



Agricultural Cooperatives Pricing Policies Effects on Small Scale Potato Farmers Livelihood Outcome in Selected Counties in Kenya

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ABSTRACT

This study aimed at determining the effect of agricultural cooperatives pricing policies on small scale potato farmers livelihood outcome in selected counties in Kenya. The study was conducted in six selected counties which are: Bungoma, Nyandarua, Uasin Gishu, Elgeyo Markwet and Nandi, that have well established potato cooperatives and serving many small-scale farmers. The research design used by the study was study cross-sectional survey research design. Theories such as Rural livelihood framework and social capital were utilized as key theories in the study. Literature review was also undertaken and a conceptual framework that showed the link of variables was also developed. A conceptual framework Stratified sampling was used to take care of the sample from the different counties. Data was collected using collection questionnaires administered to the farmers. Interviews were also used to help collect qualitative data. The total sample for this study was 353 small scale farmers from the different cooperatives in the stated counties. Data was analyzed inform of descriptive and inferential statistics, summarized and presented using percentages, means, and standard deviations which helped present quantitative research findings. Qualitative research was also conducted and findings presented. Assessment of the relationship between agricultural cooperative policies and livelihood outcome was undertaken using regression. Correlation was also done to further asses the relationship of variables. The findings indicated that pricing policies had positive effect on the livelihood outcome of the small-scale potato farmers in the selected counties. The findings implies that for cooperatives to continually benefit their members, they must ensure that they implement these policies as envisaged in their design.

Keywords: Counties, Policies, Livelihood, Potato, Farmers, Small scale, Pricing

INTRODUCTION

A cooperative is an autonomous association of persons united voluntarily to meet their economic, social and cultural needs through a jointly owned and democratically controlled enterprise (ICA, 2024). Agricultural cooperatives are farmer-owned organizations offer a powerful platform for collective action, enabling farmer who are members together to overcome challenges and seize opportunities in an increasingly complex and competitive landscape (Portnoy, 2024).

Agricultural cooperatives are increasingly championed by all sectors because they help in overcoming the obstacles facing low-income countries (Kindness and Gordon, 2001; Hazell, 2005). There is a positive effect of cooperatives membership on the livelihood of smallholder farmers (Wollni and Zeller, 2021; Spiel man et al., 2022). In light of these, cooperatives therefore require policies to meet the needs of the farmers among them being market networking policies (Centner, 2021; Hansmann, 2020)

Some studies have shown that there is a positive effect of cooperative membership on the livelihood of smallscale farmers (Sustainable Agriculture Ecology, 2024; Magakwe and Olorunfemi, 2024; American Farm Bureau Federation, 2024; Metrobi, 2024; African Development Bank, 2024; Ayoubu et al, 2025; Geffersa, 2024).



Cooperatives play a significant role in global employment as per ICA World Cooperative Minor 2023. Agricultural cooperatives constitute 105 of the world's 300 largest cooperatives, 2024 indicates that 1.3 billion people are employees in agrifood systems globally, majority of whom are cooperatives members. Cooperatives contribute significantly to rural livelihoods and employment generation. Geffersa, 2024 notes that small-scale are a large, persistent, and internally diverse group that defies overly narrow definition and that overlaps but is not equivalent to the category of family farmers

In the European Union (EU) for instance the value of agricultural output at basic prices grew from 1bn-12.5bn Euros in 2024 (Irish Agricultural Output, 2024) with a turnover of approximately 900,000 Euros is accounted by cooperatives. Agricultural co-operatives in the recent past years have been seen as having the ability to foster socio-economic development and alleviation of poverty (Rodríguez and Johnson, 2021; FAO, 2022, 2023). The contributions of cooperatives in various African national economies, particularly in employment generation deserves more praise. For instance, 63% of the Kenyan population earns their livelihoods from co-operatives (ICA, 2012) Another example of the job creation ability of cooperatives can be found in Ethiopia where the cooperative sector creates huge employment for Ethiopians (Adane et al, 2020; Essa and Surur, 2021))

