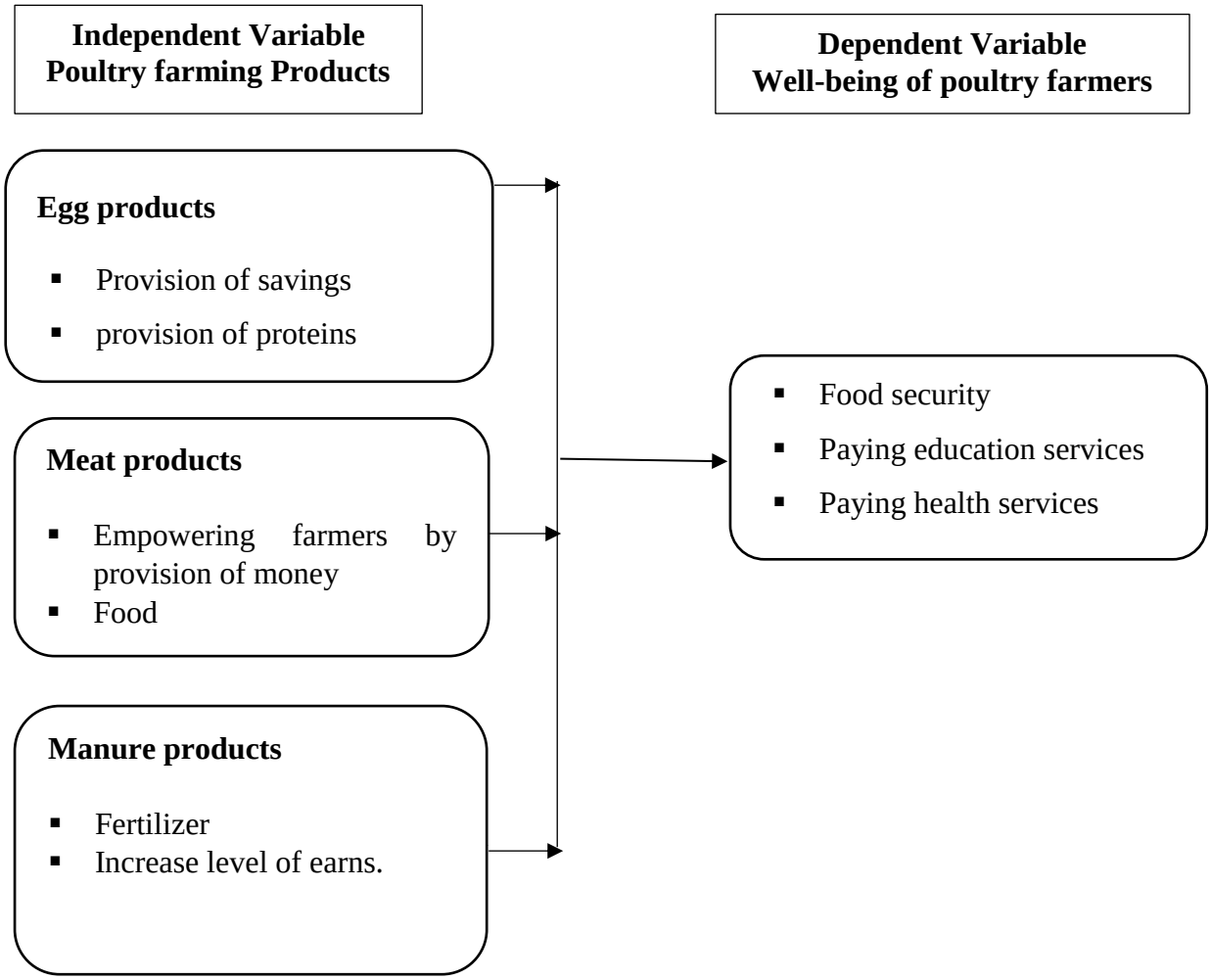
sold to traders or directly to consumers. The decision maker for egg and chicken sell and home consumption are husband and wife.

