



## Community-based agricultural revitalization in Ngringo Village, Jaten Subdistrict, Karanganyar Regency

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### ABSTRACT

**Background:** Development involves conscious efforts and activities aimed at achieving positive change within a community. It requires the participation of all societal layers, with the government acting as a facilitator and guide. The government and the community must work harmoniously to achieve the desired goals. National agricultural development often focuses on villages close to municipalities, benefiting from hierarchical governance and advanced rural agricultural practices. This development can progress with political support, as outlined in Law Number 6 of 2014 on Villages, which aims to improve welfare, enhance human resources, and reduce rural poverty through sustainable management of local resources and the environment. This study aims to understand the potential and issues facing Ngringo Village, analyze the structural transformations, examine the institutional changes, assess the technology transfer, and identify a suitable agricultural development model. **Methods:** The research employs qualitative methods, including field observations, interviews with key informants, and analysis of secondary data from relevant literature and official documents. **Findings:** The results indicate that Ngringo Village has significant potential due to its strategic location and developed infrastructure. However, challenges such as reduced agricultural land and a shift in economic activities from agriculture to industrial sectors are evident. Institutional support through local farmer groups and technology adoption has been crucial in addressing some of these challenges. **Conclusion:** In conclusion, while Ngringo Village faces challenges due to rapid structural changes and urbanization, the village has managed to sustain its agricultural practices through effective institutional support and technology transfer. The study suggests that a location-based development model, considering both agricultural and non-agricultural factors, is essential for the sustainable development of Ngringo Village. **Novelty/Originality of this study:** This study produces a location-based agricultural development model that considers both agricultural and non-agricultural factors, providing practical guidance for local governments in planning sustainable development in villages facing rapid urbanization, such as Ngringo Village.

**KEYWORDS:** institutional support; rural agricultural development; structural transformation; sustainable development; technology transfer.

### 1. Introduction

Development is a conscious effort involving a series of activities aimed at achieving positive change, carried out by the community within a country. In development, the participation of all societal layers as actors, and the government as a facilitator and guide, is

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crucial. The government and the community must work in harmony, complementing each other in the development process to achieve the desired goals.

One approach to national agricultural development is by focusing on villages that are very close to municipalities with hierarchical levels of government. Additionally, agricultural development in rural communities is more advanced. Agricultural development can progress in tandem with village development. This possibility receives political support from the national government. Law Number 6 of 2014 on Villages aims to improve welfare, enhance the quality of human resources, and reduce rural poverty through the sustainable use and management of local natural resources and the environment. Therefore, efforts to develop the national agricultural sector can synergize with village development efforts to enhance it. However, rural and agricultural development planning faces challenges due to complex issues. Rural and agricultural development planning must ensure that current development activities do not leave adverse conditions for future generations. Sustainability assessment explains the principles of sustainability, whether, and to what extent, these initiatives enable the area to remain sustainable.

Based on the background described, several objectives have been identified. The first objective is to understand the potential and issues facing Ngringo Village. Secondly, the aim is to analyze the structural transformations that have occurred in Ngringo Village. Thirdly, it seeks to examine the institutional changes taking place in Ngringo Village. Additionally, the objective includes assessing the technology transfer happening in Ngringo Village. Finally, the goal is to identify an agricultural development model that aligns with the analysis of agricultural development in Ngringo Village.

### *1.1 Developmental*

Development is a conscious effort involving a series of activities aimed at achieving positive change, carried out by the community within a country. In development, the participation of all societal layers as actors, and the government as a facilitator and guide, is crucial. The government and the community must work in harmony, complementing each other in the development process to achieve the desired goals (Latif et al., 2019).

Village development is an integral part of the overall development process. It is a method and approach programmed by the state (government and community) to mobilize available resources to develop rural communities. Village development is a political obligation and responsibility of the state in addressing the socio-economic issues of the country. The aim of village development is to improve the quality of human resources, including creating an environment that encourages the initiative and self-reliance of rural communities (Ariadi, 2019).

In implementing development itself, we need a communication system that allows us to develop effective communication and the ability to directly achieve development goals. Communication is a necessary requirement because the development process involves various elements of society. This communication for development must support aspirational, consultative, and relational attitudes. Development cannot proceed effectively without a synergistic relationship between the actors and the objects of development. Furthermore, the future development process tends to reduce the role of the government as the role of the community increases (Akbar et al., 2019).