Cooperative development in Kenya has had a long history and has been marked by strong growth, making a significant contribution to the overall economy (Ministry of cooperative development & marketing, 2023). Cooperatives are recognized by the government to be a major contributor to national development, as cooperatives are found in almost all sectors of the economy. It is estimated that 63 per cent of Kenya's population participate directly or indirectly in cooperative-based enterprises (GoK, 2023). The Cooperative Movement in Kenya is supposed to play an important role in employment generation, food security, and wealth creation and hence participate in poverty alleviation. The Kenyan cooperative movement policy objective is to spur sustainable economic growth by focusing on achievement of desired outcomes through strengthening of the movement, improving cooperative extension service delivery, access to markets, corporate governance and marketing efficiency (Republic of Kenya, 2022)

The Kenyan government through the ministry of cooperatives has created a conducive policy framework for the growth of cooperatives in Kenya in a policy document 'cooperative policy, 2019). Due to the realization of enormous contributions of cooperatives to employment creation and poverty reduction, cooperatives require effective policies as these cut across the domain of operations of agricultural policies (Onyango et al, 2023; FAO, 2022; ILO, 2023). Many farmers are looking to their cooperatives for more complete purchasing and marketing services (Onyango et al, 2023; Magakwe and Olorunfemi, 2024; Sithole, 2025). In light of these, cooperatives therefore require policies to meet the needs of the farmers. Among these policies is pricing policies. The pricing policies in which a cooperative operates will have a greater impact on the volume of produce and also sales in the competitive environments (Li, Y., Liu, X., & Chen, Z, 2023).

Cooperatives Pricing policies are essential for stabilization of farmer incomes and not fixing prices by removing exploitation volatility (middle man), smooth input prices and counter-cyclical income (Patronage refunds). Pricing policies cover cost, inputs as well as transactions (Dughana, 2022; Kumse et al, 2021). Input pricing policies ensure that farm inputs are affordable for farmers (ICA, 2023; ILO, 2023). Input pricing policies ensure that farm produce for farmers are able to bring profits to farmers (Dughana, 2022). Transaction pricing policies are about costs related to various transactions that are facilitated by the cooperatives to the farmers regarding their produce (Kumse et al, 2021)

Problem statement

Farmers require to be competitive in order to gain access to markets. This cannot be achieved individually but through cooperatives. Cooperatives introduce desirable competition to the external environment that raises the going market prices for farm products, the type of services provided, and the quality of supplies for farmers' purchase. Individual farmers have little bargaining or purchasing power, but by joining in cooperatives they can acquire higher bargaining power. Farmers in many areas are forced to deal with fewer product buyers or supply sellers. Local prices for farm products often advance when cooperatives enter the market (Magakwe and Olorunfemi 2025; Onyango et al 2023; Shillong Times, 2025).



Livelihood outcome for farmers as argued in literature, is based on policies designed and implemented by a cooperative (Dughana, 2022; Onyango et al, 2023; Magakwe et al, 2025). Potato is an emerging crop that has been widely embraced by many small-scale farmers due to its dependability, stable markets and better income (FAO, 2022; FAO, 2023; Kankwamba et al, 2023)). This has resulted to establishment of potato cooperatives. Pricing policies are essential as in any cooperative as it contributes to the livelihood of small-scale farmers or in other words is the cooperative advantage in that it stabilizes farmers' incomes and reduces poverty (Birchal, 2003; Dughana, 2022). Studies around cooperative pricing policies in Kenya is not adequate and therefore since potato cooperatives are new establishments and have entrenched these policies, what remains unclear is whether these pricing policies as documented in dairy cooperative have effects on the livelihood outcome of small-scale farmers.

Objective

To assess the effect of Agricultural Cooperative pricing policies on small scale potato farmers' livelihood outcome in selected counties in Kenya.

