

Cooperative Sustainability Challenges in the Rural Credit Landscape

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Abstract. Agricultural cooperatives play a significant role in improving economic and social resilience of rural communities. Sadly, with the advent of non-bank financial institutions such as fintech, their competitiveness has been reduced, particularly in accessing funds and technology adoption. The purpose of this research is to explore the internal and external factors influencing cooperative sustainability from a case study of the Agricultural Cooperative in Cikidang Village, Lembang. The research design was qualitative based on face-to-face interviews. The results show that low financial literacy and weak digital infrastructure are the primary impediments. But the cooperative is still demonstrating adaptive resilience through institutional adaptation, the use of technology-facilitated innovations like automated irrigation systems and greenhouses, and experiential hands-on learning among the members. The study aims to emphasize the imperative for developing cooperative competitiveness through the integration of institutional, social, and digital strategies within the context of green economy principles. The recommendations for its improvement are to develop in-house capacity via financial management and leadership training, cross-sectoral coordination with government, private sector, and academic institutions to enhance access to finance and technology, and enhancing members' digital literacy via in-practice training programs and ongoing mentoring.

Keywords: Agricultural Cooperatives, Competitiveness, Green Economy, Nonbank Finance, Sustainability, Digitalization

1. Introduction

Farmers' cooperatives play a significant role in consolidating rural economies and creating solidarity among farming communities worldwide (Sánchez-Navarro et al., 2024). However, the landscape of rural credit has seen a radical transformation in the last couple of years. The advent of non-banking institutions and digital platforms has made it possible to access faster and more convenient financial services, and leveraged big data in credit scoring. While such innovations have extended financing possibilities, they have also threatened cooperatives' traditional role. This has led to membership labor unionism, activism declines, and the development of distance in management professionalism and strategic planning.

Indonesian agricultural cooperatives are economic institutions with an explicit mandate to enhance farmers' welfare by ensuring stable pangan security in the nation (Putra et al., 2025). Farmers are able to mobilize capital, gain access to lower-cost production inputs, and group their output together for marketing purposes by utilizing cooperatives. The instrument increases their bargaining power in an open market. Principles of cooperation that initiate unity, mutual assistance, and economic democracy also form a firm basis for the establishment of a participatory and just rural economy (Tiktiek, 2022). Nonetheless, changing finance patterns—specifically, growing reliance on higher-interest non-bank lending practices—have emerged as new challenges to cooperatives' competitiveness and viability (Amiquero et al., 2023).

Within this perspective, this paper aims to study the internal and external drivers of the sustainability of farm cooperatives in the midst of disruption owing to non-bank financing. Differing from previous studies that focused more on the role of the cooperatives in enhancing access to credit and support for green agriculture, this paper focuses on how cooperatives are re-engineering to rival alternative funding models and technology requirements. The contribution of this research lies in utilizing institutional, social, and online approaches to a case study of Indonesia's agricultural cooperatives and thus contributing to the academic literature and producing policy-relevant and actionable recommendations.

2. Literature Review

Cooperatives are founded on social justice and grassroots economic empowerment, as stipulated by the economic democracy principles. With the advent of information technology and other new non-bank financial institutions such as fintech, however, cooperatives' role as primary organizers of rural community capital access is most threatened ever before. Various studies show that cooperatives still suffer from technical inefficiencies, technology adoption, and organizational design deficits. Failures that lead to cooperatives being excluded are predominantly not merely due to economic limitations but also due to social factors, such as defensive localities and low member engagement (Moral & Uclés, 2022). This further shows that internal issues influence not just formal institutions but also the organizational social framework and culture.

Cooperatives are exposed to external pressure in the shape of fintech services and non-bank financial institutions offering speedy, responsive, and tech-based lending models. The Sense-and-Respond method adopted by fintech enables speedy product and service adjustments to meet market needs, through a profitability segmentation-based risk management strategy (Kaminskiy et al., 2024). This is less cooperative in the sense of adapting a service and inclusive direction. Therefore, those cooperatives which do not keep up with digitalization stand to lose their competitiveness as individuals' behavior is changing in accessing financial services.

