

# Advocating Community Economic Resilience Framework in Kemadang Food Barn, Gunungkidul, Yogyakarta: Accentuating the Social Capital Perspective

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Submitted: November 13<sup>th</sup> 2022; Revised: January 22<sup>nd</sup> 2023; Accepted: June 13<sup>th</sup> 2023

## Keywords:

Agribusiness  
Community development  
Head lice infestation  
PALAR  
Social capital

**Abstract** Agriculture is claimed as Indonesia's strategic pillar sector. The existence of a community-based enterprise with a traditional business model is often seen as a weakness, while social capital is a strength to thrive. However, a well-managed conventional business model can become one of the foundations of a sustainable livelihood. This community service program was carried out with the Artha Mandiri Group, which is domiciled in Kemadang Village, Gunungkidul, Special Region of Yogyakarta. This program aimed to increase the economic resilience of group members by empowering and growing business capabilities with their social capital as their fundamental strength. The empowerment method used in this program was Participatory Action Learning and Action Research (PALAR), which is considered an effective tool for strategically transforming paradigms. This method focused on a balance between progressive, collaborative practice accompanied by an action research foundation. The 6-month program has resulted in collaborative business competency learning practice for group members, emphasizing different processing methods to produce business line diversification. This group made flour from land-owned rice paddy harvests with the same quality as commercially produced. This achievement can also have an impact on business cost efficiency.

## 1. INTRODUCTION

In the midst of the outbreak of the COVID-19 pandemic from early 2020 to 2021 in Indonesia, the agricultural sector has succeeded in becoming a pillar of economic resilience by growing 2.19% at a time when other sectors, such as tourism and transportation, are suffering hard (Badan Pusat Statistik, 2020). According to The World Bank: Data, agricultural sectors play an important role in the national economy through its Gross Domestic Product (GDP) by increasing from 12.7% in 2019 to 13.7% in 2020 and becoming a source of income for Indonesian as most of the land (29%) were assigned for agriculture (Pradana et al., 2019). Indonesia's food crops are rice, corn, soybean, peanuts, and yam. Badan Pusat Statistik (2022) reported that the total production of rice as a staple food in Indonesia

was 55,670,219 tons in 2022. Most of the crops were traded informally in traditional markets Vorley (2015), and disruptions in its distribution system, transaction costs, and purchasing power led to food insecurity. Therefore, sustainable agricultural development is necessary to support food needs and provide the industrial sector and employment opportunities Darsono (2008), that have been affected by the COVID-19 pandemic (Fry-Bowers, 2020). The pandemic has increased the risk to the food supply chain by creating pressure on the food system through food supply and demand, which has impacted Indonesia's food security (Ikhsan et al., 2021; Workie et al., 2020). According to a policy brief by Food and Agriculture Organization of the United Nations (2006), food security

can be reached when people can access adequate safe, nutritious food for their daily needs without the risk of losing access to food because of sudden shocks. Indonesia's food security is associated with rice. Its production stability is important, and interruption in supply chain, distribution, and transaction because of health protocol standards due to the pandemic could limit food affordability for Indonesian as well as farmers in rural areas (Akter, 2020; Ministry of Agriculture, 2020). As a result of social restrictions, planting time is delayed, especially for large-scale plantings such as rice, and low demand for horticultural commodities due to decreased purchasing power and difficulty obtaining fertilizer in Indonesia (Oelviani et al., 2022).

Based on our initial discussion with the chief of Kemadang Agricultural Cooperative in Gunungkidul, the difficulties encountered by the farmers there is the lack of competence of farmer group members to make tactical decisions in managing their food barn to face market competition, particularly the capability to produce product diversification innovation, market positioning, pricing decision strategies, and product costing strategies. These capabilities are necessary because, so far, they only sell raw commodities to loan sharks or distributors at lower prices, and there is no orientation to turn them into value-added finished goods that are produced and marketed professionally or following effective and efficient management standards. As described above, this situation was exacerbated by deteriorating economic conditions due to the COVID-19 pandemic.