### *1.2 Agricultural development*

Agricultural development is a process aimed at continually increasing agricultural production for each consumer, thereby increasing income and the productivity of each farmer by adding capital and skills, to enhance human involvement in the development of plants and animals. In the context of sustainable agriculture, it essentially means the ability to remain productive while maintaining resource bases. The modern attributes as insights into agricultural progress, modernity is a label that points to rational attitudes, market

orientation, impersonal institutional networks, future orientation, and the application of science and technology as tools to carry out tasks and achieve goals (Sudalmi, 2020).

Agricultural development is defined as a series of efforts to increase farmers' income, create job opportunities, alleviate poverty, strengthen food security, and promote regional economic growth. The government fulfills its role as a stimulator and facilitator, encouraging the growth of economic and social activities among farmers to benefit their income and well-being (Arham et al., 2019).

Agricultural development is an inseparable part of national development, playing a central role in laying a solid foundation for the country's economy. This is evident from the significant population or workforce engaged in the agricultural sector. The agricultural sector, as part of national development, plays a crucial role as it is capable of absorbing the largest human resources or workforce and serves as a source of income for the majority of the Indonesian population in general (Hakim & Makmur, 2019).

In order to promote agricultural development in the agricultural sector for the province in the future, the agricultural sector cannot be merely viewed based on its potential alone, but also needs to be assessed in terms of the province's agricultural sector capabilities compared to various other regions, particularly concerning competitiveness. Generally, competitiveness can be defined as the ability to compete. Meanwhile, the World Bank defines competitiveness as the magnitude and rate of change in the value added of inputs that can be achieved (Yulmardi & Erfit, 2018).

### *1.3 Structural transformation*

Economic development is always characterized by structural transformation, during which some sectors grow faster than others. Structural transformation is defined as the change in the economic structure from traditional sectors with low productivity to sectors with high productivity. This change in economic structure is marked by a decrease in the contribution of the agricultural sector and an increase in the contribution of the industrial and service sectors, both in Gross Domestic Product (GDP) and in employment absorption. Economic growth and income increase will alter the consumption patterns of the community towards agricultural products. The increase in income will shift the demand from food products (agriculture) to non-food products (industry and services). The transformation of production structure in Indonesia is followed by a transformation of labor structure, although the transformation rate is very slow and still dominated by the agricultural sector. The process of economic structural transformation between regions in Indonesia has shown that Indonesia has undergone structural transformation, as evidenced by the decrease in the share of the agricultural sector and the increase in the share of the industrial sector in total GDP during the period 1969-1987. However, the structural transformation that has occurred is unbalanced because it is not accompanied by a balanced transformation of the labor structure (Kartiasih, 2019).

In the long run, the economy of a region will undergo structural changes, transitioning from relying on the agricultural sector to the industrial sector. From a labor perspective, this will result in a shift of labor from the rural agricultural sector to the urban industrial sector, thereby causing an increase in agricultural contribution. This change will undoubtedly affect the income levels among individuals and between economic sectors because the agricultural sector is more capable of absorbing labor compared to the industrial sector. As a result, there will be a reallocation of income and labor from sectors with low productivity to sectors with high productivity, ultimately leading to income disparities within society. Factors contributing to the changes in the economic structure include the availability of natural resources, human resources, infrastructure, as well as capital and investments flowing into a region (Sufriadi, 2018).

The process of transformation and structural changes in Indonesia is characterized by a rapid increase in the manufacturing industry sector and a relatively rapid decrease in the agricultural sector's contribution to Gross Domestic Regional Product (GDRP). However, the changes in this structure have not been accompanied by significant changes in terms of

labor absorption. Consequently, relative productivity in the agricultural sector is increasingly lagging behind productivity in the manufacturing industry sector. Even if significant productivity changes have occurred, they may be limited to subsectors such as rice farming (Robinson, 2022).