Digital transformation is one of the fundamental factors that need to be addressed by cooperatives. Research on European agribusiness shows that the application of digital technologies such as the Internet of Things (IoT), artificial intelligence (AI), and blockchain technology has the potential to increase efficiency, transparency, and member engagement (Ciruela-Lorenzo et al., 2020). However, poor digital literacy and poor infrastructure remain major concerns for Indonesia for the cooperatives to embrace similar innovations (Ciruela-Lorenzo et al., 2020). The gap defines the disparity between access to digital transformation in developed countries and multiple challenges presented by developing countries and is a unique challenge for Indonesian cooperative adaptation.

The digitally facilitated technological capability of cooperatives is underpinned by the intensity of social bonding and solidarity. Indonesia's success in being able to transform into modern cooperatives highly relies on the system of solidarity bequeathed by indigenous social networks. Social network analysis indicates that close personal ties, the level of mutual trust between members, and value-based cooperation are the most important pillars influencing

cooperatives towards a more resilient and responsive model (Ciruela-Lorenzo et al., 2020). Cooperative resilience against digital disruption and limited external support thus depends not just on structural creativity but also on the strength of non-material ties in interpersonal relationships.

Different research confirms that institutional governance and digitalization are two key factors to provide cooperative competitiveness during the era of technological transition. Misuse of IT has been discovered to reduce competitiveness and efficiency levels among European agribusiness cooperatives. They emphasize internal challenges in terms of low digital literacy, restricted infrastructure, and management capacity, which hinder adaptation in developing countries such as Indonesia (Lestari & Magfiroh 2025). Moreover, they mention that the development of fintech companies poses external pressures that introduce new structural, social, and cultural challenges to cooperatives (Zheng et al. 2024).

There is thus a universal consensus that cooperatives face internal (literacy, management, organization), external (fintech, financial competition), and social (member commitment, solidarity) challenges. Existing literature has been inadequate in fully capturing these three dimensions, particularly at the grassroots cooperative level in developing countries. Consequently, there is a research gap in the sense of limited depth in examining rural Indonesian agricultural cooperatives' handling of the evolving non-bank finance landscape, institutional social sustainability, and competitiveness in the face of internal and external threats. This research seeks to fill this gap through the use of a qualitative methodology based on local case studies.

3. Method

This research employed a qualitative method with a case study approach, as this strategy allows researchers to gain a local perspective that reflects the reality on the ground (Allsop et al., 2022). The research location was the Agri Cooperative in Cikidang Village, Lembang District. This area was chosen because it demonstrates a high level of farmer involvement in cooperative activities.

Participants in this study were members who are active farmers. Participant selection was carried out using purposive sampling techniques, selecting individuals deemed most capable of providing relevant information regarding cooperative dynamics, and snowball sampling to reach members with specific experiences. Data collection was conducted through

in-depth interviews using a semi-structured format. Interviews were recorded with the respondents' permission and then transcribed verbatim.

Data analysis was conducted using a thematic approach. The initial stage involved open coding of interview transcripts, followed by grouping codes into categories representing internal and external factors of the cooperative. Next, the categories were developed into main themes focusing on indicators related to the green economy. The ethical aspects of the research were met by obtaining informed consent from all participants before the interviews began. Respondents' identities were kept confidential using an anonymizer code, and data was stored securely for the purposes of this research only.

4. Results and Discussion

Out of observations and interviews carried out with agricultural cooperative stakeholders, three significant findings were obtained that mirror the challenge and promise of agricultural cooperative sustainability. The findings are:

1. Decreased competitiveness due to external pressures and restrictions on the inside.
2. The institutional role of cooperatives in maintaining sustainability.
3. Real threats against the survival of the cooperative by both internal and external forces.

The main problem that the members face is access to funds. Limited financial literacy and the hassle of organizing collateral motivate farmers to approach non-bank financial institutions, such as banks offering quick but perilous loans. This development is an indication that there has been a reduction in competitiveness in providing competitive financial services by the cooperative.

Conversely, the Lembang Agri Cooperative has made strides in institutional strengthening when it was transformed from a savings and loan cooperative to a productive cooperative since 2020. It is characterized by increased transparency in the system, training of the management, and focus on direct market linkages.

The cooperative also began implementing technology-based innovations, such as the creation of greenhouses, automated irrigation schemes, and contract farming schemes. This approach encourages active involvement and it is a responsive strategy against digital disruption and external pressure.