LITERATURE REVIEW

Theoretical review

Institutional Theory

This is a theory that is associated with a scholar by the name Douglass North in 1990. Institutions as according to him, are humanly created constraints that structure political, economic and social interaction. They consist both informal constraints (sanctions, taboos, customs, traditions and code of conduct) and formal rules (constitution, laws and property rights) which perpetuate order and safety within the market and society. Institutions have been designed by humans to create order and reduce uncertainty in exchange. Together with the standard constraints on economics, they define the choice of set and therefore determine transaction and production cost hence profitability and feasibility of engaging in economic activity. In context of rural livelihood framework all livelihood strategies depend upon access to assets of some kind or other, whether such access involves private ownership or other forms of access.

Institutions provides incentive structure of an economy: as that structure evolves, it shapes the direction of the economic change towards growth, stagnation or decline (North, 1990). Formal institutions which are those that have legal recognition, they provide the legal framework within which farmers and agribusiness operate, the policies of agricultural such as its industrial policy or of infrastructure will impact on agricultural. Secondly; Informal institutions are often based on local culture and customs, they tend to be more easily accessible to poorer small holder farmers and more responsive to their need, informal institutions are dynamic in nature and are part of process. Sustainability of agricultural cooperatives in many cases been clearly attributed to local institution building and participation.

This theory is crucial in the context of cooperatives and farmers. Cooperatives serve as institutions that exists to serve the interest of the farmers in achieving the desired quality of lives needed. To achieve this, cooperatives must have rules that will govern operations in order to achieve their desired goals. The rules therefore consist of the policies that the board of directors elected by members of a cooperative to mane affairs of their behalf. The extent to which they design these policies and implement them will influence how they are going to serve the needs of members in meeting their wellbeing.

Rural livelihood Framework

A livelihood is about the ways and means of making a living. Robert chambers define livelihood as "The capabilities, assets and activities required for a means of living". Ellis (2000) understands it as "activities, the assets and the access that jointly determine the living gained by an in-dividual or household". Livelihoods consist of both generation of income as well as the owner-ship of assets that reduces vulnerability of marginalized communities. A livelihood is sustainable when: it can cope and recover from shocks and stress, does not undermine the natural resource base, can maintain or build on available capabilities and assets.



All livelihood strategies depend upon access to assets of some kind or other, whether such access involves private ownership or other forms of access. Better access to assets is a desired strategy for livelihood outcome. Livelihood strategies may focus on increasing range of assets to which a person or household has access to or increasing to particular types of capital. The ultimate objective of these income strategies is to improve long term livelihood security and quality of life more generally. The more assets someone has the less vulnerable they are to various shocks and trends. How effective an individual asset is in providing security. However, access to these assets will depend upon various factors, such as the functioning institutions (cooperatives), organizations and social relations. These factors influence not only what can be achieved with assets, but the access people have to them in the first place.

In the Rural livelihood's framework, assets include; natural capital, physical capital, human capital, financial capital and social capital. In conventional economics, such assets are usually known as factors of production and are typically subdivided into land. Livelihood assets are something from which people derive a flow of income or consumption. Better access to assets is a desirable outcome of any livelihood strategy. Livelihood strategies may focus on increasing to particular types of capital. The ultimate objective of these investment strategies is to improve long term livelihood security and quality of life more generally. Cooperatives create conducive environment for farmers in terms of provision of assets which are not limited to credit, inputs, knowledge on production that will enable them achieve the livelihoods outcome (Ellis, 2000; FAO, 2024; Geffersa, 2024). The provision of assets is largely dependent on policy framework the cooperatives design and implements.

Empirical review on pricing policies

Price change also affects incentives and incorporates information for market participants. For instance, increase in price of a good in the market offers producers an incentive to produce more. Since increase in price, given other prices constant, increases profits of producers. Thus, producers try to take advantage of higher prices by producing more. Higher prices raise farm income which enables farmers to buy other items and farm inputs. This means that prices play an important role in efficiently distributing resources and signaling shortages and surpluses which help farmers to respond to changing market conditions (FAO, 2023; Magakwe and Olorunfemi, 2025).