#### *1.4 Institutional transformation*

Various efforts have been undertaken by the government to optimize the livelihoods of farmers, one of which is strengthening farmer institutions or farmer organizations from the village level to the national level to become profit and economically-based farmer institutions. This is intended so that through the increased role of these farmer institutions, farmers can carry out their farming activities more effectively and efficiently on a commercial scale, starting from the provision of production inputs, maintenance, to post-harvest activities. Various parties, both government and private sectors, are striving to assist farmers in optimizing their income and welfare, including through enhancing the role of farmer (economic) institutions in Indonesia. Agribusiness institutions or farmer economic institutions in Indonesia, from several years ago until now, are considered to have suboptimal performance in terms of increasing farmers' income. Economic institutions commonly found, including cooperatives, often have a negative image among farmers because they have not been able to function optimally in efforts to help farmers maximize their bargaining position and income and welfare (Haryanto et al., 2022).

The current agricultural institutions still focus on production and have not yet shifted towards post-production activities. Examples of agricultural institutions include farmer groups and farmer group cooperatives (Gapoktan), which have not yet evolved into farmer economic institutions (FEIs). This is not in line with the government's desire for agriculture to be economically scaled, market-oriented, and based on corporate areas (Effendy & Mustofa, 2020).

Institutional factors play a crucial role in the advancement of farmers and are expected to help farmers overcome economic disparities. However, until now, they have not functioned optimally. Farmer institutions are expected to assist farmers in addressing economic disparities, yet they have not been able to function optimally. Farmer institutions function to strengthen institutional structures, enhance members' abilities in agribusiness development, and improve their capacity to fulfill their functions (Khairunnisa et al., 2019).

The transformation of rice farming institutions has become an arena of struggle between tacit knowledge, working quietly, from the locality's indigenous knowledge of farmers, and modern knowledge and technology coerced by the government. The outcome of this struggle has propelled changes in rice farming institutions towards greater effectiveness and efficiency. These changes are responded to by farmers through rational actions. The rational response of farmers in rice farming activities can be observed in their decision-making processes regarding resource management and activities in the production process (Ali et al., 2018).

#### *1.5 Transformation/technology transfer*

The era of digital transformation is part of a larger technological process, and it involves the integration of digital technology into various aspects of society. Digital transformation can be considered the third stage in embracing digital technology. The era of digital transformation is changing business and social conditions, requiring companies, organizations, and society to adapt to technological advancements to remain relevant and not fall behind. One of the technological fields that significantly contributes to digital transformation is Artificial Intelligence (AI). Simply put, AI systems can perform tasks similar to those done by humans, such as thinking, making decisions, classifying situations, or estimating future conditions (Devianto & Dwiasnati, 2020).

Digital transformation can be defined as the process of leveraging existing digital technologies such as virtualization, mobile computing, cloud computing, integration of all

systems within an organization, and so on. Technological transformation is also defined as the impact resulting from the use of digital innovation combinations, which bring about changes to the structure, values, processes, positions, or ecosystems within and outside the organization. Digital transformation, in general, can be understood as a radical process occurring within organizations, utilizing technology, human resources, and business processes, leading to a drastic change in the organization's business performance (Hadiono & Santi, 2020).

The rapid pace of technological development increases pressure on organizations to undergo digital transformation because competitors continuously adapt to new technologies. Technology has also empowered consumers to demand more and set higher standards of satisfaction, such as better and faster services anytime, anywhere, and on any device. Digital transformation is also defined as the radical use of technology to significantly enhance performance or achieve company goals. Digital transformation brings many challenges that organizations must consider more carefully than ever before (Fitzgerald et al., 2013).

### *1.6 Agricultural development model*

The agricultural development model is not a simple concept. Human needs for agricultural products are evolving. Besides staple foods, humans also require agricultural products to meet the demand for renewable energy sources (biofuels), industrial raw materials, cosmetics, and pharmaceuticals. The demand for renewable energy is increasing, leading to competition between the need for food/feed and the need to produce raw materials for biofuel production. From a production perspective, the significant demand to meet food/feed and renewable energy needs raises new challenges, such as the availability of adequate production land in terms of quality and quantity (Arifin, 2013).

The agricultural development model must be able to conserve soil, water, plants, and animals, without harming the environment. Agricultural development should be carried out efficiently, implying an environmentally conscious development process that can reduce the impact of agricultural activities causing widespread environmental pollution. Additionally, it should produce various agricultural products, both primary and processed, that are of high quality and competitiveness. Sustainable agriculture is defined as a concept that can meet the food and fiber needs of both animals and plants in economically beneficial, socially equitable, and environmentally friendly ways. At least three factors demand agricultural development and the production of environmentally friendly products. Among them, sustainable agriculture plays an active role in environmental conservation efforts, improves the economic welfare of society, and increases awareness of better quality of life, as society becomes more aware of the importance of health (Dadi, 2021).

