



Analysis of factors affecting the success of agricultural production cooperatives in Kurdistan province

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Abstract

The present research was conducted in order to analyze the factors affecting the success of agricultural production cooperatives in Kurdistan province. The present research has been conducted in descriptive and survey method. The statistical population of the research was 6533 members of the agricultural production cooperative companies in Kurdistan province. Based on the Karjisi and Morgan table, the sample size was estimated to 361 people. A stratified random sampling method was used to select the samples. The research tool was a researcher-made questionnaire. By Using the pilot test Cronbach's alpha calculated and the reliability of the research questionnaire was obtained. The results show that there is a positive and significant relationship found between management factors, policy making; economic, educational, social and official factors with the success of agricultural production cooperatives in Kurdistan province. To predict changes in the dependent variable, i.e. the success of rural production cooperatives in Kurdistan province, by the independent variables, i.e. management factors, politics; economic, educational, social and official factors multiple regression analysis was used. The multiple correlation coefficient is 0.805. According to the calculated coefficient of determination, the aforementioned factors were able to determine 65% of the changes in the dependent variable.

Key words: Analysis, Agricultural production cooperative, Kurdistan province.

Introduction

Agriculture is one of the largest economic sectors of the country, which plays an important role in ensuring food security, economic growth, creating employment, and finally the national gross product. The agricultural sector has an important role in non-oil exports. Therefore, the development of the agricultural sector determines the economic growth of the country. Villagers

are considered the most fundamental economic, social and cultural strata of a country and the development of villages plays an essential role in the process of national development. Therefore, rural and agricultural development is associated with the country's development in all dimensions, and planning for agricultural development is the most effective way to reduce inequality between urban and rural areas (Mahdian et al., 2015). Agricultural

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cooperatives provide the access of small producers in rural areas to: optimal use of natural resources such as land and water, access to information, communication and knowledge and markets, food and production assets of this kind and providing seeds and tools and adopting policies and facilitate correct decision-making (FAO, 2021). Agricultural cooperatives are a popular production model of agricultural and livestock products. There are more than 1.2 billion agricultural cooperative members in worldwide. For Example in the United States, agricultural cooperatives are mostly concentrated in Minnesota, Iowa, Wisconsin, California, and Illinois. Canada has more than 1200 rural companies. Cooperatives manage more than 80% of agricultural land in Argentina (Elijah, 2022). A cooperative is an independent association of men and women who voluntarily unite to achieve their common economic, social and cultural goals. Needs and desires are realized through a common purpose and democratically controlled company. A balance between the pursuit of profit and meeting the needs and interests of members is important in cooperatives. Cooperatives not only provide their members with economic opportunities but also a wide range of services and opportunities. In many sectors, including agriculture, consumer affairs, marketing, and financial services, housing is done by cooperatives. Cooperatives provide 100 million jobs in worldwide. Cooperatives have more than 1 billion members (FAO, 2021). The purpose of cooperative companies is to generate and distribute income and thus improve the welfare of

their members. This goal can only be achieved if it is economically achieved and efficient performance is provided. Thus, it can be said that the future of agricultural cooperatives is related to their ability to achieve this goal (Castilla-Polo et al., 2017). Business transparency, economic opportunities and reduced risks are important benefits of agricultural cooperatives. These benefits enable agricultural producers globally to share responsibilities and work as a team. Agricultural cooperatives unite small producers to increase productivity in business and increase returns. Cooperatives provide electricity and communication tools. Cooperatives provide financial resources such as loans and other financial services. Cooperatives help build sustainable communities in rural areas. The role of cooperatives in agricultural development is countless. Producers enter a larger market to sell their goods and buy inputs at a lower price. More opportunities means better economic development and welfare of the rural population. There are rural cooperatives for education, health care, hardware, appliances and machinery, etc. (Elijah, 2022). The goal of agricultural cooperatives in Ethiopia is to help farmers increase their productivity and income by pooling their resources to support collective service provision and economic empowerment. These cooperatives have the duty and obligation to provide agricultural inputs, joint production and agricultural marketing (SIFA, 2020). Considering the importance of the agricultural sector with its big and small problems, the role of agricultural cooperatives in the