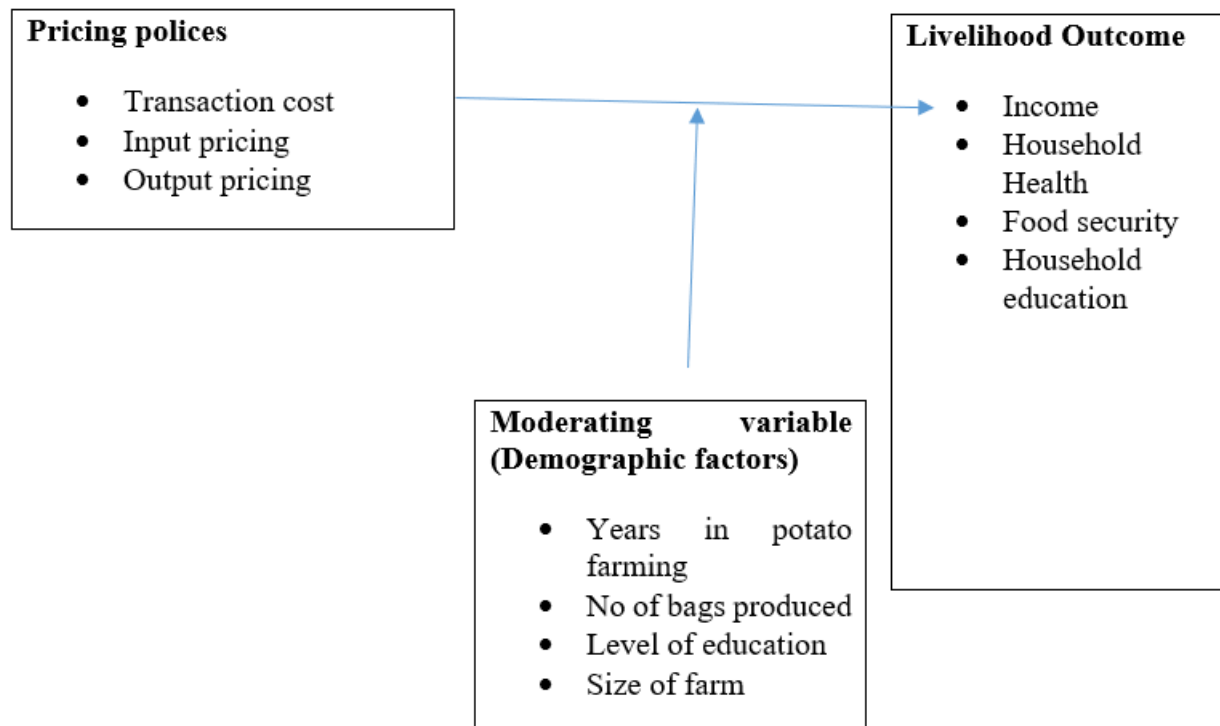
To safeguard the interest of both producers, a cooperative pricing policy is crucial in many ways in relation to what they are and what they cover. Out-put pricing policy is one area of pricing policy. it enhances that there is stability of prices of potatoes in the market which arises as a result of undue fluctuation of prices of potatoes in the market. This results into favorable effect on both the consumers and producers of the country (Kamau, 2024). Secondly, the out-put pricing policy ensures that there is increase in the level of income of farmers since cooperative will market the farmers produce and negotiates for better markets for the produce of the farmers and in so doing they bypass middle men who would exploit the farmers (Kumsel et al, 2021), the agricultural price policy has provides necessary benefit to the farmers by providing necessary encouragement and incentives to raise their output and also by supporting its prices. All these have results in an increase in the level of income of farmers as well as their living standard.

The other area of pricing policy is the input/cost pricing. This policy deals with various inputs that cooperatives provide to farmers for production. They include fertilizers, pesticides, potato seeds among others. They keep inputs low (Summons and Birchall, 2022) and affordable for farmers in order to avoid exploitation, (ICA, 2023; ILO, 2023). This makes it possible for farmers to continue engaging in production and this has an effect on their livelihood outcome

Transaction costs are another area of cooperative pricing policy. Cooperatives provides certain services to their members and in return they charge them some small fees. Such transaction services include search of information relating to market information, buyers contacts. It also includes transport or coordination cost which relates to collection of farmers produce from the farm to the warehouse/store house when prices or buy from farmers at better prices and charge something small. Storage costs are charged by the cooperative for storing the potatoes on behalf of the farmers. Cooperatives also negotiate for higher prices in the market on behalf of the farmers and charge the negotiation/bargaining costs (Kumse, 2021; Dughana 2022)

