

The Effect of Cooperation and Training on Sustainable Development: The Role of Government Policies for Farmers

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Abstract: - The ongoing climate changes and challenges of food security make the orientation toward long-term development in all sectors of the economy, especially agriculture, more critical than ever. This paper presents a model that evaluates the role of various factors in promoting sustainable farm development. The adopted method maximizes the explained variance in key constructs, such as cooperation, government policies, sustainable development, and training. Primary data were collected through 202 questionnaires distributed in the targeted location to test the proposed model in this research. The findings of the study indicate that the contribution of government policies and cooperation among farmers to the sustainable development is substantial, whereas the role of vocational training remained insignificant. This approach to the training role may be a consequence of a possible gap in the design of policies and procedures for farmers' capacity building.

Key-Words: - Sustainable agriculture, rural development, cooperation, vocation training, government policies, small farms, food security.

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1 Introduction

Albania, like other post communist countries before the 1990s, was characterized by a centralized economy. Agriculture in these countries was predominantly collectivized, private property was prohibited. Implementation of radical communism on these countries caused serious consequence in the economical and social area. Overcoming those difficulties resulted in a gradual process that involves numerous obstacles. The reforms introduced measures such as de-collectivization, privatization of land and resources, realignment of price structures, and the deregulation of labor markets, [[1]]. The disintegration of the Soviet Union and the fall of the Eastern Bloc meant a return to the market economy in the 1990s, and this

was also associated with the transformation of agriculture and its de-collectivization, [[2]]. Since the initiation of economic reforms, former socialist economies have experienced significant transformations. In additional this transition was accompanied by the adverse challenge of land fragmentation. Due to different de-collectivization strategies and their combinations across countries, different parts of the Central and Eastern European region face specific situations and challenges that differ from country to country, [[2]]. This research focuses on the sustainable development of small agricultural farms in Albania, specifically in the Myzeqe region. Furthermore, the measurement of the impact of several factors, such as farmers cooperation, training and government policies on

sustainable development. We have considered smallholder farms based on their crucial role in improving the food chain and rural development. The contribution of agricultural farmers is considerable both in economic development and in improving the livelihoods of rural areas, [[3]]. Their influence is essential in today's agricultural extension.

Focusing on the long-term development of small farms is a step on the supporting of rural sustainability, increasing the farmers livelihoods, protecting the natural ecosystem and promotes biodiversity. In case the agricultural system sustainably meets the demands of a growing global population, it is a cornerstone for human survival and, consequently, for all social activities, [I[4]]. Co-operation among farmers is essential for strengthening the economic viability of small farms. Such collaboration helps them to achieve financial stability as well as to manage risks. Their activity will become more productive as they gain secure access to domestic market segments and, potentially, to regional markets. The implementation of continuous and long-term financial resources for the farmers training is an important condition to achieving effectiveness of their farms. The training will impact the farmers' behaviors regarding effective land use, the adoption of smart technologies, etc. Government policies play a crucial role in farmer training, cooperation, and the overall long-term development of agriculture, particularly for small farms. Issues such as sustainable agriculture, food security and hunger eradication are becoming increasingly important on nowadays, [[5]]. This paper aims to examine the factors that influence the sustainable development on agricultural farms. Specifically, the study attempts to identify the main barriers that hinder the long-term development of agriculture farms and determine the relative importance of specific factors in this subject. The method's focus on maximizing explained variance in the main constructs, such as cooperation, government policies, sustainable development, and training. To test the model proposed in this research, primary data collected through 202 questionnaires distributed in the study area were used.

1.1 Novelty

Sustainable progress in agriculture has been in the focus of many studies, with a particular emphasis on the contribution of small farms in securing access on food. The previous studies have explored the farm size, rural development, as well as the contribution of small farms to the rural livelihoods.

