

Potential and Agricultural Development Strategies in Cupak Village, Ngusikan District, Jombang Regency

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ABSTRACT

Purpose: The purpose of the research is to find out and dig deeper into the potential of agriculture to design a development strategy for the potential of agriculture in Cupak village.

Design/methodology/approach: The research method is descriptive analytic which is carried out randomly at the Cupak Village Farmers Group. Samples were taken as many as 150 farmers who own land and cultivators. Data analysis was carried out descriptively and SWOT. The results of the analysis show that: 1) Agricultural potential in Cupak Village includes: a) active human resources in farmer group activities, b) producers of food crops, secondary crops, horticulture and plantations with the main plantation food commodities being porang and gadung, c) agricultural land quite fertile, d) small risk of pest disorders. 2) Agricultural development strategies that can be applied include: a) Development of agricultural products to increase product selling value, b) Empowerment of institutions and farmer organizations, c) Revitalization of technological innovation, and d) Development of access to distribution networks and product marketing.

Findings: Based on the results of the SWOT analysis, it shows that the strength of Cupak Village in the development of agriculture is quite good, because the conditions in developing agriculture in Cupak Village are very supportive. The condition of the area is very potential for the development of tuber farming, especially Porang and Gadung. The number of farmers is quite large, both owner farmers and farm laborers, and the need for fertilizers and other inputs is also available. The majority of the people's livelihood in the village is as farmers and ranchers. Root crops also do not require intensive care so that they are suitable to be developed as a mainstay agriculture in Cupak Village. Livestock, especially ruminants such as cattle and goats/sheep, have a large population and are a slow source of income for the farmers of Cupak Village.

Research limitations/implications: This study discusses how to increase the potential and development of agricultural strategies in Cupak Village, Jombang.

Practical implications: The results of this study, the agricultural potential of Cupak Village, Jombang can develop and can improve the standard of living of farmers in Cupak Village, Jombang.

Originality/value: Potential and strategies for agricultural development in Cupak Village, Jombang with direct surveys to farmers in Cupak Village, Jombang.

Paper type: Research paper

Keyword: Agriculture, Cupak Village, Development, Potential.

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I. INTRODUCTION

Indonesia is an agricultural country where most of the population lives in rural areas with a livelihood as farmers (Simatupang et al., 2021). Indonesian population at generally consume agricultural products as a staple food. The agricultural sector holds an important role in the development the current national economy and the future due to the agricultural sector the livelihood of the majority of the population (Saragih, 2018). Agriculture is also part food producer Indonesia's population is large, especially rice (Prakoso, 2000). The agricultural sector has high sectoral linkages (Rizani, 2017). Thus increasing the production of agricultural products is aimed at

achieving self-sufficiency in food, but the challenges to achieving these results are enormous because the area of agriculture is increasingly shrinking, climate deviations and the use of modern agricultural technology (Mardikanto, 2011). The development of the agricultural sector in rural areas faces various challenges with the increasingly limited land ownership by farmers. The number of smallholders increased from 10.80 million in 1993 to 13.66 million in 2003, and it is estimated that more than 15 million farmers in 2010 (BPS 1993; 2003). The main obstacles in agricultural development include technical and non-technical factors. Declining land capacity and quality, land conversion, land and air degradation, climate change and environmental damage are constraining factors that must be considered in future agricultural development. The lack of attractiveness of agricultural activities in the current young generation, land use for the non-agricultural sector, industry and agriculture is an obstacle in the development of the agricultural sector. Various potentials and challenges in the development of the agricultural sector expected to be able to manage and handled well. Participation of farmers, government, universities with tri dharma, as well as the general public much needed support potential improvement and development agricultural sector (Fauzi, 2018).

Cupak Village, which is located in Ngusikan District, Jombang Regency, is one of the villages that has good agricultural potential. This village is located in a lowland area in the Ngusikan District. The potentials include the availability of agricultural land, especially land owned by Perhutani, the plantation sector, horticulture and food crop agriculture, the availability of agricultural human resources, and the existence of active farmer group activities. According to Rahim & Astuti (2008), there are several influences on agricultural production, namely: agricultural land, labour, fertilizers, pesticides, seeds and technology. Meanwhile, according to Suprpto in Maryam (2006), the development of ideal agricultural policies requires the support of the following, namely consistent macro policies, mastery of technology, support for facilities and infrastructure, support for human resources, and institutional support. The existing agricultural potential has various obstacles that have not been used optimally in increasing the income of farmers and their families.