Community Economic Resilience (CER) then becomes a framework that needs to be applied at the Kemadang Agricultural Cooperative as research and action in dealing with crises. Dinh & Pearson (2015) define CER as the economic capacity of a community to face economic shocks and adapt to sustain livelihoods. Dinh et al. (2017) further elaborated that community economic resilience can be achieved by managing community capital, such as social capital, human capital, natural capital, physical capital, and financial capital. The more abundant and diverse the endowment of resources owned or acquired by a community, the higher its ability to buffer against crisis shocks and adapt again.

One of the efforts to increase resilience in Kemadang Agricultural Cooperative is the construction of a food barn as their physical, natural, and financial capital, which is managed by the cooperative. A food barn is intended to store the harvest, so it can be distributed at the right time. If there is no food barn, farmers are forced to sell their crops as soon as the harvest period ends, which causes farmers to be unable to set competitive prices because supply far exceeds demand. However, food barn management still needs to be established professionally. In contrast, good knowledge management can support business sustainability and create a circular economy that will continue to sharpen the organization's competitive advantage (Shih et al., 2018). The lack of sources of knowledge in business and finance is likely the root of the food barn management problem. It can potentially cause problems for the sustainability of farmer

group businesses.

To further improve the management of the food barn, the authors analyze that their social capital is a fundamental strength that can make the safety net remain resilient in facing pandemics or other crises. This capital also becomes the foundation for further development and improvement of brand food barn management, especially in creating new product innovations from raw commodities in food barns. Introducing a simple business model design and financial management will be a starting point for identifying the competitive advantages and igniting new product innovation. The previous literature also explains that social capital can improve food security – this is in line with the general objective of implementing the service program for the Artha Mandiri community (Nosratabadi et al., 2020). Thus, the author explores whether social capital can become a paradigm foundation in increasing community economic resilience.

Resilience is survival in the face of various shocks and crises because it has the persistence, determination, and flexibility to adapt (Michel-Villarreal et al., 2019). Dinh et al. (2017) elaborated that community economic resilience can be achieved by managing community capital, such as social capital, human capital, natural capital, physical capital, and financial capital. Economic recovery can occur more quickly if community members have a sense of ownership, strengthen bonds between individuals, and network with external parties to gain support and leverage (Manik et al., 2021). As a prolific researcher on social capital, Coleman (1988) explained that the structure of society, manifested in patterns of communication and patterns of living together in the community, can be an asset to increase productivity. Furthermore, it was identified that there are three components in adequate social capital – trust, the flow of information sharing, and social norms involving social sanctions.

Drawing on the concept of social capital in this service process, the authors believe that increasing the business and management competence of the farmers that organize that food barn in Kemadang requires solid social capital as a foundation for the intended direction. The strong anchors for their livelihood growth are taking advantage of the trust built in neighborly life, the flow and habits of sharing unique and specific information, and being motivated by positive social norms.

## 2. METHOD

Referring to the initial introductory statement, this community service program was carried out with the Artha Mandiri farmer group based in Kemadang Village, Tanjungsari Subdistrict, Gunungkidul District, Yogyakarta Special Province. The authors selected this community service based on the university's database and networking. The author sought a newly established community (under five years old). This decision is related to the method underlying this community service program: Participatory Action Learning and Action Research (PALAR), which focuses on collaborative vision crafting between the

community and the author as facilitators. Furthermore, this community has a strong history of establishing harmonious relationships among its members with diverse social backgrounds. Their relationship was initiated through social activity, and then the community leader formalized the organization and aimed to establish a cooperative.