development of this sector becomes clearer. Agricultural cooperatives in Greece provided technical and material assistance to Greek farmers, contributed to the economic improvement of local communities, significantly contributed to the functioning of the agricultural market. Agricultural production cooperatives also compete with private companies in many cases (Azadeh et al., 2022). Cooperatives can potentially have a far-reaching impact on the economic order. The success of cooperatives can benefit the members, the surrounding environment and even the wider scope (Rahayu et al., 2023). Today, great researchers and professors emphasize supply chain management in the agricultural sector in such a way that they believe that effective supply chain management is the key factor for creating and maintaining the competitive advantage of farmers' products in the market. Agricultural cooperatives are facing challenges and problems such as competitors with lower cost products, price fluctuations of agricultural products, increasing consumer expectations, the chaotic economic situation of producers and the existence of middlemen (Rasouliazar et al., 2015). The transformation of the agricultural sector from a dominant economic sector in poor countries to a very small one in rich countries is the main feature of economic development. Considering the social importance of this phenomenon due to the identification of the causes and consequences, due to the appropriate important policies that have been adopted, economic forces play a role in reducing the agricultural sector. The reasons for the decline of the agricultural sector are generally not policy variables, but

economic policies for the agricultural and industrial sectors, sectors that have a significant impact on product prices in these sectors, and in developing countries usually have a negative impact on agricultural production (Rachana and Vineel, 2019). Probably the biggest challenge with agricultural and industrial cooperatives today is to become competitive companies in the globalized and highly competitive markets without neglecting the core values and principles of cooperatives (Battaglia et al., 2015; Castilla-Polo et al., 2017). Surveys showed that 10 success factors have been identified for the success of rural cooperative companies. These ten factors are human resource factors (professionalization of management), corporate governance (combination of duality, meeting the interests of stakeholders), strategy (risk and volatility management, technology adoption, and competition), corporate social responsibility (sustainable development, social responsibility), they are operations management (transaction cost management) and marketing (Oliveria jounior and Wander, 2021). Barfizadeh et al., research results (2022) showed that among the factors of leadership, policy and strategy, employees, partnership and resources, processes, customer results, employee results, community results and key performance results, leadership criteria, policy And strategy, employees, partnership and resources, employee results, community results, key performance results have a positive and significant impact on the success of cooperatives, which are able to determine about sixty percent of the variance of the dependent variable.

Naimian et al. (2023) investigated the most important structures affecting the success of rural production cooperatives in their research. The results of their research stated that the success of rural production cooperatives has a significant difference in the groups of the type of membership in the cooperative, education, receiving facilities from the cooperative and participating in training courses.

Sultanpour et al. (2022) showed in their research that the age variable of managers has a negative and significant effect and the asset variable has a positive and significant effect on the technical efficiency of agricultural production cooperatives in Golestan province. Considering the positive effect of the amount of assets on efficiency, providing the necessary credits for cooperative agricultural production companies through the operating banks will help them greatly. The results of Hosseini et al.'s research (2017) showed that there is a significant relationship between individual, family, economic-financial, social-cultural and political-legal factors with the success of rural women's entrepreneurship. Among these factors, economic-financial factors have the greatest impact on the success of rural women's entrepreneurship. In their research, Amikwiro and his colleagues (2023) identified six categories of success and failure factors: social environment, management quality, strategy, member base, and commitment and product aspects. Contrary to expectations that failure factors reflect success factors (Sanchez Amiquero, et al., 2023).

Afanaseva and his colleagues (2021) identified a wide range of factors affecting

the development of small farms in their research. They pointed to the lack of modern technology, efficient employees, and the impossibility of investing in working capital, the problems of marketing the manufactured goods (Afanaseva et al., 2021; Alemayehu & Alemu, 2022).

The results of the research of Kefay Godo and his colleagues (2021) show that the cooperative promoter, the government and potential members should prioritize those factors that have a greater impact on their success than others, that is, the commitment of members, the management factor and their participation, management Cooperatives should create awareness among farmers about them. Also, the responsible government agencies should identify, address and strengthen the relationship between foreign and domestic markets. Professionals should be placed at the management level to increase the success of cooperatives (Kefay Godo et al., 2021). The results of Regina et al.'s research (2023) show that better access to information, sales opportunities, technical assistance and mainly a favorable environment for knowledge exchange are necessary for the success of agricultural cooperatives (Regina et al., 2023). The research results of Rahayu and his colleagues (2023) showed that the number of company members and business units had a negative effect on the amount of business, while the factor of capital and loan capital had a positive effect on the amount of business. Also, variables such as the availability of managers and the manager's level of education have not affected the