This study aims to: 1) Find out and explore the deeper potential in the agricultural sector in Cupak Village 2) Design a development strategy for the agricultural potential in Cupak Village. The results of this study are expected that the people in Cupak Village are able to manage and overcome obstacles properly and various potentials and challenges in the development of the agricultural sector in the future. For this reason, the participation of farmers, the government, and universities (research, development and service) as well as the general public is needed in supporting the potential improvement and development of the agricultural sector. Therefore, alternative strategies in efforts to develop agriculture in Cupak village are needed.

II. METHODS

This research was conducted using a survey method in Cupak Village, Ngusikan District, Jombang Regency as one of the 2022 Matching Fund activities obtained by the Accounting Study Program, Faculty of Economics and Business, Universitas 17 Agustus 1945, Surabaya.

Cupak Village has various agricultural potentials, including: food crops and plantations, especially porang and gadung, but this potential has not been optimally utilized by farmer groups and families. This research approach uses a quantitative approach because it uses numbers, starting from data collection, interpretation of the data, and the appearance of the results (Arikunto, 2005). The research method that has been carried out is using descriptive analytic method (Ahmad, 2017). Descriptive quantitative research is used to describe, explain, or summarize various conditions, situations, phenomena, or various research variables according to events as they are that can be photographed, interviewed, observed, and that can disclosed through documentary materials (Bungin, 2005).

The data obtained in the form of primary data through questionnaires distributed to farmers and secondary data from literature review. According to (Moehar, 2005) and (Nasir, 1999), a questionnaire is a list of questions containing logical questions related to the research problem, each question represents answers that have meaning in testing the hypothesis, the questionnaire created and is a tool in data collection.

To determine the potential of the research area, the samples obtained came from Cupak Village farmers. The number of samples taken was 150 respondents consisting of farmers who own land and farm labourers in the research area, in 2 (two) hamlets, namely: Cupak and Munggut, each taken as many as 75 respondents.

The data analysis method used in the research to determine the agricultural potential of Cupak Village uses a descriptive method. According to Soetrisno dan Hanafie (2007), descriptive research aims to make a hostage/painting/description of facts and characteristics of a particular population or area in a systematic, factual, and thorough manner. The variables studied were limited or certain, but were carried out extensively in a population or area. Usually this kind of research is called a survey (as opposed to a case study, where the facts and characteristics are studied in detail and in depth). SWOT analysis is used to see between internal and

external factors externally assuming that an effective strategy will maximize strengths and opportunities, and minimize weaknesses and threats (Rangkuti, 2003). SWOT analysis is also one such tool used to determine the advantages and disadvantages of the object to be researched and arise directly or indirectly because of their existence competition (Khoiriyah et al., 2012). SWOT analysis (David & Fred, 2005) is influenced by the environment which are strategic, namely the condition of the region, situation, circumstances, and influences that surrounds and can affect development over time and structurally the strategic environment, namely the strength factor (Strengths) and weaknesses (Kotler & Keller, 2012), in the form of external environment consisting of 2 (two) strategic factors namely opportunities (Opportunities) and threats (Threats) (Rauf et al., 2015). SWOT analysis is a strategy planning technique as well as solving existing problems. This method emphasizes the importance of the role of internal and external factors in order to formulate strategies for planning ideas and solving problems effectively. The SWOT analysis method can determine future agricultural development strategies using Strengths and Opportunities in future agricultural development (Sianipar & Entang, 2003) in Cupak Village, Ngusikan, Jombang. The assessment of each driving factor and inhibiting factor is carried out quantitatively, but must be supported by accurate data. The driving factors come from strengths and opportunities, while the inhibiting factors come from weaknesses and threats.

III. RESULTS AND DISCUSSION

A. Cupak Village Overview

Administratively, Jombang Regency has the following regional boundaries: 1) North side: Lamongan Regency and Bojonegoro Regency, 2) South side: Kediri Regency and Malang Regency, 3) East side: Mojokerto Regency, and 4) West: Nganjuk Regency. Cupak Village is located in Ngusikan District, a northern area of Jombang Regency, located north of the Brantas River, is part of the limestone mountains which have a horizontal, hilly physiology, covering the Districts of Plandaan, Ploso, Ngusikan, Kudu, and Kabuh.