This farmer group, formed in 2021, has had the vision to increase the capacity of farmers and entrepreneurs in the Kemadang Village area. The first program initiated by this farmer group is initiating a food storage function projected as a new community business unit and expected to be independent. The demographic profile of the members of this farmer group varies. The majority of members have more than one type of job or business. However, the prominent venture carried out by all members is cultivating private agricultural land on a small scale. There are about 15 members of the farmer group, and all of them were involved in this community development program. Most members own a small bar on Baron Beach, and some are tour guides, but on weekdays they farm their fields because tourism is usually active on weekends.

The Artha Mandiri farmer group is considered a suitable partner for this service because it already has a relatively solid and stable organizational structure and membership, even though its business model still needs to be revised. The strength of the organizational structure will be analyzed with the paradigm of social capital, whether the power of the community makes this organization more resilient, stable, and more likely to develop in terms of individual economic independence and increasing organizational capacity. This flow of the implementation of the designed program is illustrated in Figure 1.

The method underlying the implementation of this community service program was the PALAR Process

paradigm (Wood, 2019; Zuber-Skerritt, 2018). By using this method, community empowerment is a learning process through making an effort coupled with a research process to find a structured pattern and later used as a guide for formulating formal policies that can be generalized. In addition, there is a participatory principle where this program is a reciprocal action that must be sought from both parties, universities, partners, or the community. This process is illustrated in Figure 2.

To start a community service program, an essential point in initiating a collaboration process or approach with partners is emphasizing synergizing the partner’s vision, facilitated by the service team. Vision and strategy must emerge from the initiative of group members with the role of serving as a trigger for partner creativity. The program initiation process is carried out with the principles of equality and kinship. The Service Team will explore each farmer group’s aspirations, which will be the main topics and achievements through community service programs.

This service process is research and a learning process that runs in parallel. Practical learning points emphasized in this community development activity are general business management training and product diversification training practices, as examples of a business that can be started at the Artha Mandiri barn. The research point of this activity is to explore the process of community economic development according to the social capital paradigm, which is internalized in the community process of the Artha Mandiri community.

Based on the envisioned goals, the authors – the facilitators of this program – first conducted an initial meeting with the community leaders to discuss the community development program and activities timeline. The detailed activities are presented in Table 1.

Table 1 . Characteristics of Yayasan Griya Asih Orphanage Residence (n = 55 people)

Times	Activities with Communities	Reflection Activities
February 2022	Discuss the detailed topic of the community development program	Arising research questions regarding the community’s potential and needs)
March-August 2022	Conduct the monthly workshop with the designated topics (detail in Table 2)	Observation of the community development process
September 2022	Evaluation Reflection on the next steps	Reporting and Feedback Reflection on the next steps