volume of trade of cooperatives in the agricultural sector (Rahayu et al., 2023). Cukura (2022) determined in his study that membership in a cooperative, education, the level of awareness of cooperatives, social status, the level of openness to foreign culture and the use of collective communication tools have an effect on the success of a cooperative (Cukura, 2022). Kurdistan province is considered one of the most suitable areas for agriculture and animal husbandry in Iran. This province is in a special position economically. The industrial activities of this province are very limited. There are 29 agricultural production cooperatives with 6533 active

and influential members in Kurdistan province. But unfortunately, the efforts of the members of the cooperatives have not achieved any significant results. Cooperatives have always faced many issues and problems. Therefore, in this research, an attempt is made to provide the factors affecting the success of cooperatives in Kurdistan province for more success and effectiveness in the field of the country's economy and the prosperity of cooperative production activities in the agricultural sector and Kurdistan province. The conceptual model of the research is shown in the diagram below (figure 1).



Figure 1. factors affecting in success of agricultural production cooperatives

Method and Material

The current research can be done in a descriptive way. In this research, managerial, policy-making, economic, educational, administrative, social factors and challenges and problems are the independent variables of the research. Also, the degree of success of agricultural

production cooperatives, which is the same as the amount of services provided by the cooperative, is a dependent variable. The statistical population of the research includes 6533 people who are active members in rural production cooperatives of Kurdistan province, who are active members in rural production cooperatives. Using Morgan's Krejci table, the sample

size was determined to be 361 people. The sampling method in this research was stratified random sampling with proportional assignment (Table 1). To measure the validity of the questionnaire for this research, the criteria and items were provided to the supervisors and advisors. Each of the professors independently commented on the coverage of the content of the criteria and items, and the corrective comments of the professors of the agricultural management group were applied, and finally, the validity of the content of the questionnaire was confirmed. The reliability value of the research questionnaire was calculated using Cronbach's alpha coefficient for each part of

the questionnaire, and the average Cronbach's alpha was equal to 0.876. Descriptive and inferential statistics were used to analyze the research results. In the descriptive statistics which usually describes the data and from the indicators of central tendency, dispersion indicators and the coefficient of change and in the inferential statistics section from the multiple regression analysis test to investigate the factors affecting the success of the cooperative used in agricultural production in Kurdistan province. SPSS 24 statistical software was used to summarize, classify, organize, extract, describe and analyze data.

Table 1. Status of rural production cooperatives in Kurdistan province

City	Number of cooperatives	Number of members	sample size
Sanandaj	11	1526	85
Saqez	2	449	25
Divandareh	1	320	18
Baneh	1	68	5
Kamiyaran	2	605	33
Bijar	2	370	20
Dehgolan	2	618	34
Ghorveh	3	707	39
Marivan	4	1745	95
Sarvabad	1	125	7
Total	29	6533	361

Results

According to the results the average age of the respondents was approximately 48 years. The youngest respondent was 22 years old and the oldest respondent was 88 years old. It was also found that the average work experience of the respondents was 15 years. In this research, the average amount of agricultural land of the respondents is 6.7

hectares. The average experience of membership in the agricultural cooperative company of the respondents is approximately 9.7 years. According to the information obtained from the research, the average distance between the village and the agricultural cooperative company of the respondents is 18 km. It was also found that 30% of the respondents stated that the type



of service they received from rural water for irrigation of agricultural crops production cooperatives was receiving (Table2).

Table 2. Individual characteristics of the respondents

	Mean	Sd.	Min.	Max.	Frequency	percent
age	47.84	8.67	22	80	-	-
Job Experience	15.04	7.71	3	32	-	-
Amount of Earth	6.7	4.08	1	53	-	-
Distance from Cooperative location	18	8.50	1	36	-	-
Membership history	9.7	5.61	2	30	-	-
Services received from the cooperative company	Receive input	-	-	-	89	22.15
	Receiving water for irrigation	-	-	-	103	30
	Product sales	-	-	-	114	32.21
	Receive a loan	-	-	-	48	13.55

The results of prioritizing about the services provided by agricultural production cooperative companies by using the calculation of the coefficient of variation in Kurdistan province showed that the subject of providing easy access to inputs and services with the coefficient of variation of 0.228 and the subject of improving the quantitative level of farmers' production With the coefficient of variation of 0.232

and facilitating the process of rural development by providing essential services to farmers with the coefficient of variation of 0.344, respectively, the most important items of services provided by agricultural production cooperative companies in Kurdistan province were determined from the respondents' view point. Other findings are shown in Table 3.