From the cooperatives' perspective stable prices are important for several reasons. First, it promotes investment planning which entails enabling buying of farm inputs and paying school fees (fairtrade, 2024). Secondly, promotes food security in the sense of stable and accessible food ((FAO, IFAD, WFP, 2024). Thirdly, it builds resilience through building and diversifying savings (Onyango et al, 2024)

CONCEPTUAL FRAMEWORK



METHODOLOGY

Research Design

The design used was cross-sectional survey research design since the research collected data and made inferences about these population under study at one point in time. (Taherdoost, 2024) points out that cross-sectional design is applicable where the aim is establishing or assessing relations between study variables at some point in time. It was more appropriate for this study because it sought to find out the effects of cooperatives policies on livelihood outcomes of small-scale farmers in Kenya. In addition, the use of this design provided in-depth quantifiable information about the phenomena being studied.

Sample size and sampling techniques

A sample size is a significant feature of any empirical study in which the aim is to make generalizations about the population from a sample (Taherdoost, 2024). Sampling is the process of selecting small numbers, object or event in order to find something about the entire population from which it was selected. Stratified sampling was used to take into account representation of all the samples from the population in the cooperatives in all the counties. The strata consisted of the following population; Bungoma County (200), Nyandarua County (132), Nandi Conty (700), Uasingishu County (500), Meru County (421) and Elgeyo Marakwet County (1100). This was used to calculate the sample size. Random sampling was done after stratification. Slovin's formula was utilized to get the sample size from the population from of the different cooperatives from different counties

It is computed as $n = \frac{N}{1 + (N \cdot e^2)}$ Where: n =number of sample N =total populations e =margin of error With a total population of 3053 and a margin of error of 0.05, the final sample was 353. For every population in the



selected counties, this formula was applied and each sample from each county were added to give an overall sample of 353

Data collection instrument

Questionnaire was utilized as well as interviews. It is a formal data collection instrument which enables the researcher to measure the variables of interest. It consists of series of question items and answers prompts for the aim of gathering data from the respondents (Hefferman, 2025; McLeod, 2024). Questionnaire is preferred because it allowed collection of huge data and the respondents are free of influence in providing information. It is also preferred because it allows collection of data from a large number of respondents (McLeod, 2024). The questionnaire consisted of closed-ended questions as well as few open-ended questions. Prior to data collection, a pilot study was conducted to determine the reliability and validity of the instrument. Cronbach alpha values of 0.7 were obtained

Data analysis

Descriptive and inferential statistics was used in analyzing data. Descriptive statistics such as mean scores, standard deviations to describe the implications of the results will be used and will be presented in form of tables.

Pearson's Correlation and Multiple Regression will be used to assess or establish the relationship. Multiple Regression is used when the researcher has one dependent variable which is presumed to be a function of two or more variables (Kothari, 2004). It was used to assess the relationship between agricultural cooperative policies (Independent variable) and livelihood outcome (Dependent variable). Livelihood outcomes will be regressed against pricing policies

RESULTS AND DISCUSSIONS

The response rate was 350 out of 353 respondents representing 99.2%. Mugenda and Mugenda (2021) recommend for a response rate of about or more than 50.0 %. The Response rate therefore explains the number of tools that were viable for use in the study.