The increasing price of animal products within and abroad also provides real and sustainable business opportunity for the rural poor (Awol, 2010). Poultry production is a source of employment for underprivileged groups in many local communities (Mengesha et al., 2008). It contributes significant role to food security, poverty alleviation especially for the poorer members of the community by diversifying agricultural production including increased distribution of resources through involvement of women and ecologically sound management of natural resources. It is also a source of employment for underprivileged groups in many local communities (Mengesha et al., 2018). Dessie and Ogle (2021) revealed that poultry, especially in the small- scale scavenging village context, can make considerable contributions to poverty alleviation and in the supply of high- quality protein.

2.2 Conceptual Framework

A conceptual framework is defined as a diagrammatic research tool designed to help the researcher build and convey knowledge and understanding of the situation under study. For analysis a conceptual structure is used to describe potential action scenarios (Adepoju, 2018). The demonstration of various variables is summarized in Figure 2.1.



Source: Researcher, 2023

Figure 1: Conceptual Framework

https://doi.org/10.53819/81018102t2143

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The relationship between variables is shown in the image to explain how project appraisal affected the success of road construction projects. The figure illustrates that the project evaluation, which is conceptualized as process evaluation, formative evaluation, and summative evaluation as indicators to which contribute on performance of the road construction projects built by NPD - COTRACO Ltd as a case of this study, is the independent variable in this study. One independent variable influences or controls another (Omachonuet al., 2008). It is flexible and its values are simply assumed; they do not constitute a problem that needs to be clarified through investigation. The performance of the road construction projects built by NPD - COTRACO Ltd is the dependent variable in this example, and it is analyzed in terms of client and contractor satisfaction, project completion time, and budget/cost effectiveness. The figure also noted a few influencing factors, such as the district strategic plan, the accessibility of construction materials, and the financial situation, which could have an impact on how well NPD - COTRACO Ltd.'s road construction projects perform. These factors could affect the study's findings if they are not controlled.

3. Materials and Methods

In the context of the current study, the research design adopted for the study is a descriptive survey design, which involves collecting and observing existing numerical data about the evaluation of the contribution of poultry farming products on farmers' social well-being in Rwanda. Descriptive analysis is used to define the characteristics of the studied population or phenomenon.

The target population for the study is the poultry farmers belonging to the Murambi Poultry Farming Cooperative (COMUPOFA) in the Murambi sector. The sample size is determined to be 103 farmers, which is the same as the total population size.

Census sampling technique is employed, where all respondents in the target population have an equal chance of being selected. Simple random sampling is also used to ensure that the selected sample is representative of the population.

Data collection methods include the use of questionnaires and interview guides. Questionnaires are used to gather data on the current mode of poultry farming and constraints faced by poultry farmers in Karongi District. Interviews are conducted face-to-face with members of the Murambi Poultry Farming Cooperative.

Data collection instruments are validated and reliable through a pilot study, ensuring that they measure what they are intended to measure. The data analysis procedures involve using the Statistical Package for the Social Sciences (SPSS) to analyze the collected data, generating descriptive statistics, frequencies, graphs, weighted mean, standard deviation, percentages, and conducting bivariate analysis to examine correlations between variables. This helped the researcher to ensure that the research method is reliable, consistent, and standard (Dye and Williams, 2010).

Ethical considerations are considered, including obtaining permission from the cooperative authorities, ensuring participant confidentiality, voluntary participation, and proper referencing of sources.

4. Research Findings

4.1 Contributions of poultry farming products on members of COMUPOFA.

The findings presented in table 4.6 indicated different contribution of poultry farming products highlighted by the farmers of poultry of COMUPOFA cooperative, Murambi Sector.

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Table 1: Presentation of Poultry farming products in COMUPOFA).