Table 3. Prioritization of service items provided by agricultural production cooperative companies from the respondents' view point

Options	Mean	Sd.	CV	Rate
Providing easy access to inputs and services	3.79	0.88	0.228	1
Improving the quantitative level of farmers' production	3.98	0.91	0.232	2
Facilitating the process of rural development by providing essential services to farmers	2.73	0.98	0.344	3
Improving the quality of services and products provided	2.61	0.91	0.348	4
timely provision of machines needed by company members	2.58	0.93	0.360	5
Development of mechanization, such as replacing mechanized cultivation methods instead of traditional cultivation	2.57	0.95	0.369	6
Development of insurance coverage services in cooperatives (agricultural products insurance)	2.57	0.96	0.373	7
Providing necessary training to farmers to use new farming methods	2.55	1.10	0.402	8

Development of infrastructure services in the agricultural sector, such as the construction of roads between farms, irrigation systems, management of cropping patterns, etc.	2.48	1	0.403	9
Helping productivity and increasing the efficiency of agricultural products	2.57	1.08	0.427	10
More effective marketing and sales of agricultural products	2.32	1.05	0.452	11

To investigate the relationship between the dependent variable of the research (success of agricultural production cooperatives in Kurdistan province) and the independent variables (factors affecting the success of agricultural production cooperatives in Kurdistan province), which include managerial, policy-making, educational, economic, social and official factors, the

Pearson coefficient correlation was used. The results show that there is a positive and meaningful relationship found between management, policy, educational, economic, social and official factors and the success of agricultural production cooperatives in Kurdistan province (Table 4).

Table 4. Correlation coefficient of the dependent variables with the independent variable

Factors	r _s	P.Value
Management factor	0.806**	0.000
Policy factor	0.638**	0.000
Educational factor	0.668**	0.014
Economic factor	0.771**	0.000
Social factor	0.801*	0.035
Official factor	0.760**	0.000
*P≤0.05 **P≤0.01		

To predict changes in the dependent variable (success of agricultural cooperatives in Kurdistan province) by independent parameters, i.e. managerial, policy, educational, economic, social and official factors, multiple regression analysis in the Enter method was used. The multiple correlation coefficient (R) in this equation is equal to 0.805. According to the amount of R² (coefficient of determination) the mentioned structures were able to determine about 64.8% of the dependent variable changes.

Beta values were used to determine the importance of independent variables in the regression equation. Based on these values, it can be stated that managerial and educational factors have a greater role compared to other research variables in predicting changes in the dependent variable of research. The results of the analysis are shown in Tables 5. The equation of the regression line by using B coefficients was as below:

$$y=1.306+0.775x_1+0.7216x_2+0.433x_3+0.415x_4+0.424x_5+0.540x_6$$



Table 5. Regression equation coefficients

Variables	B	Sd.	Beta	t	Sig.
Constant	1.306	0.396	-	3.29	0.000
Management factor (x_1)	0.775	.285	0.502	2.72	
Policy factor (x_2)	0.216	.068	0.158	3.71	0.000
Educational factor (x_3)	0.433	0.114	0.423	3.80	0.000
Economic factor (x_4)	0.415	0.183	0.278	2.27	0.000
Social factor (x_5)	0.424	0.208	0.297	2.04	0.000
Official factor (x_6)	0.540	0.273	0.347	1.98	0.047
	R=0804	R ² =0.648	R ² _{adj} =0.618	F=32.507	Sig.=0.000

Discussion and Conclusion

Cooperative is a platform for social activities. The quality and quantity of interactions and cooperation of members play an important role in achieving the cooperative goal. Sometimes the problems of cooperatives are caused by improper management, lack of collective cooperation of members, or lack of coordination of the types of interactions that occur between members. In this research, it was well established that the respondents understood the importance of the social factor and considered matters such as the desire and interest of each member of the agricultural production cooperative to achieve the goal to be important. It is obvious that the more the desires and knowledge of issues that motivate the members of the cooperative are determined, the more successful the cooperative will be. Another issue that was identified in this research is referring to the external interactions of the agricultural production cooperative company with other organizations and departments. Cooperative members want the support and cooperation and facilitation of the responsible and managers of other organizations to provide the basis for the success of cooperatives.