Geographically, Ngusikan District has a horizontal physiology or is a lowland with an average height of 500 meters above sea level. 43% of the forest area covering an area of 1,607 hectares includes: Asemgede, Cupak, Kromong, Mojodanu, Ngampel, and Sumbernongko villages which are hilly areas with a slope of 2-15%. This area is a limestone mountain (mountain Kendeng) so it is suitable for teak forest plantations. Cupak Village is the result of the expansion of Kudu sub-district, located in the northern part of Jombang Regency which borders Mojokerto Regency and Lamongan Regency. Cupak Village has an area of 71.5 hectares and has a population of around 1005 people, 49.65% are male and 50.35% are female. This village consists of 2 hamlets, namely Dusun Cupak and Dusun Munggut, the distance from Cupak Village to Ngusikan sub-district is about 10 km.

In 2016, Cupak Village was appointed as a Family Planning Village (KB) by the Jombang Regency Government, because every family from toddlers, teenagers, parents, and the elderly in Cupak Village is actively involved in activities related to family planning. The village has population innovations that have been carried out by local residents for a long time.

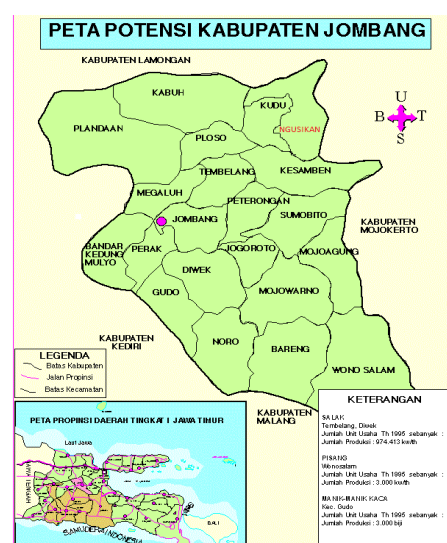


Figure 1. Potential Map of Ngusikan District, Jombang Regency

Cupak village has considerable potential, namely: 1) The religious area of Mount Pucangan, a place that has relics of the King Airlangga site, is often visited by residents as a historical tourist spot to find out the traces of King Airlangga's journey with ancient tombs, one of which is Dewi Kilisuci , Airlangga's only daughter. Most of them visit the tomb of Dewi Kilisuci every Kliwon Thursday or Legi Friday, 2) The agricultural system, they apply an intercropping pattern in the vast mountains belonging to Perhutani. Crops such as corn, porang and gadung are planted with terracing techniques in the middle of a teak forest. Corn grown in Cupak Village is used as superior seeds for the type of bisi and as an ingredient for noodle flour, 3) The craft of making woven mats. The residents of Cupak Village use pandan leaves as a craft to make mats that are ordered to other areas such as Mojokerto and Surabaya. The existence of this Matching Fund activity is expected to help develop the village economy and increase the income of the surrounding community in a sustainable manner.



Figure 2. Preparation of the 2022 MF research team and the implementation of the team survey along with students and youth organizations.

B. Cupak Village Farmer Profile

Profile of farmers in Cupak Village, Ngusikan District, Jombang Regency, will be described according to age and education level.

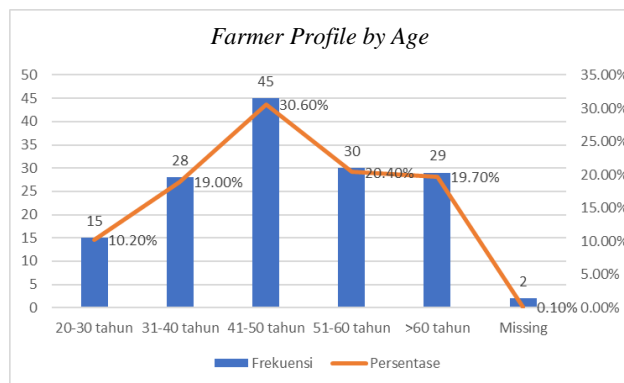


Figure 3. Farmers Profile by Age

Figure 3. shows that most of the farmers in Cupak Village are 41-50 years old, which is 30.6 percent. In general, more than 70 percent of the farmers in Cupak Village are over 40 years old, and only 29.2 percent are young or under 40 years old. As has happened elsewhere, the number of young farmers in the country continues to decline. Indonesia, which used to be known as an agrarian country, is currently experiencing a crisis of young farmers. Similar to what happened in Cupak Village, in the future the farming profession has the potential to be abandoned, especially by young people who prefer to work in the service and manufacturing sectors.