Statement	Strongly Agree N(%)	Agree N(%)	Not sure N(%)	Disagree N(%)	Mean	Std
Production of Eggs, and Meat contribute to farmers food and nutrition security	40(38.8)	31(30.1)	17(16.5)	15(14.6)	3.93	0.105
Production and selling of Eggs, Meat, and manure contribute to income generation (earnings and savings)	32(31.1)	27(26.2)	17(16.5)	27(26.2)	3.62	0.116
Production of Eggs, Meat and manure contribute to job creation for farmers' families	37(35.9)	19(18.4)	30(29.1)	17(16.5)	3.74	0.110
Production of manure Contribute to organic fertilizer in agriculture of crops	35(34)	43(41.7)	18(17.5)	7(6.8)	4.03	0.088
Income from the poultry products made farmers afford payment of health services	43(41.7)	28(27.1)	27(26.2)	5(4.9)	4.06	0.092
Income from the poultry products made farmers afford payment of education services	42(40.8)	27(26.2)	34(33)		4.08	0.85
Income from the poultry products made farmers contribute on tax base	43(41.7)	45(43.7)	8(7.8)	7(6.8)	4.20	0.084
Revenue from poultry products contribute to increased Resilience	38(36.9)	39(37.9)	15(14.6)	11(10.7)	4.01	0.96
Revenue from poultry products contribute to gain of land, buildings, and equipment	42(40.8)	31(30.1)	23(22.3)	7(6.8)	4.05	0.094

Source: Primary Data, 2023

Table 1 shown that the respondents strongly agreed that production of eggs, and meat contribute to farmer's food and nutrition security (38.8%), Production and selling of eggs, meat, and manure contribute to income generation (earnings and savings) have strongly agreed by 31.1% of respondents. The production of eggs, Meat and manure contribute to job creation for farmers' families strongly agreed (35.9%) of respondents, the respondents were agreed that production of manure Contribute to organic fertilizer in agriculture of crops (41.7%), 41.7% of respondents strongly agreed that Income from the poultry products made farmers afford payment of health services.

The respondents strongly agreed that income from the poultry products made farmers afford payment of education services (40.8%). Income from the poultry products made farmers contribute on tax base, this were agreed at the rate of (43.7) % of respondents, 37.9% of respondents agreed that revenue from poultry products contribute to increased Resilience and 40.8% of respondents strongly agreed that revenue from poultry products contribute to gain of land, buildings, and equipment.

4.2 Level of social wellbeing on members of COMUPOFA

The findings presented in table 2 indicated different levels of social welfare improvement of poultry farmers in Murambi as highlighted by the farmers of poultry of COMUPOFA.

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Table 2: Level of wellbeing improved due joining COMUPOFA.

Statement	Low N (%)	Average N (%)	High N (%)	Very high N (%)	Mean	Std
Increased production of eggs, and meat improved on farmers food and nutrition security	8(7.8)	9(8.7)	22(21.4)	64(62.1)	4.38	0.941
Increased selling of Eggs, Meat, and manure increased income level (earnings and savings)		17(16.5)	38(36.8)	48(46.6)	4.25	0.724
Production of Eggs, Meat and manure increased job opportunities for farmers' families		16(15.5)	34(33)	53(51.5)	4.36	0.739
Production of manure increased organic fertilizer leading to high harvest of crops		31(30.1)	20(19.4)	52(50.5)	4.20	0.878
Increased income from poultry products ensures health services are accessible	5(4.9)	18(17.5)	37(35.9)	43(41.7)	4.15	0.879
Improved revenue from the poultry goods leads to education facilities being accessible	8(7.8)	17(16.5)	46(44.7)	32(31.1)	3.99	0.891
Income from the poultry products made farmers improved tax base		40(38.8)	34(33)	29(28.2)	3.89	0.815
Revenue from poultry products improved Resilience		46(44.7)	21(20.4)	36(35)	3.90	0.891
Revenue from poultry products increased gain of fixed assets		26(25.2)	25(24.3)	52(50.5)	4.25	0.837

Source: Primary Data, 2023

Table 2 presented the improvement level of wellbeing after joining COMUPOFA. Increased production of eggs, and meat improved on farmers food and nutrition security were very highly agreed (62.1%), 46.6% of respondents were very high appreciated that increased selling of Eggs, Meat, and manure increased income level (earnings and savings). Production of Eggs, Meat and manure increased job opportunities for farmers' families were very high appreciated at the rate of 51.5% of respondents. 50.5% of respondents were very high agreed that Production of manure increased organic fertilizer leading to high harvest of crops. 41.7% of respondents were very high agreed that increased income from poultry products ensures health services that are accessible. 44.7% of respondents were highly agreed that improved revenue from the poultry goods leads to education facilities being accessible. Only 38.8% and 44.7% of respondents were averaged that income from the poultry products made farmers improved tax base and revenue from poultry products improved Resilience respectively. The half of participant (50.5%) was very high agreed that revenue from poultry products increased gain of fixed assets.

