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THE ROLE OF COOPERATIVES AND FARMER ASSOCIATIONS IN SUSTAINABLE AGRICULTURE

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ABSTRACT
Motivating a sizable number of farming families to use coordinated resource management is crucial for long-term agricultural sustainability. This might be done for a variety of reasons, including but not limited to: pest and predator management, nutrient management, aquifer and surface water course pollution control, coordinated livestock management, soil and water resource conservation, and seed stock management. The issue is that most locations lack mechanisms for collaborative decision making to oversee the administration of such assets.
Keywords: cooperative, principles of cooperation, farm forestry, sustainable rural livelihoods.

INTRODUCTION

As intermediaries between producers and consumers, as organizers of collective bargaining with buyers, as providers of aggregation, marketing, and processing services, as providers of distribution channels for primary products, and as providers of support services for their members such as business planning, capacity building, and training, cooperatives play a critical role in the agricultural sector.

The International Alliance of Cooperatives (ICA) and the International Labor Organization (ILO) describe cooperatives as "autonomous, voluntary associations meeting common economic, social, and cultural needs through a jointly owned and democratically controlled enterprise" (ILO, 2002). There are many different types of cooperatives, including those that serve consumers, workers, students, farmers, businesses, utilities, credit unions, and financial institutions, and so on are all possible types of cooperatives. American Bar Association (2011) uses USDA's definition of a cooperative as "an enterprise in which the members share in the economic benefits and democratic management." Agricultural cooperatives often share inputs and other resources among farmers and rural entrepreneurs to maximize production and trade. Producing-focused cooperatives and service-focused cooperatives are the two primary categories of agricultural businesses.

Agricultural production cooperatives allow farmers to pool their land and other resources for maximum productivity. There have been enormous changes in farming during the last fifty years. Despite the fact that in many nations' food prices are kept artificially high by support programs, it has been effective in reducing those prices, feeding a rising population, freeing up agricultural labor, and expanding food availability beyond the traditional growing season. Technology has been essential to these developments, and is now also being used to the comprehensive resolution of social and environmental problems. The status of agriculture, however, must be seen in the context of the whole world economy.

The consequences of globalization, policy shifts, and trade liberalization are being felt in the agricultural sector as well. Public interest and concern in sustainable development has also changed how we see agriculture. All OECD countries' agrifood policies now give serious thought to the ways in which agriculture affects the natural world. The agricultural industry is increasingly affected by both upstream and downstream influences. To ensure that agriculture produces sufficient food without damaging the environment, farmers need access to appropriate incentives, knowledge, and tools. This requires concerted efforts to improve agricultural, environmental, trade, and R&D policy.

To ensure that policy decisions are acceptable to all stakeholders, they must be grounded on rigorous, accepted scientific principles. In upcoming discussions on agricultural international trade, the topic of agriculture's ties to the natural world will be explored. Other aims and concerns must be taken into account in international trade debates, without calling into question the WTO's and the OECD's commitment to a freer, more open system of agricultural commerce. The challenge is in developing solutions that are mutually beneficial.