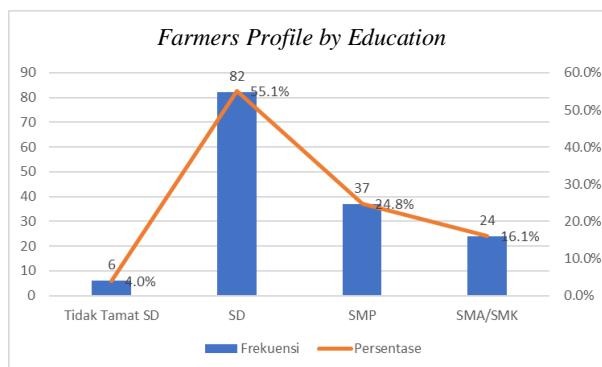


Figure 4. Farmers Profile by Education

Figure 4. shows that most of the farmers in Cupak Village only graduated from elementary school, namely 55.1 percent. Until now, there are no university graduates who work as farmers. The low level of education of farmers in Cupak Village will contribute to the slow application of agricultural technology, so it cannot quickly change according to conditions.

The human resources of farmers in Cupak Village are dominated by the old age workforce and low education. With a low level of education and most of the elderly, it is very influential on the level of productivity, innovation and mastery of technology and information. This means that the competitiveness of agriculture in Cupak Village will be inferior to other regions, or other countries that have advantages in the use of agricultural technology. In Cupak Village, or in Indonesia in general, the use of agricultural technology is still low, less massive, and not evenly distributed, meaning that it cannot be accessed and/or used by all levels of farmers. The main obstacle has not been able to massively use precision agricultural technology is the problem of the low human resources of farmers. The agricultural production process in Cupak Village still relies on conventional and less innovative techniques. The slow use of agricultural technology and lack of innovation result in weak productivity and competitiveness of agricultural products.

C. Cupak Village Agricultural Potential

Cupak village consists of 3 hamlets, namely Cupak hamlet itself, Mberan hamlet, and Munggut hamlet. The results of a random survey of 149 farmers in all hamlets of Cupak Village provide an overview of the area of land use and types of agricultural varieties as a source of farmers' income.

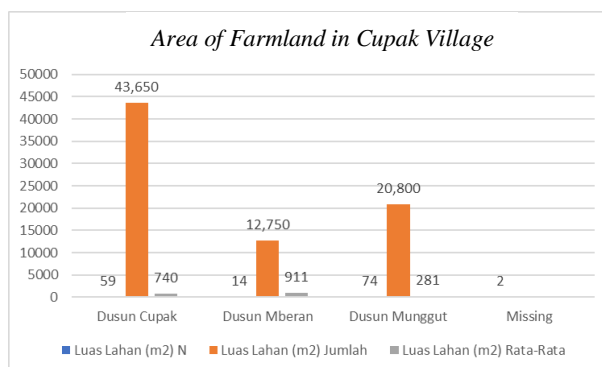


Figure 5. Area of Farmland in Cupak Village

Figure 5. shows that of the 149 farmers surveyed, 2 of them do not have agricultural land that can be worked on, so the remaining 147 farmers have land. Dusun Mberan, even though the total land area is smaller than other hamlets, on average the farmers have more agricultural land than farmers from other hamlets, with an average land area of 911 m2 per farmer. While farmers in Cupak Hamlet have an average land area of 740 m2 and farmers in Munggut Hamlet have an average land area of only 281 m2.