4.3 Challenges facing Murambi poultry farmers' cooperative (COMUPOFA).

The findings presented in table 4.8 indicated different challenges facing poultry farmers as highlighted by the farmers of poultry of COMUPOFA cooperative, Murambi Sector.

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Table 3: Presentation of challenge facing farmers of COMUPOFA.

Statement	Strongly Agree N (%)	Agree N (%)	Not sure N (%)	Disagree N (%)	Strongly disagree N (%)	Mean	Std
Illness epidemic	18(17.5)	14(13.6)	9(8.7)	17(16.5)	45(43.7)	2.45	1.570
Vaccine Non-Quality and Accessibility	50(48.5)	37(35.9)	16(15.5)			4.33	0.733
Large Poultry Feed prices	59 (57.3)	25(24.3)	19(18.4)			4.39	0.783
Adulterated poultry food flooding the market	42(40.8)	39(37.9)	22(21.4)			4.19	0.768
High start-up capital	47(45.6)	39(37.9)	12(11.7)	5(4.9)		4.24	0.846
Issues of inclusion of antibiotics	52(50.5)	32(31.1)	19(18.4)			4.32	0.770
Inadequate water supply	45(43.7)	39(37.9)	19(18.4)			4.25	0.750

Source: Primary Data, 2023

Table 3 highlighted the challenges faced by Murambi poultry farmer's cooperative (COMUPOFA). Only 43.7% strongly disagreed that illness epidemic was presented in their poultry farming. Vaccine Non-Quality and Accessibility were strongly agreed as a challenge (48.5%) of respondents. Over a half of respondents (57.3%) were strongly agreed that there were large poultry feed prices. Other challenge strongly agreed identified were adulterated poultry food flooding at the market (40.8%) of respondents.

The challenge of high start-up capital was strongly agreed (45.6%) of respondents. The issues of inclusion of antibiotics were identified as a challenge of poultry farmers' cooperative and were strongly agreed (50.5%) of respondents and the problem of inadequate water supply was strongly agreed by 43.7% of respondents.

Table 4: Assessment of well-being of farmers as dependent variable of the study

Statement	Strongly Agree N (%)	Agree N (%)	Not sure N (%)	Disagree N (%)	Strongly disagree. N (%)	Mean	Std
Food security	47(45.6)	39(37.9)	12(11.7)	5(4.9)	0	4.24	0.846
Paying education services	52(50.5)	32(31.1)	19(18.4)	0	0	4.32	0.770
Paying health services	45(43.7)	39(37.9)	19(18.4)	0	0	4.25	0.750

Source: Primary Data, 2023

The results in Table 4 show that 47(45.6%) and 39(37.9%) of respondents strongly agreed and agreed that there is food security. The 52(50.5%) and 32(31.1%) of respondents strongly agreed and agreed that they were able to pay education services due to poultry farming and 45(43.7%) and 39(37.9%) have strongly agreed and agreed that they were able to pay health services due to poultry farming. Hence, this implies that poultry farmers have well-being due to this type of farming in Murambi Sector, Rwanda.

4.4 Bivariate Analysis of Variables

Table 5 highlighted the correlation between variables indicating the contribution of poultry farming products on farmers' economic wellbeing in COMUPOFA cooperative.