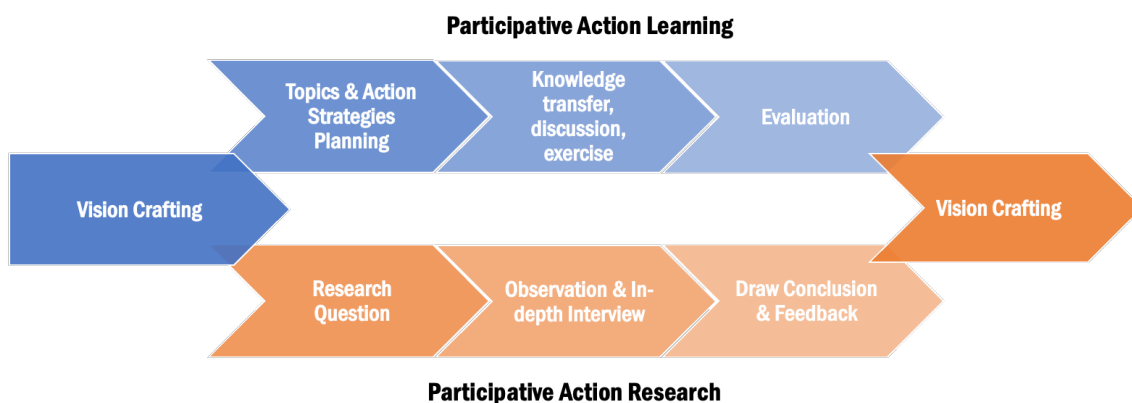


Figure 1 . Community engagement flow

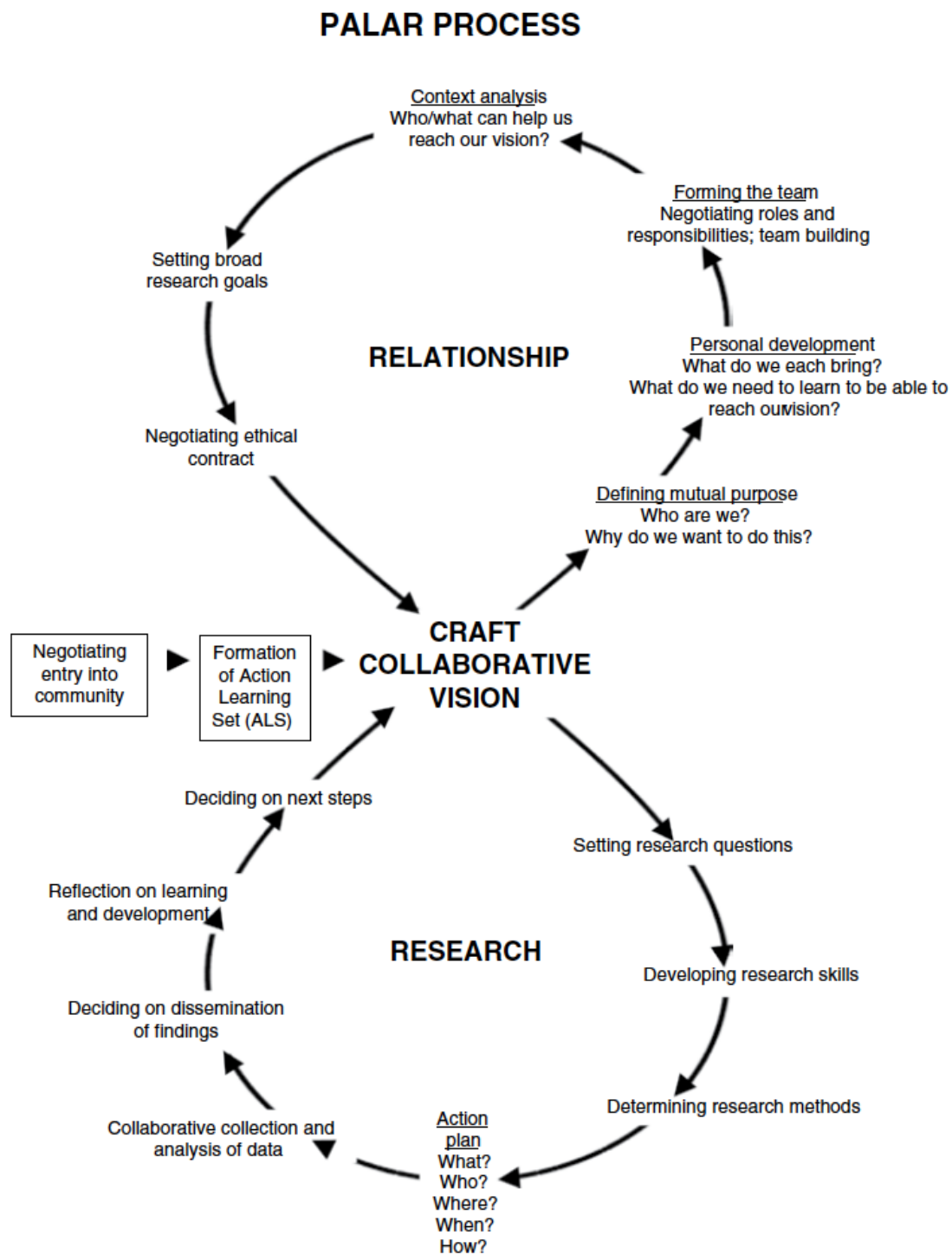


Figure 2 . PALAR diagram (Wood, 2019)