Sustainable agriculture is the implementation of the concept of sustainable development aimed at enhancing the income and welfare of farming communities as a whole. This is achieved through increasing agricultural production (both in quantity and quality), while still considering the preservation of natural resources and the environment. Agricultural development is carried out in a balanced manner and adjusted to the ecosystem's carrying capacity, thus ensuring the continuity of production in the long term, while minimizing environmental damage as much as possible. The principles of sustainable farming systems include better environment, better farming, and better living. Organic farming is one of the models embodying sustainable agricultural systems (Fadlina et al., 2013).

Current and future agricultural development is not limited to increasing productivity, but rather to how policies can place farmers in the development process by enhancing human resources to support sustainable development within the system. Agriculture, within the paradigm of sustainable development, is a development system that comprehensively utilizes human and natural resources as well as technology to improve societal welfare. The decline in employment absorption in the agricultural sector can jeopardize national food security (Sidharta, 2022).

## 2. Methods

### 2.1 Data source and types

The method of determining the research location was purposive area or intentionally. The sampling was deliberately conducted due to specific reasons and tailored to align with the research objectives. The research location is at the Ngringo Village Office, Jaten District, Karanganyar Regency, Central Java. The selection of this research location was based on several considerations, one of which is its proximity, strategic position, and easy road access from the Sebelas Maret University campus area.

Data sources in research are crucial factors because they impact the quality of research outcomes. Data sources influence the selection of data collection methods. Data sources consist of primary data sources and secondary data sources. (1) Primary data. Primary data is research data obtained directly from the original source (without intermediaries), whether individuals or groups. According to Rudianto et al., (2020), primary data is specifically collected by researchers to address research questions. The primary data source in this study is obtained from key informants. Data obtained from key informants consist of interview results with relevant parties from Ngringo Village. (2) Secondary data. Secondary data is a source of research data obtained indirectly by the researcher through intermediary media (obtained or recorded by others). Secondary data consists of evidence, records, or historical reports that have been organized in archives or documentary data. Secondary data is also defined as primary data that has been further processed and presented either by the primary data collector or by others, for example, in the form of tables or diagrams. The secondary data sources in this study include literature selected from the internet, libraries, and the Central Statistics Agency. Secondary data sources can also be extracted from documents of Ngringo Village.

### 2.2 Data collection methods

The data collection techniques used in this Case Study of Agricultural Development include observation, interviews, recording, and documentation. The observation is conducted directly at the research location in Ngringo Village, Jaten District, Karanganyar Regency. Observation activities are carried out to observe the conditions at the research site and record important aspects. This technique is commonly used in qualitative research and has long been dominated by visual observation, relying on the sense of sight as a superior tool compared to the auditory sense, which remains secondary.

To gather more information, structured interviews are conducted where the questions are predetermined, ensuring that the important information needed will be obtained from the conducted interviews. The interview protocol is used when the subjects of study (respondents) and the researcher are face-to-face in the process of obtaining information for primary data purposes, thus achieving the goal of collecting accurate and relevant data. In this study, interviews are conducted with the Head of Ngringo Village at the Ngringo Village Office, Jaten District, Karanganyar Regency.

In addition, the data collection method of recording is used when gathering information from informants and noting down the obtained details during observation. The researcher records specific documents related to this research, and the data obtained from this technique pertains to the general condition and the study of the transformations occurring in Ngringo Village. Finally, the documentation technique is applied as an indirect method of collecting research data. The collected data is documented in the form of pictures and written files, which serve to support the data being researched. Document studies in qualitative research act as a complementary data source alongside questionnaires and interviews. The data obtained from this documentation technique includes maps of Ngringo Village's territory and several programs implemented by the village.

### 3. Results and Discussion

#### 3.1 Potential and problems in Ngringo Village

The potential of a village represents its capacity, strength, ability, and capability that can be developed to enhance the welfare of the community. Broadly speaking, the potential of a village can be divided into two categories: First is the physical potential, such as land, water, climate, geographical environment, and human resources. Second is the non-physical potential, including the community with its patterns and interactions, social institutions, village social organizations, as well as village apparatus and officials. Generally, the goal of developing village potential is to promote the realization of independence among village communities through the development of outstanding potentials, strengthening institutions, and empowering the community.