Additionally, the topic of the former studies has been the agriculture transition in post- communist countries, focusing on systematic challenges. However, the previous studies remain limited in terms of presenting an approach that measures the impact of several independent factors on sustainable development of agriculture. Although recent publications show relatively modest increase, very limited research addresses the interconnection between government strategies, small scale agriculture, and broader socioeconomic progress, [[6]]. Limited attention is paid to farmers reluctance to adopt new production methods due to insufficient capacity building initiatives. Smallholder farms generally prioritize short term income rather than focusing on long term sustainability objectives. This research addresses this gap by developing a model that measures and evaluates the impact of three independent factors on sustainable farm development. By examining the interaction of these factors, the study provides a new framework for assessing long term agricultural development, an area that has been largely overlooked in existing literature. The proposed model in this study lays the foundation for further research, as well as being adaptable to different local and regional contexts.

1.2 Albanian Context

In Albania, as a country of the former communist bloc, before the 1990s, only state property existed, this property resulted by the collectivization of private land, process which carried out during the period 1946- 1960. The reforms undertaken in agriculture after the collapse of the centralized system led to the creation of small and fragmented farms. This small units operated in very difficult conditions and were unable to cover the needs of their family. Land ownership problem, which still remains relevant for Albanians, is a reason for the land fragmentation. Agricultural farms in post communist countries such as Poland, Hungary, Slovakia, Lithuania, Latvia, Bulgaria, have faced land ownership issue, however, Albania, compared to these countries, experiences more challenges in this regard, [[7]]. Agriculture is an of the main sector for Albanian economy, contributing to food security and rural development. In its 2024 report for Albania, the Word Bank emphasized that despite its importance, contributing almost 20% to GDP and employing over 40% of the population, agriculture continues to face structural challenges. In rural areas of Albania, small farms are dominant, units that face major organizational difficulties, such as high input costs, poor infrastructure, low

market competitiveness, etc. Farmers access in financial resources is severely limited due to the lack of formalization and certification of property. Currently, small farms remain unable to compete with subsidized foreign products and lack the economies of scale for mechanization. In this context, cooperation by pooling production factors constitutes an important issue in costs reducing and improving efficiency. Policies and strategies exist to support this sector, but there remains an urgent need to translate all written rules into real support for farmers. Agriculture sector should be subsidized in practical terms, benefit the favorable input prices, fiscal incentives, structured and effective vocational training programs. Albania characterized by favorable geographical position that favors organic agriculture. To exploit this potential, production strategies must be oriented towards modernization, the adoption of contemporary technologies and the food safety standards. Recently, the Albania governments policies have focused mainly on agriculture, while this sector has also benefited from financial support from international organizations, particularly the European Union, through the IPARD II and IPARD III programs.

2 Literature Review

2.1 Theoretical Grounds

An extensive economic literature addresses the issue of sustainable agricultural development, emphasizing the critical role of this sector in providing food security for a growing population as well as in promoting economic growth. The concept of sustainable development has been the subject of environmental studies since the 1960s. Actually, this concept remains one of the biggest current challenges. Due to the critical role of this sector, it has become a central focus of multidisciplinary research. Assessing farmers capacity building plays an important role in this development, further strengthening this role requires real investments from public and private knowledge institutions, [[8]]. There is an urgent necessity for policymakers to raise farmers' awareness regarding the advantages of Sustainable Agricultural Practices, [[9]]. The effectiveness of the Common Agricultural Policy has yielded partial results, [[10]] demonstrating that governmental measures can both support and obstruct the progress of independent farmers when it comes to joint initiatives and collective efforts, [[11]].

Overcoming the communist legacy and addressing the fundamental collective problems of small farmers remains an ongoing challenge for former communist countries, [[7]]. The institutional heritage of communism generated deep skepticism among farmers toward organized forms of cooperation, stemming from their experiences with "forced collectivization" during the socialist period. Farmer cooperation represents a key driver contributing significantly to sustainable agricultural development.