The following table summarizes the interview data, which will then be further analyzed in the SWOT discussion:

Table1 Interview Result Data

Code	Question	Indicator	Statement
1	Are there any obstacles faced by cooperatives in managing capital access?	Difficult Administration, Lack of Financial Literacy, Slow Disbursement	The old savings and loan system is not effective without financial management education. Many farmers turn to banks directly (bankable). The emergence of mobile banks (bank emok) exacerbates farmers' consumptiveness. A loan system that educates and assists farmers is needed. Access to national banks is healthier than loan sharks or emok banks.
2	What are the concrete steps to strengthen the system in this cooperative? (HR, capital, system)	Management training, capital resources, transparency	The cooperative is transforming from a savings and loan to a productive cooperative, focusing on market connections, transparency, and production management. Cooperative transformation strengthens farmers' position through empowerment and value chain management
3	What kind of program innovations to bring renewal to these agricultural cooperatives?	Programs based on farmers' needs, new methods (digitalization)	Innovation through greenhouses, automatic watering, and digitalization of agricultural systems from upstream to downstream as well as the application of

contract farming. Modern technology support is key to efficiency and sustainability; access to and training on tools are required.

Based on this data, a SWOT analysis was conducted to map the current situation of the cooperative.

Strengths

1. Institutional transformation into a productive cooperative since 2020.
2. Implementation of technological innovations: automated irrigation, greenhouses establishment, and contract farming systems.
3. Active farmer participation, faith in management, and oneness among members.

Weaknesses

1. Low level of financial literacy among members hinders understanding of productive financing mechanisms.
2. Not all among members are capable of operating modern technology.
3. Over-dependence on project-based training from external sources, without a sustainable in-house training facility.

Opportunities

1. Digital agricultural technology innovation.
2. Government support for precision agriculture.
3. Strategic partnership opportunities with universities, private sector corporate social responsibility (CSR) programs, and online training websites.
4. Sustainable agriculture trends and demand for healthy horticultural products.

Threats

1. Competition from other non-bank financial institutions (bank emok) with high interest rates.

2. Over-dependence on external support, e.g., training, project subsidization.
3. Risk of stagnation if cooperatives do not build internal adaptive capacity.

Evidence of research indicates that the cooperative's strengths are primarily their institutional capacity, technological innovation, and social coherence within. Institutional transformation in 2020 indicates the capability of the cooperative to improve the bargaining power of farmers in the value chain. The evidence is in agreement with a research paper by Yu et al. (2023), which indicates the significance of social capital in improving the access of resources and economic resilience of cooperative members.

Weaknesses such as limited financial literacy and specific technological competence, however, imply that member capacity is not equalized. This concurs with Kyeyune & Ntayi (2024) research that weak managerial and financial skills are the main obstacles to improving the performance of rural cooperatives.

In terms of opportunity, the progress of digitalization and increasing governmental interest in precision agriculture are making opportunity for cooperatives to increase their technology and market access. This goes in line with the study of Uneze et al. (2024), which shows that cooperatives that adopt digitalization and form cross-sector networks will be more likely to respond to new dynamics in the agricultural value chain.

However, the largest threat comes from "emok" banks that offer short-term, unsecured loans with extremely high risks. This weakens members' loyalty to the cooperative. Cooperatives that fail to build adaptive capacity will remain vulnerable to stagnation, especially in the event of very strong competition from informal financial institutions, McKillop et al. (2020) insist.

The strategic implications of the findings are the necessity for cooperatives to:

1. Create an in-house sustainable training system to improve members' technology and financial literacy skills.
2. Optimize digitalization and innovation as adaptation mechanisms to external pressures.
3. Reduce the need for external assistance through building autonomous institutional capacity.

Thus, access to external capital alone is not enough; sustainability of cooperatives hinges on internal ability in innovation, management, and social cohesion.

5. Conclusion

From the results of the discussion, it can be concluded that the Agri Cooperative has received several real threats such as replacing the savings and loan program because it has been eroded by non-conventional banks, namely "*bank emok*", besides that there are also things that need to be considered in internal and external parties in order to align the objectives and functions of the Cooperative itself, so that the common goal is achieved. With this it can be concluded, there was a shift in the function of the Agri Cooperative in the savings and loan system which eventually the program only focused on agricultural management with the previous Cooperative members, even so the Agri Cooperative was able to survive with various threats through cooperation between the parties and hoped that the government could highlight the problem of "*bank emok*" because many parties were harmed apart from the borrowers themselves.

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