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Table 5: Correlation between poultry farming and wellbeing of farmers

		Paying health services	Paying education services	Food security
Earnings and savings (increased income)	Pearson Correlation	.621**	.273**	.785**
	Sig. (2-tailed)	.000	.005	.000
	N	103	103	103
Production of Eggs, Meat, and manure	Pearson Correlation	.544**	.109	.742**
	Sig. (2-tailed)	.000	.002	.000
	N	103	103	103

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Source: Primary Data, 2023

Table 5 shows that there was correlation with the production of eggs, meat and manure and payment of health services and education services (r= 0.544, P value < 0.01) and (r=0.216, P value<0.05) respectively. There was also negative correlation between production of eggs, meats and manure and food/nutrition security (r=0.844, p value<0.01 and increased income (r=0.621, P value<0.01. This suggests that the poultry farming has a great contribution on the well-being of farmers through production of eggs that generates revenues that are used in health and education services among the families of Murambi poultry cooperative in Rwanda.

4.5 Discussion

The findings shown that the respondents strongly agreed that production of eggs, and meats contribute to farmer's food and nutrition security and income generation. Tadelle et al. (2003) confirmed the same results from studies conducted in Ethiopia, based on a survey of 250 households in various agro-ecological zones, that poultry income was primarily essential to the poorest of families, who devote more time and effort to their poultry than the better-off families due to their savings. EL-SAYED (2018) found that the average annual selling per household was 5.5 birds, while the average annual consumption was 3.1 birds. 23.3 % of all eggs raised were consumed by households, while 27 % were sold and the remainder were used for flock reproduction.

Therefore, the intake of eggs can be estimated at 56 eggs per household, resulting in food protection. According to Tadelle et al. (2003), cash income from poultry differed by wealth category, with poorer households receiving more cash from poultry than rich families. Hence, the author reported that the time used to occupy the poultry farming and income gotten from this farming is compared to the job created them-selves. This is solely like the findings of this study where the majority said that the production of Eggs, Meat and manure contributes to job creation for farmers' families (35.9%) of respondents.

Previous research has shown that "women use the money earned from selling poultry products for a variety of purposes." They buy food (e.g., spices or cooking oil), clothing, and medical care (both modern and traditional), as well as school fees and school supplies such as books and pens for their children (Assefa and Tolemariam, 2015). This was in the same line with the findings of the current study where the respondents were strongly agreed (41.7%) that income

from the poultry products made farmers afford payment of health services, afford payment of education services (40.8%), payment of tax base (43.7%), increased Resilience (37.9%) and gaining of land, buildings, and house equipment's (40.8%).

Regarding the improvement level of wellbeing after joining COMUPOFA. Poultry products like eggs, and meat have improved the farmers' food and nutrition security, increased earnings and savings 62.1% and 46.6% respectively. The current findings were the likely the same as the findings of the study conducted by Kabir, Asaduzzaman and Dev (2015) concluded that family poultry farm is highly profitable. The study also identified the effect of the production of family poultry on the subsistence of poultry farmers. The revenue of 60 % of poultry farms has risen and it was 32 % for investment.

The physical assets of poultry farms (agricultural implements and furniture and equipment) have increased by 57 % and 27 %, respectively. Poultry farmers' sanitation, drinking water facilities and medical facilities were improved by 26 %, 18 percent and 37 %, respectively. The study also shows that through family poultry production, the livelihood of 38 % of poultry farmers has been improved.

According to Vernooij, Van and dos Anjos, (2016) in their study about job Creation in the Mozambican Poultry Industry where they concluded that a consequence of the work of TechnoServe, the The poultry industry rose to 165 million dollars. Industry in 2010, from 25 million dollars and attracted $125 million in 2005. Investment. There has been more than a quadrupling of local commercial development. These 3,385 jobs have been generated by growth in the hatcheries, slaughterhouses, and feed mills; 5,333 Smallholder Poultry Jobs Farms; and higher wages for 90,000 farmers from smallholder farms. Therefore, this previous study is like the current study where researcher found that poultry farming created job opportunities for farmers' families (51.5%), income from poultry products ensures health services (medical insurance) and leads to education facilities being accessible appreciated at the rate of 41.7% and 44.7 % respectively.