Decollectivization in 1990s, agricultural land was privatized and divided equally among farmers. This led to land fragmentation where individual farmers often received 3–4 non-contiguous plots, and operational inefficiencies because dispersed parcels increased costs (time, fuel) and reduced scalability. The pooling of production factors among farmers with shared interests and goals is a necessity for strengthening their efficiency. In this context, developing of comprehensive strategies to strengthen small - scale and low - income agricultural system can be seen as driver of long-term sustainability, [[12]]. Farmer cooperation, training through effective programs, and support with government policies favorable to agriculture are cornerstones for ensuring the long-term development of this sector, [[13]]. Cooperatives can contribute significantly to the shift toward a sustainable economy by generating or leveraging social capital. A strong and effective connection between smallholder farmers' participation in agricultural value chains and poverty reduction constitutes a critical issue of rural revitalization and the sustainable development of rural economies, [[14]]. The agricultural sector, as an important sector and contributor to the food chain, should be at the forefront of government policies. Fiscal incentives and agricultural subsidies help farmers cope with high input prices and competition with the aim of having secure segments in the domestic market and on the regional market. Farmers vocation training improves their essential knowledge about market developments, agricultural inputs, new technologies, and fosters mutual understanding and appreciation of cooperation. Agricultural education or agricultural training courses are important tools to equip farmers with the latest technology and science findings to implement in their daily work, as well as generating advantages such as guaranteeing environmental sustainability, food safety, and efficiency in water, chemical use and increased profits, [[15]]. Farmer's capacity building through effective training programs is an important step towards

productivity. Training strategies and programs should include issue such as cash flow, production factors, coherent information related to the production process and the exchange of goods and services produced on the farm. Furthermore, increasing agricultural productivity required quality inputs, advanced technology and supportive policies aimed at strengthening agricultural activities towards ultimate goal of achieving sustainability. Farmers in rural area of Albania characterized by low level of knowledge. This is evident as a consequence of the mentality of agricultural labor through communist style cooperatives, which created a strict separation between technical expertise and manual labor, [[16]]. Establishing a knowledge system for communities engaged in agricultural cooperation represents a challenging task, [[7]].

2.2 Hypothesis Development

This section shows the development of the hypotheses raised in this research, i.e., the theoretical support for each hypothesis. Several hypotheses have been raised, which expected to be supported by the theoretical grounds and proved through survey data calculation. These hypotheses are: H1-Cooperation have a positive impact on long term development; H2- Training expected to have positive impact on achieving sustainable development; H3; Government policies have significant impact on SD; H4 Government policies moderate the impact of cooperation (H4a) and training (H4b) on SD.

The decollectivization that occurred after the 1990s divided the land into small plots. Motivating of small farms to join the agricultural cooperatives is often seen as an effective approach to avoid the market inefficiencies and increase their productivity and income, [[17]]. Co-operation between farmers constitutes an important step in the agricultural sector sustainability. Due to the common goals of farmers, these units can serve as a main factor within the farm value chain. Additional, cooperatives have the potential to create a favorable environment to support the implementation of the improved agricultural methods and encourage the adoption of more sustainable practices, [[18]]. Practically, if cooperatives achieve long term development, they are able to support sustainability of their local communities and, ultimately, contribute to the global sustainability, [[19]]. *Based on the above argumentation, hypothesis H1 is theoretically supported.* This hypothesis will be farther tested through the structural model based on

the results obtained from the processing of questionnaire data.

Implementing small business initiatives with farmers proved to be challenging. Farmer training program should include various areas such accounting, finance, savings schemes, management and good production practices, [[20]]. In the context of increasing global focus on agroecological sustainability, institutions are facing an urgent need to increase farmers' capacities. Implementation of the ecologically sound agricultural methodologies, in line with Sustainable Development Goals, requires the necessary knowledge and resources, [[21]]. In this regard, agricultural policymakers should prioritize capacity building to orient smallholders towards Sustainable Agricultural Approaches (SAA). Farmers will be oriented towards using a responsible system that takes into account environmental conservation in order to protect the well- being of future generation, [[9]]. The involvement of agricultural producers in the capacity building initiatives has important socioeconomic value and enable the effective dissemination and integration of Sustainable Agricultural Practices (SAP), [[22]]. Based on current theory, training and informing farmers through effective programs increases their ability to adopt SAP.