Quantitative Data

Table 1: Demographics characteristics of the respondents

	N	Status	Status
Gender	350	Male 170 (48.6%)	Female 180 (51.4%)
Level of education	350	No School 25 (7.1%) primary education 121 (34.6%)	Secondary and above 204 (58.3%)
Duration in cooperative	350	Less than one year 48 (13.7%) 2 to 5 years 111 (31.7%)	6 years to 10 years 129 (36.9%) Above 10 years 62 (17.7%)
Quantities of potatoes produced per acre	350	Below 50 bags 122 (34.9%) 50 to 70 bags 133 (38%)	70 to 80 bags 13 (3.7%) 80 to 100 bags 46 (13.1%) More than 100 bags 36 (10.3%)
Size of land	350	0 to 2 acres 178 (50.9%) 3 to 5 acres 152 (43.4%)	6 to 8 acres 6 (1.7%) 9 to 12 acres 14 (4%)

(Source: Author 2026)

Table 2: Descriptive Statistics on cooperative pricing policies

Pricing	N	Mean	Std. Deviation
Transportation fees charged are reasonable	350	3.6629	.92128
Harvesting fees charged are reasonable	350	3.2657	.89936
Fee charged on storage is reasonable	350	3.6571	.91604
The prices through cooperatives allow for profits	350	3.2857	.90117
The prices are stable enough	350	3.5571	.95809
The prices allow to cover all production cost	350	3.4200	1.01741
The fertilizers sold by cooperatives are affordable	350	3.3600	.80229
The cost of pesticides is affordable	350	3.5257	.97132
Potato seeds from the cooperatives are affordable	350	3.4400	.97863
Valid N (listwise)	350		

(Source: Author, 2026)

Key: 1.00-1.79= Strongly Disagree 1.80-2.59= Disagree 2.60-3.39=Neither Agree nor Disagree 3.40-4.19= Agree 4.20-5.00 = Strongly Agree

In Table 2 above, the respondents were ambivalent on the role of cooperatives in providing reasonable prices for their outputs, inputs and services. For instance, the respondents indicate agreement with regard to “fee charged on storage is reasonable (mean 3.6571) and “transportation fees charged are reasonable (mean 3.6629)” while they neither agreed nor disagreed with regard to “harvesting fees charged are reasonable (mean 3.2657) and “the prices through cooperatives’ allow for profits”. This aligns with findings by Mburu et al. (2022), who noted that Kenyan cooperatives often provide better logistical support than independent market channels, reducing post-harvest losses by up to 20%. The findings also echo concerns raised by the Alliance for a Green Revolution in Africa (AGRA, 2023) about persistent price volatility in Kenya's potato sector due to middlemen exploitation.

Factor Analysis

Principal component factor analysis (PCFA) was used as a variable management tool. The aim of factor analysis is to reduce a set of variables down to a manageable number of variables to management subsequent analyses.

Table 3: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.551	69.383	69.383	5.551	69.383	69.383	3.884	48.554	48.554
2	1.026	12.824	82.207	1.026	12.824	82.207	2.692	33.653	33.653
3	.639	7.990	90.197						
4	.253	3.160	93.357						
5	.195	2.441	95.798						
6	.159	1.992	97.790						
7	.106	1.321	99.111						
8	.071	.889	100.000						

Extraction Method: Principal Component Analysis.

The factor analysis as per table 3 above resulted in two components that had eigen values of 1 and above as summarized. This therefore implied output prices and input prices were found to be significant to the livelihood outcome and they were regressed and co-related. Transaction cost was dropped at this level

Table 4: Descriptive statistics on output and input pricing



	N	Cronbach's Alpha	Maximum	Mean	Std. Deviation
Output pricing	350	.945	5.00	3.4383	.85097
Input pricing	350	.889	5.00	3.4419	.83326
Valid N (listwise)	350				

Key: 1.00-1.79= Strongly Disagree 1.80-2.59= Disagree 2.60-3.39=Neither Agree nor Disagree 3.40-4.19= Agree 4.20-5.00 = Strongly Agree

Results in table 4 above shows that components fair output sale prices and affordable input prices both had mean scores of slightly above 3.40 implying the cooperative fair and affordable pricing practices. This suggests that cooperatives are moderately successful in stabilizing prices and reducing exploitative intermediary margins. This is in line with findings of Muthoni et al. (2020), who found that cooperatives in Kenya's potato sector increase farmers' incomes by 15–25% through collective bargaining. The strong internal consistency which is shown by $\alpha = 0.945$ implies that the measured variables of transportation fees, price stability, and profit margins are seen to be closely interrelated. This aligns with the World Bank's (2023) assertion that cooperatives thrive when they integrate logistics, pricing transparency, and market linkages.