About different challenges facing poultry farmers as highlighted by the poultry farmers from COMUPOFA cooperative, Murambi Sector. The findings revealed that the challenges faced by Murambi poultry farmer's cooperative (COMUPOFA) were illness epidemic presented in their poultry farming (43.7%) and accessibility of vaccine with non-quality (48.5%) of respondents. This were in the same line as the research carried out in Katulani District on challenge facing poultry farming and found that while the main challenges were diseases, predators, limited poultry production skills and high cost of drugs/vaccines (Mappigau & Lestari, 2020).

The cost of poultry feed was high (57.3%), and there was a high start-up capital requirement (45.6 %). In the Katulani District, chickens are easier and cheaper to start rearing than other livestock, which require a large start-up capital, especially in rural areas where chickens are reared under freehold, where they scavenge for food during the day and are housed at night to avoid predators and harsh weather (Vaarst, Steenfeldt, and Horsted, 2015). The same way a researcher demonstrated that inclusion of antibiotics was identified as a challenge of poultry farmers' cooperative and (50.5%) of respondents and the problem of inadequate water supply was strongly agreed by 43.7% of respondents. The same scenario antibiotics are not effective against viral infections (Madsen et al., 2013).

Regarding the effect of poultry products (eggs, meats and manure) to the socio-economic wellbeing of farmers, researcher found that there was correlation between production of eggs, meats and manure and socio-economic wellbeing of farmers characterized by payment of health services, payment of education services, contribution to food and nutrition security and increased income demonstrated by increased of earning and savings. This is like Ranjha et al., (2013), who stated that livestock products play critical economic and socio-cultural roles for rural farmers' well-being, including food supply, asset preservation, and source of jobs, soil productivity, livelihoods, transportation, agricultural traction, agricultural diversification, and long-term agricultural development. Yusuf, Tiamiyu and Aliu, (2016), Koppel et al., (2016), Yusuf, Tiamiyu and Aliu, (2016), Yusuf, Tiamiyu and Aliu, (2016), Yusuf, Tiami (2015) demonstrated that livestock has a significant contribution to the food supply of rural and urban areas and contributes to family welfare by providing animal protein.

5.1 Conclusion

In conclusion, the findings of the first objective of the study indicated various contributions of poultry farming products towards farmers' livelihoods. The major contributions include providing food and nutrition security, earning and savings, job creation for farmers' families, and manure as an organic fertilizer for crop production. The study also found that poultry farming products contributed towards paying for health and education services. Additionally, income from poultry products contributed towards tax base and increased resilience.

The second objective of the study emphasized that there is positive impact of joining COMUPOFA on farmers' wellbeing, particularly in terms of increased production and sales of eggs, meat, and manure, and higher earnings and savings levels. However, respondents had mixed opinions on the impact of increased income from poultry products on tax revenue and resilience. Nonetheless, half of the participants agreed that revenue from poultry products led to gains in fixed assets.

Therefore, the results of the third objective concluded that there is a significant and positive correlation between poultry products (eggs, meat, and manure) and socio-economic wellbeing among farmers. The results suggest that the production of poultry products is positively associated with the ability to pay for health and education services, contribute towards food and nutrition security, and increase earnings and savings. Therefore, the study suggests that investing in poultry farming may have positive socio-economic impacts on the livelihoods of farmers.

5.2 Recommendations

The Ministry of agriculture should consider the poultry farming like other farming such as cattle where the vaccines are easily to find. Facilitate the young people especially in associated in cooperatives to have access to the bank for capital to start the business-like poultry farming. Based on the benefits of being in cooperatives, Ministry of agriculture should establish the policy for livestock cooperative for the reason to facilitate the members. Invest and decentralize the animal feeds production. Cooperative staff should continue mobilizing the young people to join or create the cooperative for better improving the level of well-being and have to continue influencing the community in terms of livestock farming.

5.3 Acknowledgement
First and foremost, I want to express my deepest gratitude to Almighty God for providing me with the strength to complete this paper. I would also like also to extend my gratitude to students for their guidance and to all academic and non-academic staff employed in Mount

Kenya University's social sciences departments for their cooperation. Finally, I appreciate the sacrifices of my family and friends who have always been there for my motivation, moral and academic support to give. I will always show my gratitude to God for them. We were a constant source of inspiration. God bless everyone.

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