Hypothesis H2 is theoretically supported, data processing through the structural model will provide a practical assessment.

The extent to which users adopt public policies serves as an indicator of how well those policies align with their needs. When policies designed to be implemented fail to meet the demands of their intended beneficiaries, they are likely to be unsupported, [[23]]. The Common Agricultural Policy (CAP) illustrates a case of success, contributing to increased food production while maintaining favorable prices for the consumer. The main focus of the policies remains on increasing agricultural productivity and promoting the economic development, [[10]]. Governmental and non-governmental institutions with policies and programs aim to promote the co-operation among farmers as a promoter to address various challenges affecting rural development. However, when the emphasis on sustainable agricultural development exists only at the theoretical level, such policies risk becoming a barrier rather than a support to the development process. Practical evidence suggests that public policies can play a dual role, either supporting or limiting the capacity of individual farmers to engage in collaboration and cooperative

efforts, [[11]]. The policy should ensure farmers' equal rights, access to inputs, information, finances, fiscal incentives, and markets. Public authorities should establish a conducive institutional and policy framework that facilitates the ownership and management of productive resources in support of the development of marginalized and undeserved regions, [[23]].

Also, for Hypothesis (H3) based on the above, we say: *Government policies positively affect long-term development. To test this hypothesis, we will refer to the results obtained from the processing of data obtained through questionnaires, which will be presented below.*

Policymakers should prioritize increasing of efficiency for farmers, who have agriculture as their main sources of income, while also promoting alternative income-generating activities for individuals that engaged in the non- agricultural sector, [[25]]. Through appropriate measures, the government agricultural institutions should create effective frameworks for farmers training towards to increase their capacities in line to value mutual cooperation. As a result, enforcing supportive regulations within the agricultural sector is essential, [[23]]. Effective vocation training for farmers, supported by government policies, plays a fundamental role both before and after creation of cooperative, [[26]]. For transition economies aiming for sustainability, the main challenges lie in how they ore identified and prioritized, which impacts the finding of effective solutions. These phenomena originate mainly in political dynamics and are often the subject of debate, [[9]]. *In this context Hypothesis H4 is theoretically supported.*

The conceptual framework of this research is presented in Figure 1.

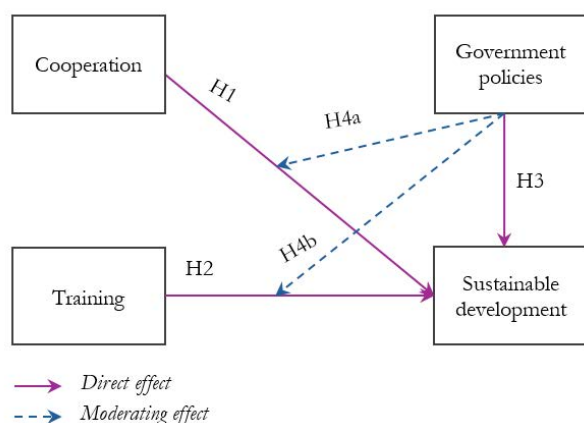


Fig. 1: Conceptual framework of research
Source: Created by author

3 Methods and Procedures

3.1 Data

Since secondary data suitable to empirically examine the proposed research model (conceptual framework) is not available, a questionnaire was developed with the aim to collect primary data. The survey consists of tow main components, which are socio-demographic characteristics and general information about the farm. The questionnaire also contains a series of statements that aim to capture the variables necessary for examining the research model. All respondents are farmers operating in the Fier and Lushnje region (Myzeqe region, Albania). This area was selected because of the largest agricultural land. In Myzeqe, about 70% of the land is used for agriculture, 30% consists of meadows and pastures. This region is known for its highly fertile soil and favorable climate, which agricultural experts often call the breadbasket. The agricultural production of farms in this region plays an important role in maintaining nutritional security. Additional, agriculture in general and small farms in particular have e critical role in poverty alleviation.