Table 5: Correlations

	N	Livelihood outcomes	output prices	input prices
Livelihood outcomes	Pearson Correlation	1	.600**	.469**
	Sig. (2-tailed)		.000	.000
	N	350	350	350
Output prices	Pearson Correlation	.600**	1	.662**
	Sig. (2-tailed)	.000		.000
	N	350	350	350
Input prices	Pearson Correlation	.469**	.662**	1
	Sig. (2-tailed)	.000	.000	
	N	350	350	350

The correlation coefficient between the dependent variable livelihood outcomes support and the independent variable output prices and input prices was significant as indicated in table 5. The positive correlation implies that assured access to farm inputs equally improves support for the livelihood outcomes and vice versa. This strong relationship shows how cooperative-mediated prices' stabilization and reduced transaction costs directly enhance food security and household education expenditures which are the components of livelihood improvement (World Bank, 2023). This as evidenced by Muthoni et al.'s (2020) can be explained in that rural households have challenges to accessing farm inputs when needed and in the right quantities due to a myriad of reasons thereby affecting their livelihoods (Muthoni et al.'s, 2020). However, with improved farm inputs access facilitation through cooperatives, livelihood outcomes such as access to basics of life is enhanced. This is in line with FAO (2022) findings that Kenyan potato cooperatives implementing collective marketing systems increased member incomes by 18-22% annually.

Table 6: Regression

Independent	Model 1		
	Beta	T	Sig.
(Constant)	1.684	10.992	.000
Output prices	.516	9.074	.000
Input prices	.127	2.232	.026
Dependent	Livelihood Outcomes		
R – squared	.370		
Adj. R squared	.366		



Std. Error	.62303
F – ratio (2, 263)	101.724
Prob. > F	.000 ^a

From the table 6 the regression model demonstrates that both output and input pricing significantly influence livelihood outcomes, though with different effect sizes. Fair output sale prices emerge as the dominant predictor (β 0.516, t 9.074, $p < 0.000$), indicating that an improvement in output price fairness corresponds to over half a standard deviation enhancement in livelihood outcomes. This strong relationship aligns with recent findings by the Tegemeo Institute (2023), which identified output price realization as the primary determinant of smallholder welfare in Kenya's potato sector. At the same time, affordable input prices show a smaller but still statistically significant positive effect (β 0.127, t .232, p 0.026)

Table 7: Descriptive Statistics on dependent variable

	N	Cronbach's Alpha	Maximum	Mean	Std. Deviation
Livelihood outcomes support	350	.955	5.00	3.7263	.78245
Valid N (listwise)	350				

Key: 1.00-1.79= Very Low Extent 1.80-2.59= Low Extent, 2.60-3.39=Moderate Extent ,3.40-4.19= High Extent, 4.20-5.00 = Very High Extent

Results in table 7 shows that component livelihood outcomes support had mean score of 3.7263 and a Cronbach's alpha coefficient of 0.955 implying excellent reliability across the nine livelihood dimensions measured, suggesting these indicators form a highly coherent construct of cooperative-induced wellbeing. Basically, this means that the respondents have ease of access to basics of life such as food, clothing health provision among others as supported by their survival activities through the cooperatives. The role of cooperatives in enhancing livelihoods has been documented by Tegemeo Institute (2023) which found that cooperatives have multidimensional yet integrated improvements to livelihood outcomes. The findings also support IFPRI's (2023) report that concluded that Kenyan agricultural cooperatives have become effective platforms for livelihood improvement

Table 8: Livelihood outcome

	N	Mean	Std. Deviation
I can access three meals a day	350	4.0400	.89160
The food I have is of balanced diet	350	3.6429	.93078
The food's stability is assured	350	3.8571	.94680
I am able to purchase school stationery	350	3.5229	.87845
School fees are paid on time without difficulty	350	3.8314	.88128
I am able to purchase school uniforms	350	3.6000	.78306
I am able to purchase medicine when needed	350	3.6857	.95969
I am able to pay for my health insurance without difficulty	350	3.4229	1.02884
The household is energetic enough	350	3.9343	.89168
Valid N (listwise)	350		