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LITERATURE AND REVIEW

Kampmann, Willi; Kirui, Oliver K. (2021) In this article, we examine the significant impact that farmers' organizations (FOs) have had on agriculture in Africa. In particular, it gives a general picture of Africa's continental and regional FOs. It examines the organization, operation, goals, and funding of FOs in three countries (Senegal, Uganda, and Zambia) via case studies. The results indicate that the FOs in the three nations under consideration are quite well organized. Connecting the national (overarching) FOs to the regional and municipal entities below them. A large proportion of small-scale farmers, however, are not yet members of the structured FOs since participation is optional. About 30% of Senegalese, 10% of Ugandans, and 6.4% of Zambian farmers belong to one of the three aforementioned umbrella groups. Capacity and budgetary limits are a common problem for many FOs, as shown by the findings of the continental, regional, and three national case studies. Almost all FOs rely on aid from other organizations. Only approximately five percent of the FOs' yearly budget comes from member dues. It is appropriate to provide programs and incentives to inspire participation in funding objectives. It is possible to raise earnings through enhancing farmer-driven cooperatives, sharing knowledge, fostering innovation, training members, and processing agricultural goods. Due to legislative shifts, non-governmental organizations (NGOs) are increasingly responsible for agricultural education, marketing, and supply. Many of these FOs, however, lack the resources, expertise, and infrastructure to effectively do so. Attempts to play too many roles, pursue too many lofty goals, and provide too many public benefits ultimately weaken FOs. Increasing the capacity of current leaders, expanding the membership base and the financial contribution of members to the organizations' operations, and providing regular opportunities for the FOs to engage policy makers are all necessary steps toward taking agriculture to the next level. All government committees addressing problems of agriculture, food, and rural development should have FO representatives. Donor money should go to organizations that can be held to account, and it should be used for institutional development that will enhance FOs rather than just microprojects. The many donor-funded initiatives and programs also require better connectivity and coordination.

Wanglin Ma et al (2021) We assess the several ways in which smallholder farmers' cooperative participation affects their net returns, return on investment (ROI), and profit margin. To account for the endogeneity of the cooperative membership variable, In this study, we analyze data from 626 Chinese banana farmers using a new two-stage predictor substitution model and an unconditional quantile regression model. When banana producers get together as a cooperative, everyone benefits. We find that across all of the preset unconditional quantiles, cooperative involvement has a positive and sizable influence on net returns and ROI, with the largest benefit demonstrated at the 80th quantile. There is a significant positive impact of cooperative membership on profit margin for all quantiles below the 20th, with the highest benefits occurring at the lower quantiles.

Ahmet Candemir et al (2021) To better understand the impact agricultural cooperatives have on farm sustainability, we give a literature analysis on the topic. First, we examine the academic literature to highlight the many cooperative economic behaviors. Then, we look at all three aspects of sustainability in both underdeveloped and advanced nations. We want to bridge the gap between the theoretical understanding of cooperatives and the empirical data, focusing on the variety of cooperative members. This research demonstrates that cooperatives have a non-negligible role in ensuring the long-term viability of farm economies and encouraging the use of environmentally friendly methods, implying that public policies and private efforts in cooperatives may work together for mutual benefit. The function of agricultural cooperatives in achieving social sustainability has been the subject of very few academic investigations. Additional research on the cooperatives' trade-off between economic and environmental sustainability is required.

Virendra Kumar, K. G. Wankhede, and H. C. Gena (2015) Agriculture, food, banking, healthcare, marketing, insurance, and credit are just few of the many industries that have cooperatives present. A cooperative is a democratically owned and operated business in which its members work together to achieve their economic, social, and cultural goals and requirements. The agricultural sector remains the backbone of most emerging economies. In a nation like India, where 85% of farmers are small and marginal, strong cooperatives can help farmers overcome many of the challenges they encounter. The seventh of a cooperative's guiding principles is "Concern for the Community," which motivates its members to strive for the long-term improvement of their local area. The cooperatives' members have

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developed effective farming systems that enable them to maintain themselves economically via the production of crops, vegetables, fruits, and cattle throughout the year. Cooperatives like IFFDC (Indian Farm ForestryDevelopment Cooperative Ltd.) have taken the initiative to pursue Agro Forestry, which combines the planting of fruit trees, fuel trees, and forest trees in order to enhance the local environment by reclaiming degraded land. This has improved the community's ecological resilience and quality of life in rural areas. Cooperatives have helped farmers much by improving the returns they get from their investments in agricultural inputs and overall crop output.