Table 1. Respondent characteristics

Variable	Categories	n	Share (%)
Gender of the respondent	Male	142	70%
	Female	60	30%
Experience in working in the farm	3-5 years	12	6%
	5-10	27	13%
	10-15	75	37%
	15-20	48	24%
	20-25	36	18%
	More than 25 years	4	2%
Number of employees in farm (including family members engaged in farm work)	Maximum of 2	16	8%
	2 - 5	136	67%
	5 -10	48	24%
	10 - 30	2	1%
Total		202	100%

Sources: created by authors

A questionnaire was developed a pre-tested with 11 farmers and 2 experts from the extension service. The information generated by the pilot study allowed for the improvement of some

questions and the finalization of questionnaire. Data were collected during the first two months of 2025, as a result we provided 202 valid and suitable questionnaires for data analysis. No missing data was administrated, since all important questions linked with this research were mandatory and the questionnaire was migrated into an online form. A sample size of 202 is considered sufficient for this research based on common rules and power analysis, making this study statistically sound and capable of producing reliable results, [[27]]. The profile of the sample is summarized in Table 1.

3.2 Variable Measurement

A five level Likert - type scale was used to assess the components of the study. The research factors including: Cooperation (CO); government policies (GP); Sustainable Development (SD) and training. Employed the above mentioned scale, respondents asked to rate how much they agree with a series of statements: 1= Strongly disagree, 2= Disagree, 3= Neutral, 4 = Agree and 5 = Strongly agree. This method led to comprehend respondents' attitudes and views of each construct in a more sophisticated way. The application of this Likert type technique enabled a nuanced evaluation of respondents attitudes for all constructs. Each variable was operationalized through multiple statements, providing a comprehensive assessment of the underlying dimensions. This approach provided quantitative data for analysis as well as provided valuable insights into the factors influencing farmers perspectives. Seven statements that examined respondents' opinions on the value of cooperation in agriculture were used to measure the cooperation construct. Perceptions of the function of small cooperatives, the integration of production elements, competitiveness, financial accessibility, the influence of ownership certificates, and risk mitigation through collaboration were evaluated by these statements. For instance, respondents were asked to score how much they agreed with statements like "The establishment of small cooperatives is important" and "It will be easier for me to apply for funding sources through cooperation." Ten items that assessed respondents' knowledge and opinions about policies aimed at the agriculture industry were included of the government policies construct. For example, phrases such as "I've heard about government policies targeting the agricultural sector" and "Government policies in the field of infrastructural development are crucial for me" were given to respondents, who were asked to score their agreement with them. The sustainable development

construct was measured through ten statements that assessed respondents' knowledge, attitudes, and practices related to sustainable agricultural practices. As an illustration, participants were invited to indicate their level of agreement with statements such as, 'I think that long term development can be applied to the agricultural sector' and 'I know how to implement sustainable practices in my activity'. Seven items that assessed respondents' opinions of the significance and applicability of agricultural training programs were part of the Training construct. For example, respondents were asked to score how much they agreed with phrases such as "Training programs should be based on the specific needs" and "Is it important to attend training on applying for subsidies".