Ngringo Village is one of the villages actively involved in rural community development. Ngringo Village is divided into eight Hamlets, namely Jurug Hamlet, Banaran Hamlet (consisting of Banaran Hamlet, Kapohan Hamlet, Jomboran Hamlet, and Daleman Hamlet), Palur Hamlet (consisting of Palur Hamlet and Ngringo Hamlet), Karangrejo Hamlet (consisting of Karangrejo Hamlet and Winong Hamlet), Puntukrejo Hamlet (consisting of Puntukrejo Hamlet, Randurejo Hamlet, Plosokerep Hamlet, and Dalon Hamlet), Gunung Wijil Hamlet (consisting of Gunung Wijil Hamlet and Nosido Hamlet), Gunung Sari Hamlet (consisting of Gunung Sari Hamlet and Benowo Hamlet), and Silamat Hamlet (consisting of Silamat Hamlet, Gerdu Hamlet, and Serut Hamlet). In carrying out its duties, Ngringo Village is led by a Village Head or Chief, assisted by a village secretary or clerk, 3 staff members, 3 technical field implementers, and 8 hamlet heads who carry out their duties at the Ngringo Village Office.



Fig. 1. Ngringo Village head office

There are two physical potentials in Ngringo Village that contribute to its appeal. First, the densely populated and bustling environment makes Ngringo Village one of the preferred locations for surrounding communities to reside in, due to its strategic location and high economic value. There are many reasons why someone would choose Ngringo Village as



their place of residence, such as the distance to workplaces, proximity to shopping areas, access to healthcare and education facilities, and transportation convenience. This condition is considered the main attraction for the increasing population and its distribution in Ngringo Village.

In addition to that, the availability of relatively inexpensive land and ready-to-occupy housing adds to its appeal, prompting people from outside Ngringo Village to live and settle there. Like other residential areas, Ngringo Village provides various facilities ranging from affordable housing to relatively expensive ones.

The non-physical potentials present in Ngringo Village include three main aspects. First, in terms of social and cultural life, the community in Ngringo Village generally still holds onto traditions brought by previous settlers. While Ngringo itself has a strong tradition rooted in Javanese culture, the influx of new residents and the utilization of vacant land for settlement purposes has led to the marginalization of the original 'Ngringo Culture' due to the strong influence of newcomers' culture. Second, the presence of village apparatus or village officials who work to their fullest capacity serves as a source of order and contributes to the smooth governance in the village. Third, the implementation of direct cash assistance programs, abbreviated as Direct Cash Assistance/*Bantuan Langsung Tunai (BLT)*, represents government aid programs that provide cash or various other forms of assistance, both conditional and unconditional, to impoverished communities.

Issues in the agricultural sector in Ngringo Village include the limited knowledge among farmers regarding marketing information such as consumer prices and how to make their produce more accessible to consumers. This is evident as farmers in Ngringo Village struggle with post-harvest agricultural processing; many of them sell directly to middlemen, resulting in suboptimal profits or low selling prices. Middlemen are bulk buyers who purchase farmers' produce at much lower prices than those at the market, thus minimizing the profits obtained by farmers.

### 3.2 Structural transformation in Ngringo Village

Structural transformation is defined as the change in economic structure from traditional sectors with low productivity to sectors with high productivity. The strategic location of Ngringo Village fosters geographical phenomena that can lead to increased residential, commercial, and industrial development as well as economic infrastructure, consequently driving up land prices and prompting landowners to sell their land to developers. The agricultural sector in Ngringo Village has experienced a reduction in agricultural land, with only a small amount remaining.

This is due to many agricultural lands owned by villagers being purchased by companies and converted into public facilities such as terminals and industrial zones. Land conversion affects the social structure of the farming community in Ngringo Village, transforming it from a traditional village into a modern one. Faced with the limitation of agricultural land, the farming community in Ngringo Village has adopted strategies to work outside the agricultural sector. The villagers of Ngringo Village have been able to adapt to these changes. When people who used to work in the agricultural sector no longer work as farmers, their alternatives include working as farm laborers outside the village or staying in the village and working as construction laborers, odd job workers, or managing food stalls. With various economic facilities available such as factories, markets, shops, or malls, villagers can seek employment by becoming employees in one of the economic facilities available in Ngringo Village.