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MATERIAL AND METHODS

Agricultural associations, cooperatives, and producers' organizations are the associated forms of agriculture examined in this research. Three or more people can form an association if they agree to pool their resources, expertise, and time to pursue a common goal, whether that's serving the public good, bettering their local community, or pursuing their own non-patrimonial interests. Our country's agricultural producers may form and run associations in accordance with G.O. 26/2000. An agricultural cooperative is a voluntary group of farmers and other interested parties that acts independently as a separate legal entity upon the basis of the voluntarily given permission of its members. Agricultural, zoological, and forestry goods may all benefit from the formation of producer cooperatives.

Table 1 The main indicators at national level, following the legal status of agricultural holdings

Indicators	Years	M.U.	Total agricultural holdings	Agricultural holdings without legal status	Agricultural holdings with legal status
Agricultural holdings	2002	th	4485	4462	23
	2005	th	4256	4238	18
	2007	th	3931	3914	17
	2010	th	3856	3825	31
Total area	2002	th ha	15708	8454	7254
	2005	th ha	15442	9886	5556
	2007	th ha	15265	9591	5674
	2010	th ha	15867	8488	7379
Utilized agricultural area(UAA) (including resting arable land)	2002	th ha	13931	7709	6222
	2005	th ha	13907	9102	4805
	2007	th ha	13753	8966	4787
	2010	th ha	13298	7445	5853
The average utilized agricultural area per one agricultural holding	2002	ha	3,11	1,73	274,43
	2005	ha	3,27	2,15	263,08
	2007	ha	3,50	2,29	270,45
	2010	ha	3,45	1,95	190,84

Advantages of agricultural associations

The following are only some of the advantages of establishing a cooperative in the agriculture sector: easier collaboration between government agencies and non-profit organizations; environmentally responsible farming practices; increased output; higher product quality in line with market demands; expanded supply chainsadvice on association management, marketing, and management.

The legal basis for the formation and operation of agricultural cooperatives in Romania is laid forth in legislation 566 of December 9, 2004 (as amended). The agricultural cooperative creates a business, technical, and social activity to serve its members by meeting their needs in the areas of commodities, services, and jobs.

Advantages of agricultural cooperatives

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Cooperatives' internal workings are grounded on democratic ideas of modern cooperation;
For the first five years following their founding, agricultural cooperatives are exempt from paying agricultural taxes. Through the Romanian agricultural assistance program, they may also have access to subsidies, public funding, and even foreign funds. Last but not least, agricultural cooperatives do not have to pay import taxes when bringing in things like tractors, automobiles, and agricultural machinery, irrigation equipment, and the like. Farmers can benefit economically from forming a cooperative because it shortens the length of the distribution chain, lowers the likelihood of unsold inventory, gives producers more sway over prices paid by consumers, guarantees a steady stream of high-quality raw materials at competitive prices, and helps farmers sell their wares at fair prices.
provide novel opportunities for farmers to upgrade their methods from less productive conventional ones (via the use of automation, improved planting materials, etc.). In accordance with the legislation, any agricultural or forestry producer who satisfies the following criteria may join a group of producers.
legal ownership of a production base; written declaration of intent to sell agricultural or forestry production within the group; at least 75% of production sold through the producer group; adherence to and application of the group's adopted rules regarding production and environmental protection measures; payment of the financial obligation to the producer group.
Groups of producers must check that their output is both adequate and responsive to market needs. It's also important to push for more distribution and advertising of the goods its members produce. Groups are responsible for promoting environmentally friendly farming methods, manufacturing processes, and garbage disposal systems, as well as minimizing expenses and setting pricing for producers.