3.3 Method

The use of Partial Squares Structural Equation Modeling as an analytical approach, chosen to apply due to its sustainability for examining complex interrelationships between multiple constructs, while also being consistent with the exploratory orientation of the study, [[27]]. We implemented this method as the most appropriate for studies like ours, where the goal is to discover patterns and predict outcomes rather than strictly confirm existing theories, [[28]]. Given the Likert-scale data and the sample size of 202 respondents, PLS-SEM's flexibility in handling non-normal data distributions and smaller samples ensured robust results without compromising statistical rigor, [[27]]. The method's focus on maximizing explained variance in key constructs, such as cooperation, government policies, SD, and training. To improve the reliability of the findings, a resampling procedure involving 5,000 subsamples was employed, [[27]].

4 Results

The measurement model results, including outer loadings and variance inflation factors (VIFs) for retained and removed items, are summarized in Table 2. Four original items were retained from seven of cooperation construct, with external loadings ranging from 0.732 to 0.856 and meeting the threshold for indicator reliability. The retained items demonstrated negligible multicollinearity, with VIF values between 1.072 and 1.248, well below the critical threshold of 5.0. For the GP construct, six of the ten initial items (gp4, gp5, gp6, gp7, gp8, gp9) were retained, external loadings

ranging from 0.716 to 0.882. VIF values for the retained items (1.245–1.338) were well within acceptable limits. Five items of the sustainable development construct (sd5, sd6, sd8, sd9, sd10) were retained, with outer loadings between 0.735 and 0.866, aligning with Hair et al.'s (2022) standards. Four of seven items the training construct (tr1, tr3, tr4, tr7) were retained, with outer loadings ranging from 0.721 to 0.921, indicating robust reliability. VIF values for retained items (1.075–1.458) were unproblematic, further supporting the measurement model's validity. The internal consistency of the measurement model and the convergent construct validity were assessed through Cronbach's alpha, composite reliability (CR) and average variance extracted (AVE). Regarding the corporation construct, Cronbach's alpha 0.740 and composite reliability 0.710 meet or approach the specified threshold, including moderate consistency across all items, while AVE= 0,685, thus supporting convergent validity. The government policies construct shows strong internal consistency (Cronbach's alpha = 0.788, CR= 0.705).

Table 2. Measurement model

CON	IT	OL	VIF	CA	CR	AVE
Cooperation				0.740	0.710	0.685
	co3	0.743	1.072			
	co4	0.753	1.248			
	co5	0.856	1.236			
	co7	0.732	1.074			
Government policies				0.788	0.705	0.581
	gp4	0.879	1.333			
	gp5	0.760	1.309			
	gp5	0.884	1.245			
	gp8	0.716	1.338			
	gp9	0.717	1.297			
Sustainable development				0.753	0.787	0.627
	sd5	0.866	1.218			
	sd6	0.735	1.170			
	sd8	0.747	1.130			
	sd9	0.757	1.663			
	sd10	0.810	1.751			
Training				0.707	0.713	0.523
	tr1	0.921	1.458			
	tr3	0.721	1.075			
	tr4	0.727	1.086			
	tr7	0.912	1.445			

Source: Authors' own. CON, Construct; IT, Item; OL, Outer loading; VIF, Variance Inflation Factor; CA: Cronbach's alpha; CR, Composite reliability; AVE, Average variance extracted.

Based on the results obtained by data processing, the sustainable development construct shows strong reliability, Cronbach's alpha = 0.753;

CR = 0.787, convergent validity AVE = 0.672, in compliance with Hair et al. (2022) standards. The training variable shows satisfactory reliability, with its AVE slightly exceeding the reference point of 0.50, thus supporting convergent validity. To assess the discriminant validity the constructs, the Heterotrait- Monotrait (HTML) ratio was applied. All coefficients were found to be in line with recommended limits, thus confirming the presence of discriminant validity, [[27]]. The results of the structural model show significant direct and moderating effect on SD. For the direct effect, cooperation (CO→SD: $\beta=0.324$, $t= 3.340$, $p < 0.001$) appears to have strong impact on SD, with moderate effect size and high significance. Government policies (GP→SD: $\beta = 0.127$, $t = 2.139$, $p < 0.05$). showed a positive effect. On the other hand, training (TR→ SD: $\beta= - 0.087$, $t = 0.514$, $p = 0.607$) had no statistically significant effect. As a conclusion, H1and H3 should be taken into consideration, H2 not.