The land conversion has led to a shift in the livelihoods of the farming community from agriculture to non-agricultural sectors, resulting in limitations in meeting daily life needs. There is a variety of livelihoods in Ngringo Village, with the majority being civil servants/military/ police personnel. The diversity of occupations indicates a transformation in the economic sector in Ngringo Village, where individuals who were previously farmers are now employed in other sectors such as private sector employees and entrepreneurs



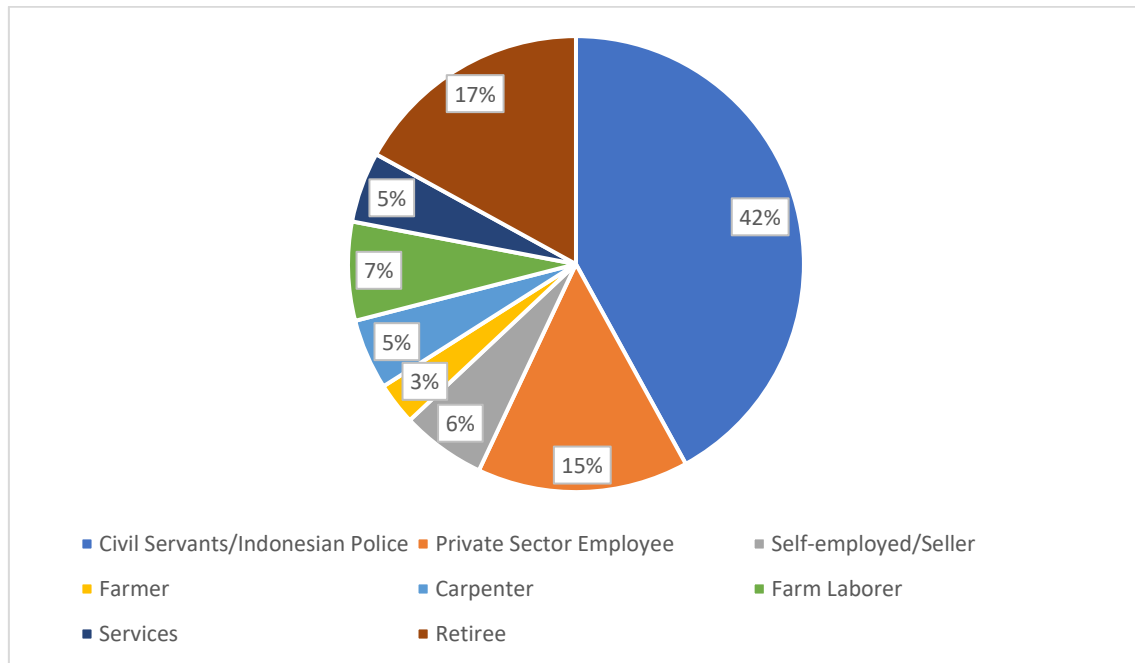


Fig. 2. Diagram of occupations of Ngringo Village Residents

### 3.3 Institutional transformation in Ngringo Village

One of the issues in agricultural resource management is the problem of inadequate agricultural institutions, specifically farmers' organizations. These institutions refer to local organizations or cooperatives comprising farmers who collaborate within a group. Farmers' organizations play a crucial role in strengthening the competitiveness of farmers in the era of free trade through continuous guidance and support from agricultural extension workers. These organizations are developed by, from, and for farmers to strengthen and advocate for their interests.

The agricultural institutions in Ngringo Village are functioning relatively well. There are several organizations in Ngringo Village, including farmer groups, farmer group association/*gabungan kelompok tani (Gapoktan)*, and women's farmer groups. The function of Gapoktan is to enhance the effectiveness and efficiency of farmer groups, provide agricultural production facilities, improve funding and expand farming businesses for farmers and farmer groups from upstream to downstream sectors, and enhance cooperation and product marketing. The agricultural institutions in Ngringo Village hold regular meetings on the 30th of each month, which serve as forums for discussion and decision-making. These meetings typically address agricultural issues faced by members of the farmer groups. The Ngringo village authorities collaborate with local agricultural extension agencies to assist and support the farmer groups in dealing with existing problems. The community of Ngringo Village maintains a strong spirit of mutual cooperation, and social relations among its residents are very well-established.