### 3. RESULT & DISCUSSION

#### 3.1 Participative action learning

Most farmer group members have culinary businesses, considering the geographical geography of the Kemadang Village area, located on the southern coast of the Special Region of Yogyakarta. On a micro-business scale, each member of the farmer group utilizes the harvested rice as a raw material for their culinary business. Based on this good practice, flour-grinding machines are given to farmer

groups as initial capital. This flour machine is owned communally by farmer groups. The hope is that with a flour grinding machine, the rice harvest produced from each private/household field can be processed into flour. In particular, rice not whole or unfit for sale can be sold with scrap value and used as raw material for members' culinary businesses. With a flour machine owned by a food barn or farmer group community, members can save the cost of buying flour or pay for flour milling services.

Table 2 . Topics and target

Topics	Targets	Activities
Introduction to agribusiness	-Be able to identify how to use the flour-grinding machine -Able to coordinate the maintenance and utilization of the flour-grinding machine -Be able to identify rice quality -Be able to identify flour quality	-Knowledge transfer -Discussion -Flour-grinding practice -Identifying various flour qualities -Identifying flour packaging within the markets
Competitive advantage strategies and organization values	-Be able to identify internal values that are unique to the community -Be able to identify the competitive advantage of the organization	-Knowledge transfer -Discussing internal organization values -Discussing potential competitive advantage
Strategic business planning	-Be able to craft business strategies through the business model canvas	-Knowledge transfer -Business model canvas -Discussing supply chain -Discussing distribution channels
Product costing	-Be able to identify production materials -Be able to justify the business overhead cost -Be able to compute production costs	-Identifying production materials and elements -Determining the appropriate justification for overhead -Computing production cost -Arranging production cost reports and planning
Financial management	-Be able to project business financial management and capital planning	-Knowledge transfer -Discussing future business financial management
Product innovation	-Be able to create product innovation	-Discussing product innovation based on the identified competitive advantages -Discussing marketing and selling strategies based on the identified competitive advantages

This service process has been running for six months, with a target of meeting once every month intensively, starting with discussion sessions and continuing with the practice. In terms of increasing farmers' economic capacity, the business materials were simplified and contextualized according to the community's needs. The followings are the topics discussed and the targeted practices presented in Table 2.

The structured business material or theories designed presented in Table 2 have been given to members of the farmer groups to complement the business knowledge they have learned. The competitive advantage of combining the agricultural and tourism sectors of the economy can be a massive opportunity for this community. Practices to produce quality flour from rice groats have also been carried out. Then, flour processed from household agricultural produce is processed into processed chips. The following training activities are presented in Figure 3.

One of the most competitive products in the area is the seaweed and anchovy chips. The recipe is unique to the community. With the flour-grinding machine given to the community, they could process their flour from their harvested rice paddy. They have specific ingredients. They also aim to maintain the freshness of the chips. The community mentioned : "We aim to produce chips with a certain level of quality. Our problem is we have to keep the ingredients fresh. It only lasts overnight. Otherwise, the batter would turn bad. With this machine, we can get the same flour quality as the mill in the market, but at a far cheaper cost."

Apart from producing tangible products for community cooperatives, this community development also trains the members to justify their business production costs. Based on the workshop, the community concluded that they put a lower selling price than the cost expenditure. They also calculated their profit margin and justified their reasonable





Figure 3 . (a) Flour-grinding machine; (b) Product development process

price point. Furthermore, the community was trained to design their business model canvas, whether created for the community or their business. The community works together to identify its strengths and weaknesses, opportunities and threats, and innovation projections.