Table 3. Hypothesis testing

Hypothesis & Path	β	t	p	VIF
Direct effect				
H1 CO → SD	0.324	3.340	0.001	1.195
H2 TR → SD	-0.087	0.514	0.607	1.038
H3 GP → SU	0.127	2.139	0.032	1.200
Moderating effect				
H4a GP x CO → SD	0.141	2.040	0.041	1.084
H4b GP x TR → SD	0.031	0.205	0.837	1.110

Source: Authors' own

Note: CO, cooperation; TR, training; GP, government policies; SD, sustainable development. VIF, Variance Inflation Factor.

As show in Table 3 above the interaction between GP and CO resulted in a moderate effect (GPxCO→SD: $\beta = 0.141$, $t = 2.040$, $p < 0.05$), which significantly enhanced sustainable development, indicating synergy benefits when these factors align. Meanwhile, the interaction between government policies and training (GP x TR →SD: $\beta = 0.031$, $t = 0.205$, $p > 0.10$) failed to be significant. Therefor, there is evidence that accepts H4a and reject H4b. This result indicates that GP amplify the impact of cooperation efforts on sustainable development. When government policies are st highest level of farmers support, they increase the ability of collaborative initiatives to promote sustainable practices. In context where the GP are committed to clear legislation, subsidies and institutional frameworks, farmer collaborative efforts become more effective. Conversely, government policies may limit the transformative

potential of corporation, even if farmers actively cooperate. The non-significant role of training further emphasizes that policy coherence remains critical for achieving systematic change. Thus, systematic change depends on coherent policy frameworks (integrated collaboration with supporting policies) rather than isolated intervention (e.g. training programs disconnected from broader policy goals). Applied model explain 44.5% of the variability in sustainable development, which supports the model as suitable one for such research. In line with theoretical expectations, the results emphasize the role of cooperation and targeted government policies as key enablers of SD. A non-significant effect of training highlights a potential gap in policy design, suggesting that current training programs may lack alignment with farmers' practical needs.

5 Discussion

The research findings demonstrate a significant relationship between explanatory factors (such as cooperation and government policies) and sustainable farm development, as well as the moderating role exerted by government policies in shaping the contribution of cooperation within the sustainable farm development process. Using empirical investigation, we have systematically evaluated each hypothesis pertaining to sustainable agricultural development drivers. Referring to the results presented in Table 3 "Hypothesis Testing", the path coefficients (β) for H1, together with statistically significant p-values and t-values, indicated a positive effect of farmer co-operation on Sustainable Agricultural Farm Development. Hypothesis H1 is statistically support by the test results. The results present a different perspective regarding the impact of farmers training on sustainable farm development. Statistically the role of this factor is found to be insignificant, therefore H2 is not practically supported. This situation can be attributed to the gap of training programs tailored to the specific needs of farmers, as well as the generally low educational level of rural farmers, which reflects limited attention to the capacity building. Current initiatives of training programs for farmers may not be close to their practical needs. Therefore, future programs should include experiential learning techniques, and as close as possible to the expectations of farmers. Capacity building programs should have localized content and contain continuous follow-up mechanisms to be as effective as possible.

Refreing the the empirical findings presented in Table 3,"Hypothesis Testing", regarding the factor "government policies" it resulted that the path coefficients (β) with p-value and t-value respectively 0.332 and 2.139 which proves that this factor is statistically significant. Consequently, hypothesis H3 is statistically supported by the test results.