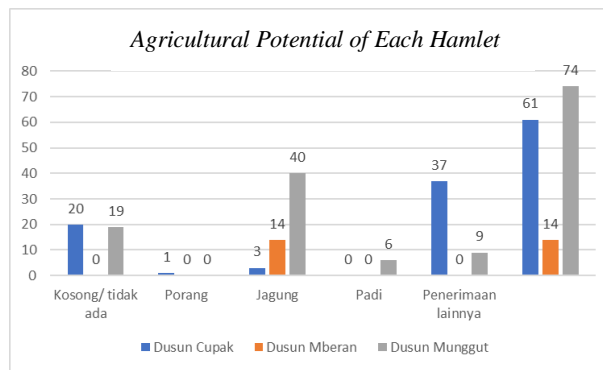


Figure 6. Agricultural Potential of Each Hamlet

Figure 6. shows that of the 149 farmers surveyed in Cupak Village, most of them are corn farmers as many as 57 farmers, the remaining 6 rice farmers and only 1 Porang farmer. There are 39 farmers who do not have income or income from the land they own, because they have not planted or planted but have failed to harvest. Furthermore, there are quite a number of 46 farmers who earn income apart from farming Porang, corn, and rice, they earn income from selling wood, selling woven mats, and selling grass as animal feed. If you look at each hamlet, the land planted by Porang is in Cupak Hamlet, Paddy is planted in Munggut Hamlet, while the land planted with Corn is mostly in Munggut Hamlet and Mberan Hamlet.



Figure 7. Cornfields

The agricultural potential in this area is quite good, farmers generally grow food crops, secondary crops, horticulture and tubers. Porang and Gadung plantations are widely planted between forest plantations belonging to Perhutani. Meanwhile, horticulture, corn and other food crops are grown on privately owned land. The development of maize, porang and cattle farming is presented in Figures 7, 8 and 9.



Figure 8. Porang plant



Figure 9. Cow farm

D. Cupak Village Agricultural Development Strategy

SWOT analysis is used to determine the agricultural development strategy of Cupak Village. The table below is a SWOT analysis conducted by researchers.

Strengths (S)	Weakness (W)
<ul style="list-style-type: none"> • Potential area conditions for the development of root crops • The majority of the population work as farmers • Available manure • Easy maintenance • Low Risk • There are transportation and markets 	<ul style="list-style-type: none"> • Low farmer technology mastery • Limited capital • There is no guarantee of availability every season • Management of agriculture (tubers) is not optimal • The quantity and quality of the product is not continuous • The period from planting to harvesting is quite long
Opportunities (O)	Threats (T)
<ul style="list-style-type: none"> • Existence of import restriction policy • Increased demand for tubers • Availability of agricultural inputs • Availability of adequate infrastructure (communication & transportation infrastructure) • The existence of the Department of Agriculture as a supervisory agency • Availability of banking institutions as a source of capital • There are market opportunities 	<ul style="list-style-type: none"> • Changes in the weather • Pests & diseases • Competition • There is no technology application to handle the unpredictable weather

Figure 10. SWOT Analysis

Based on the SWOT analysis from figure 10. that the strength of Cupak Village in agriculture is quite good, because the conditions for developing agriculture in the village are very supportive, such as the condition of the area which is very potential for tuber farming which is quite extensive, the availability of quite a lot of farmers and also the need for fertilizer is also available because the majority of the livelihoods of the population in the village are farmers and ranchers. Root crops also do not require intensive care so that it is suitable to develop the potential of tuber farming in Cupak Village.

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The availability of banking institutions as a source of capital (O-6) is also able to overcome the limited capital (W-2) which is perceived by farmers as burdensome, of course, if it can be used properly so as not to cause default in the future. The existence of an import restriction policy (O-1), a large demand for tubers (O-2) and a market opportunity (O-7) are also able to overcome problems in the field of competition (T-3) which is quite tight.

IV. CONCLUSION

The agricultural potential in Cupak Village, Ngusikan District, Jombang Regency is quite good, farmers generally grow food crops, secondary crops, horticulture and tubers in the form of Porang and Gadung. Porang

and Gadung tubers are mostly planted between forest plantations belonging to Perhutani, while horticulture, corn and other food crops are grown on privately owned land. The development of corn, porang and livestock, especially cattle and goats/sheep, has the potential to be further developed.

Based on the results of the SWOT analysis, it shows that the strength of Cupak Village in the development of agriculture is quite good, because the conditions in developing agriculture in Cupak Village are very supportive. The condition of the area is very potential for the development of tuber farming, especially tubers Porang and Gadung. The number of available farmers is quite large, both owner farmers and farm laborers, and the need for fertilizers and other inputs is also available. The majority of the people's livelihood in the village is as farmers and ranchers. Root crops also do not require intensive care so that they are suitable to be developed as a mainstay agriculture in Cupak Village. Livestock, especially ruminants such as cattle and goats/sheep, have a large population and are a slow source of income for the farmers of Cupak Village.

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