### 3.2 Participative action research

As an action research step, the authors interviewed the community leader. He is also a priest. Researchers explore whether the elements of the social capital Coleman (1988); Lochner et al., (1999); Mountford et al. (2020) owned by this community can strengthen the solidity of farmer groups and become capital for further economic development. The essence of the constructed interview shown in Table 3.

The author identifies themes constructed based on the classical theory of social capital and the development of social capital theory to broaden the perspective and contextualization of the areas of needs that are the main topics in this service.

The first dimension in the social capital construct is the trust built between community members. Since the initial meeting to discuss opportunities and strategies for the community development program, it was found that this service was carried out in a church-owned building, and this was confirmed by the pastor, who also acts as a builder and a community mobilizer. Although, in general, the Indonesian has the identity of Bhinneka Tunggal Ika, dynamics are still often encountered in practice. There is an intrinsic meaning captured by the belief of all members that everyone respects everyone else's trust and provides an open and neutral space to develop without disturbing personal principles.

The second dimension is an information-sharing strategy, where word of mouth is very effective in non-urban areas (Khaddam, 2020; Pourfakhimi et al., 2020).

In addition to utilizing church networking that has branch posts and church members/actors who often gather for worship, information is also shared through community networks, most of which have businesses in the tourism sector and cultivate agricultural fields. Pastors who are community leaders and community leaders have broad access and exposure to universities and institutions that have the potential to collaborate.

The third dimension is related to the internal values that are lived in the community and social norms, which are an essential basis for the structure of social capital (Nosratabadi et al., 2020). Based on the results of interviews, it was found that the process of community maturity in Kemandang Village is quite dynamic. This analysis is based on the history of internal conflicts experienced by community members related to misunderstandings about religious issues. However, the mediation process continues, and, in the end, the community members can live side by side fairly, even working together to enhance personal and communal welfare. In addition, the unique traditional ceremonies in Kemandang Village are a means to deepen moral values.

Finally, the author views the importance of the ability to innovate Lawson & Samson (2018); Pathak & Mukherjee (2020) so that this community development program can be impactful. The facilitator from the university is responsible for stimulating new ideas and creativity. This method is essential, considering community members can only find and cultivate a competitive advantage. The food barn is the first initiative of the Artha Mandiri community. Next, the exact line of business must be defined and operationalized. Training on identifying competitive advantages, compiling business model canvases, finance, and technical science related to simple food technology is provided to ignite business process innovation.

Social capital must be perceived as a strategic tool in developing the business process to promote economic resilience. Elaborating trust, effective knowledge sharing, internalizing social norms, innovation, and tangible products would significantly impact society. Community leader mentioned: "With this knowledge and skills in processing agricultural products, Artha Mandiri Food Barn can sell processed products, both ready-to-consume and semi-finished products. With the ability to sell finished or semi-finished products, we shall get a higher profit. Because it can obtain higher profits from sales, Artha Mandiri Food Barn will have the ability to prosper farmers by buying agricultural products at better prices and providing higher SHU to members. With this flour machine, Artha Mandiri Food Barn can produce its flour so that production costs become cheaper so that it can be sold at a lower (competitive) price or has the opportunity to make a better profit."



to the community's superior products have yet to be found. The intensity to design more competitive products until it is ready for sale requires extraordinary efforts from community members. The challenge comes from each member who already has private businesses. Allocating time and effort to create a new product invention seems to be a struggle. Lastly, in the future, this community development program should focus on developing Artha Mandiri community-level product development. By then, this community development program will be sustained.

## ACKNOWLEDGMENT

We would like to extend our gratitude to Rev. Christiana Riyadi and all the members of Artha Mandiri that have been working with the authors in conducting this community development program. This program has been funded by the Institute for Research and Community Service and the Faculty of Business of Universitas Kristen Duta Wacana.

## CONFLICT OF INTERESTS

The authors declare there is no conflict of interest.

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