Based on the data obtained from the processing, where path coefficients (β) with p-value =0.041 and t-value=2.040, H4 (a) is statistically supported, showing that government policies have a moderate impact on cooperation between farmers in the function of sustainable farm development. Consequently, the impact of government policies on training farmers in the function of sustainable farm development resulted in an insignificant role, this due to the fact that the role of training resulted in an insignificant role in SD. Referring to the results presented in Table 2, "Measurement Model", the Variance Inflation Factor (VIF) and Outer Loadings confirm the stability of the constructs and provide a sound basis for interpreting structural relationships in the PLS-SEM analysis. Both VIF and Outer Loadings are within acceptable limits, indicating model reliability. Acceptable internal consistency confirms validity. The results collectively affirm the robustness of the measurement model, ensuring confidence in the constructs' ability to reliably measure their respective theoretical domains. The findings of our study are consistent with those of other authors in the field, notably, [[7]] which examined the experiences of several post-communist countries. Their analysis underscores the critical role of farmer cooperation, supportive government policies, and farmers' knowledge and skills in promoting sustainable development.

In addition to the factors considered in the study and affecting long term development there may be other factors such as the right of ownership over land, access to financial resources, etc.

This somehow explains the result of ($R^2 = 0.445$). The inclusion of other factors remained a matter for further studies.

6 Conclusion

This study aimed to evaluate long term development of agricultural farms based on several components. Government policies and farmer cooperation contributed significantly to enhancing the sustainability of farms, while government policies had a moderate influence on fostering cooperation in the context of sustainable

development. The research emphasizes the long-term development of agricultural farms is important in conditions where the food security is threatened by climate change. However, in Albania as a former communist country this sector remains far from the objective of long-term development. Government institutions that dealing with agriculture policies should integrate sustainability criteria into project applications within specific farm support programs. The results of this research provide the practical approaches for the public institutions and NGOs engaged in agricultural policy-making. Furthermore, the findings of this research support the objective of the long-term development of agriculture, and are expected to have an impact on bridging the gap that currently exist between written policies and their implementation in reality. While the objectives of sustainable agriculture development are widely discussed, practical implementation remains limited. Farmers will benefit by improving information on several important issues that affect their farms productivity. Our conclusions are consistent with the perspectives of various authors who have highlighted the critical role of farmer cooperation, [[15]], [[17]], [[29]], [[30]]. Agricultural education or agricultural training courses are important tools to familiarize farmers, with the latest technology and science findings to implement in their daily work, as well as generating advantages such as guaranteeing environment sustainability, food safety, efficiency in water and chemical use and increased profits, [[15]]. Notwithstanding, unlike these and other authors, our study provides theoretical and empirical approaches to the research subject and presents a measurable model for assessing agricultural sustainability development and its influencing components. This conceptual framework may serve as a valuable tool for other researchers conducting future studies across various agricultural sectors. As we highlighted above, the data analysis confirmed the significant role of cooperation and government policies in sustainable agricultural development, consistent with our initial hypotheses presented in the study's introduction. We also found that government policies have a moderate impact on farmers' collaboration in the function of sustainability outcomes. Nevertheless, our expected results diverged regarding training effectiveness. Contrary to expectations, the data analysis revealed training programs did not significantly impact long term development at the farm level. Additional, this conclusion does not change our point of view on the importance of farmers capacity building. The main problem is the

gap of effective and practical training programs tailored to the farmer needs. Further study should explore the effect of training in long term agriculture development, with the focus of Northern Albania as well as in the neighbor countries. This study provides a basis for the farther research. Subsequent studies could apply our model to other agricultural sectors (e.g., arboriculture, livestock). Ongoing scientific research by academics in the field are crucial driver on sustainable progress of agriculture. The literature does not provide an exact approach for measuring sustainable development in agricultural farms. There is a gap of a preexisting theoretical framework to assess the impact of various factors on agricultural long term development. Another limitation of this study lies in the selected sample itself, which, however representative, has its own shortcomings.

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Conflict of Interest

The authors have no conflicts of interest to declare that are relevant to the content of this article.

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