Key: 1.00-1.79= Very Low Extent 1.80-2.59= Low Extent 2.60-3.39=Moderate Extent 3.40-4.19= High Extent 4.20-5.00 = Very High Extent



In Table 8 above the respondents were of the perspective that to a high extent they experience positive livelihood outcomes. They for instance indicate that to a high extent they can access three meals per day (mean 4.04) suggesting that cooperative membership contributes significantly to household nutrition which are consistent with findings of IFPRI's (2023) research on agricultural collectives in East Africa. The respondents further confirmed that for the other livelihood outcomes namely that to a high extent they pay school fees without difficulty (mean 3.83) as well being "able to purchase medicine when needed." This is supported by the report from World Bank's (2023) observation that predictable agricultural incomes enable better educational planning and timely medical attention. The findings particularly support Muthoni et al.'s (2023) findings about the cascading benefits of cooperative membership on overall household wellbeing.

Moderating effect of Demographic factors

The moderating effects of demographic and production variables further illuminate the uneven impacts of cooperative policies. Gender, for instance, plays a significant role, with male farmers benefiting more from cooperative services than their female counterparts. This disparity reflects broader societal inequities, such as women's limited access to land or decision-making power within cooperatives. Similarly, farmers with larger harvests per acre see greater livelihood improvement, highlighting how economies of scale can amplify the benefits of collective action (Beyond forest, 2024). Conversely, longer-term cooperative members report diminishing returns, a phenomenon that may stem from unmet expectations or bureaucratic stagnation within older cooperatives.

Qualitative findings

The interview also revealed that marketing of potatoes depends on the willingness of the farmers to sell through the cooperative though cooperatives assist the farmers in marketing. One informant indicated that *"Sometimes when the prices of potatoes in the market are low, farmers sell through the cooperative which we source for better markets on their behalf. When the market is good majority of the farmers sells directly on their own"*. Another informant further echoed that *"in our cooperative, whenever farmers are harvesting their potatoes, we directly link them with buyers of the potatoes in the market or at times we sell on their behalf to potato processing cooperative societies"*. Further on the issue of marketing, another informant pointed out that *"For our case as a cooperative, when prices are low, we collect all the potatoes from the farmers then store them well in our store house and sell at a later time when the prices are higher and pay the farmers competitively and charge them some small fee for services provided"*.

Farmers have been able to access a lot of inputs from the cooperative such as fertilizers, seeds, pesticides among others. *"It is our responsibility as management at all times to ensure that farmers have access to the inputs whenever they require in the right quantities, quality and fair prices; this defines our existence"*.

CONCLUSION

The study to determine the effect of pricing policies on the small-scale farmers' livelihood outcome in selected counties in Kenya. Pricing policies was measured by three constructs namely transaction cost, input prices and output prices. However, transaction cost during factor analysis was found not to be relevant in determining the relationship. Descriptive Statistical method was used to achieve the results. According to the study, the respondents agreed that cooperatives do provide fair output sale prices and affordable input prices which are shown by a mean of slightly above 3.40. This suggests that cooperatives are moderately successful in stabilizing prices and reducing exploitative intermediary margins. Findings on correlation and regression analyses reveal that there was a statistically significant association between pricing policies and livelihood outcome. Output pricing (β 0.516, which $p < 0.001$), was shown as the dominant determinant of livelihood outcome followed by, input pricing which showed a smaller but still statistically significant positive effect (β 0.127, p 0.026).

RECOMMENDATION



Cooperatives should establish transparent pricing mechanisms and collective bargaining strategies to ensure fair output prices for farmers. Additionally, bulk purchasing of inputs at discounted rates can reduce production costs, improving profit margins for small-scale potato farmers.

There is need for research in the future to examine changes over time in relation to pricing policies and livelihood outcomes for small-scale farmers to examine changes over time in many other cooperatives. Cooperative governance and leadership should also be investigated as it shapes policy formulation and implementation. There is also the need for cooperatives as a practice to continuously work on improved prices of inputs as well as outputs

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