### 3.4 Technology transfer in Ngringo Village

Technology is a tool that can facilitate various tasks in daily life. Ngringo Village, located in Jaten District, is considered a modern and self-sufficient village. This is due to the high number of residents working in the industrial sector, office jobs, the high quality of human resources, its strategic location in a bustling area, and the predominantly middle to upper economic status of its population. These factors drive the residents of Ngringo Village to readily adopt new technologies.

The transfer of agricultural technology is essential to support the sustainable increase in production, productivity, and income for farmers. Farmers residing in Ngringo Village already use technology in their agricultural practices, such as tractors, combines, and

threshers. Tractors are used by farmers to plow fields, which reduces physical labor and speeds up the work process. The combine harvester helps farmers with the harvesting process, improving time efficiency and reducing labor costs. Threshers are used to separate grains from the stalks, which significantly aids farmers by saving time and effort.

Farmers in Ngringo Village are very receptive to agricultural technology because of the numerous conveniences and benefits it offers. They no longer need to exert much physical effort, and it saves both time and money. However, not all new agricultural technologies are accepted by the community; their suitability depends on the local conditions. For instance, farmers in Ngringo Village do not use rice transplanters because the land in the village is deep and uneven. Rice transplanters are only effective on flat terrain, making them unsuitable for the area's conditions.

Agriculture in Ngringo Village can be described as semi-traditional-modern. Some stages of farming are still performed traditionally. Farmers in Ngringo Village have not yet adopted digital technology extensively. In terms of sales, they do not engage in online marketing. Digital technology is primarily used by farmers as a communication tool.

### *3.5 Ngringo Village agricultural development methods*

The agricultural development model applied in Ngringo Village is the location model. This model illustrates how urbanization occurs in the area. Ngringo Village has a strategic location, directly bordering Surakarta City and situated at the junction of the Solo-Ngawi and Solo-Tawangmangu roads, making it the eastern gateway to Surakarta City. Ngringo Village is also an industrial area with several factories adjacent to rice fields.

The agricultural land in Ngringo Village is relatively limited. The farmland is predominantly village-owned land, known as 'bengkok,' which cannot be converted into residential or industrial areas. The privately-owned agricultural land is less than 10 hectares. This limitation results in only a small portion of Ngringo Village residents working in agriculture, with just 10% engaged in the sector—3% as farmers and 7% as farm laborers.

## **4. Conclusions**

Based on the description of Ngringo Village above, several conclusions can be drawn. First, the village has several potentials, including its strategic location, dense and bustling environment, numerous small and medium-sized enterprises (SMEs), and the presence of village officials and assistance programs for underprivileged residents. However, a notable issue in Ngringo Village is in the agricultural sector, where farmers lack knowledge regarding post-harvest marketing information. Second, structural transformation in Ngringo Village has resulted in a reduction in agricultural land, which has been repurposed into public facilities, economic infrastructure, and industrial areas. This has led to the village's transition from a traditional to a modern village. Third, there are several agricultural institutions in Ngringo Village, including farmer groups, farmer associations (gapoktan), and women's farming groups. Fourth, farmers in Ngringo Village have adopted agricultural technology such as tractors, combines, and threshers in their farming practices. Finally, the agricultural development model implemented in Ngringo Village is the location model, which demonstrates how urbanization has influenced the area.

Based on the description of Ngringo Village above, several recommendations can be made. Firstly, it is advisable for the village institutions to optimally utilize the existing commodity potentials in Ngringo Village by leveraging the highly capable human resources available. Additionally, Ngringo Village should organize empowerment training sessions for the community and farmers. These sessions could include programs on agricultural intensification, strengthening agricultural institutions, and revitalizing agricultural infrastructure. These initiatives require specific regulations to ensure they operate effectively and correctly, enabling farmers to gain knowledge about post-harvest marketing

information. This is crucial for optimizing the use of agricultural resources efficiently and effectively.

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### Author Contribution

Conceptualization, A.R.N., A.P., and A.S.M.; Methodology, A.R.N., H.R.H., and N.R.; Investigation, A.R.N., A.P., A.S.M., H.R.H., N.R., and Y.B.A.; Data curation, H.R.H. and N.R.; Writing – original draft preparation, A.R.N., A.P., and Y.B.A.; Writing – review and editing, A.S.M. and Y.B.A.; Supervision, E.A.

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Not available.

### Conflicts of Interest

The authors declare no conflict of interest.

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