The results of prioritizing the views of the respondents about the services provided by agricultural production cooperative companies by using the calculation of the coefficient of variation in Kurdistan province showed that the issue of providing easy access to inputs and services and the issue of improving the quantitative level of farmers' production and the issue of facilitating the process of rural development with Provision of essential services to farmers were identified in the order of the most important items of services provided by agricultural production cooperatives. In this research, it has been determined that the members of the cooperative companies were moderately satisfied with the services provided by the cooperative companies. They are mostly satisfied with the role of the agricultural production cooperative in providing access to inputs and improving the quantitative level of their production. In other cases, cooperatives have not been able to satisfy their members. Therefore, it is necessary to identify the issues and challenges that have caused this process and take action to solve them. The results with the findings of *Kefay Godo et al., 2021*,

Mehta, 2012; Owusu et al., 2011; Regina et al., 2023, Rahayu et al., 2023.

To investigate the relationship between the dependent variable of the research (the success of agricultural production cooperatives in Kurdistan province) and the independent variables (factors affecting the success of agricultural production cooperatives in Kurdistan province), which include managerial, policy-making, educational, economic, social and official factors, from the Pearson correlation coefficient was used. The results show that there is a positive and meaningful relationship between management, policy, educational, economic, social and official factors and the success of agricultural production cooperatives in Kurdistan province. The mentioned factors play a prominent role in the success of agricultural production cooperatives in Kurdistan province. These factors affect the hardware and software aspects of the development of production cooperatives in various fields. Therefore, it is necessary to strengthen their sub-topics in every field. The results are consistent with the findings of Hosseini et al., 2017; Dejene and Regasa, 2015 and Rahayu et al., 2023.

In this research, since the goal is to predict a dependent variable from several independent variables, multiple regression was used to predict dependent variables from independent variables. The multiple correlation coefficient in this research is equal to 0.805. According to the amount of R^2 the mentioned factors were able to determine about 64.8% of the changes of the dependent variable. In this research, it was found that other factors are necessary and

necessary to be investigated and identified in order to increase the success of production cooperatives. Beta values were used to determine the importance of independent variables in the regression equation. Based on these values, it can be stated that managerial and educational factors have a greater role compared to other research variables in predicting changes in the dependent variable of research. The management factor always plays a prominent role in the success of a social organization. Principled and scientific and knowledge-based management is the guiding factor of agricultural production cooperatives. The smallest disruption or defect in the management style will affect the success of production cooperatives. Therefore, it is necessary to select the members of the board of directors and the CEO from knowledgeable people with valuable experience in the field of cooperative and managerial work, as well as to improve their decision-making and planning skills. In this research, it was clearly determined how much training can have on the success of the agricultural production cooperative. The members of agricultural production cooperative companies realize the educational functions on the success of their company, the fields of technical and technical skills improvement and the capabilities that education will bring. Therefore, it is necessary that the organizations in charge of guiding and training cooperative production companies hold appropriate training courses and workshops for the members of agricultural production cooperative companies. The results with the findings of



Alimohammad et al., (2022), Hosseini et al. (2017), Afansoya et al. (2021), Barfizadeh et al. (2022), Mahdian et al. (2015); Sanchez Amiquero, et al., 2023 and Kefay Godo et al., 2021 and Rasouliazar et al., 2015.

Suggestions

According to the findings of the research, the following suggestions are made for achieving success in agricultural production cooperatives in Kurdistan province:

- To provide suitable access for the members of the agricultural production cooperative companies of Kurdistan province to agricultural inputs
- Government support for the payment of facilities to the agricultural cooperative companies of Kurdistan province
- Payment of subsidies by the government to agricultural production cooperatives in various fields such as guaranteed price and marketing services of agricultural products.
- Holding training classes for the members of cooperative agricultural production companies of Kurdistan province
- Improving the knowledge level of management agents and employees through holding training courses
- Strengthening and maintaining the desire and interest in collective and cooperative activities among the members of cooperative agricultural production companies in Kurdistan province
- Support and cooperation of officials and regional organizations with cooperative agricultural production companies of Kurdistan province
- Monitoring and evaluating the actions of the agricultural production cooperative

companies of Kurdistan province by the relevant organizations

- Equipping and supplementing the expertise of departments in order to better monitor the performance of agricultural production cooperatives in Kurdistan province
- Providing easy access to inputs and services for agricultural production cooperatives in Kurdistan province
- Providing appropriate tools to encourage public participation in cooperative agricultural production companies of Kurdistan province

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