MAJOR CHALLENGES FACED BY COOPERATIVES

1. Recognized Economic Weaknesses

Although cooperatives offer many advantages, academic economists have long looked down on them. Particular vitriol has been directed at their dismal economic performance. This is related to the fact that farmers' cooperatives have little control over the magnitude of individual farmers' contributions. Because individual farmers do not have to shoulder the whole marginal profit loss associated with an increase in output, cooperatives often overstock when there is imperfect competition.
Overproduction is a serious issue when the cooperative determines pricing in the final market. Consequently, Because of the adverse selection issue, many people see agricultural cooperatives' lack of membership restrictions as a weakness that hurts the cooperatives' ability to compete. More producers of average quality may be able to benefit from this standard because to the output-pooling mechanism of cooperatives. But the competitive yardstick effect helps make up for this shortcoming of open memberships. the middle ground between two undesirable outcomes. Using a scenario with many items, they compare open and closed membership. They show that farmers benefit from the cooperative's risk mitigation and higher product pricing when open membership is a possibility.
Finally, the cooperative horizon problem demonstrates how generational differences may lead to underinvestment. Since the older farmers are usually on the cusp of leaving agricultural activities, they stand to gain little from a successful investment, and this may lead to conflict with younger members of the community. Therefore, the horizon problem may limit the cooperative's ability to successfully invest in novel ways. Cooperative members' inability to quickly recoup their initial investments This issue is linked to the fact that cooperatives have trouble transferring ownership if members leave.

2. Member Heterogeneity: A Key Underpinning Issue

These issues with cooperative governance stem from the diversity of the farmers that join them. There will always be some degree of information asymmetry and dispute due to the fact that every farm and farmer is different. Many different meanings of "farmer heterogeneity" in agricultural cooperatives are presented in the literature. Differences in farm size and cost structure, product kind, and members' ages, risk choices, and other factors might all contribute to this variety. Having individuals from different backgrounds might cause issues with governance. Model the consequences of a cooperative's members coming from a wide variety of farming backgrounds using the data you've gathered.
The most powerful faction of farmers makes the ultimate quality judgment in a manner that benefits their collective coffers. provides a theoretical basis for assessing the quality of a team's final product.

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Farmers from different backgrounds who regularly produce high-quality items may have an impact on cooperative decision-making. In a cooperative where "one member, one vote" holds true, the rules are decided by a simple majority of the membership. By working toward same aims, cooperative farmers may be able to boost the organization's bottom line. Farmers may have varying opinions and objectives, but there is also apparent and quantifiable variability across farms, regions, and individuals.

THE COOPERATIVES' ROLE IN ENCOURAGING ENVIRONMENTALLY FRIENDLY PRACTICES

Agricultural cooperatives have the potential to increase environmental sustainability on farms by encouraging farmers to adopt eco-friendly practices and new methods. Learn how member loyalty in a cooperative with several goals fares in light of the impact of mission compatibility. The authors show that even modest adjustments to agricultural practices may have far-reaching consequences. This suggests that creative strategies may provide farmers a shared financial objective and additional incentives to join the cooperative. Moreover, several studies show that cooperative membership significantly affects the adoption of eco-friendly practices and technology. You're more inclined to invest in organic fertilizer if you're part of a cooperative.

Cooperation increases the likelihood of implementing green pest management strategies. Use integrated pest management as an example of the benefits of working together to protect the environment. that it is difficult for farmers in China's fruit and vegetable business to adhere to regulations governing pesticide use. They give data that supports the idea that farmer cooperatives may help lessen the need for pesticides. In China, cooperatives improve ecological standards via their use of inputs and involvement in the production process. As a consequence, there may be greater incentive for farmers' cooperatives in developing countries to improve their products.

CONCLUSION

This study set out to evaluate agricultural cooperatives' contributions to the long-term viability of food production systems. On the other hand, the second section of the literature is more empirical in nature and, in general, explores the function of agricultural cooperatives on an ad hoc basis by inserting one driver representing the farmers' connection with their cooperative into the econometric studies.Though this may be used to infer stylized facts about the agriculture sector, it does not provide the systematic conclusions that would be necessary to construct plausible scenarios or provide sensible suggestions. The primary causes are, on the one hand, a sense of distrust that produces a lack of interest and, on the other, financing for agricultural development programs is difficult to get because to a number of factors, including a lack of knowledge about these programs, apathy on the part of local authorities, and confusion over application processes.

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