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# FARMER PERSPECTIVES ON LIVELIHOODS WITHIN GRAPE COMMUNITY IN SOUTH TANGERANG CITY

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**ABSTRACT**

Grape vines are cultivated in South Tangerang City, not only by farmers, but also by members of a grape community. This research aimed 1) to describe the characteristics of grape farmers, 2) to show the perspective of grapes farmer, and 3) to identify problems and expectations in carrying out grape vines cultivation in South Tangerang City. Data collected through the interview, observation and sharing questionnaires. The number of samples was determined proportionally to 68 grape farmers, who are members of the grape community in South Tangerang City (KAT). The results showed that grape farmers tended to be knowledgeable and educated, specified by productive age (20-40 years old) with less experiences in grape cultivation. Based on the perspective analysis, farmers were attracted to grape farming not because of the influence of farm-families background, but because of hobbies and self interest in grapes cultivation. Farmers considered that agriculture was a noble and a matter of pride. The most common problems facing grape farmers were the insufficient land, inadequate agricultural funding base, and formulating the ideal growing media. The results of the expectation analysis proved that training program was the most desired assistance for farmers, especially effort to increase grape productivity.

**Keywords**: Community; Expectation; Grape farmers; Perception.

## INTRODUCTION

The grape is a woody perennial vine, originated from Aremebia near Caspian sea. In 1682, grape vines were planted and produced in Batavia, former name of Jakarta, the capital of Indonesia. In the early 19th century, grape vines were adopted throughout Indonesia and began to be commercially cultivated along with the issuance of the Decree of the Minister of Trade and Cooperatives No. 505/1982 on the call for reducing imports of wine (Al-Jabri, 2008). Grape vines cultivation have continued to grow in urban area and become popular since urban farming has been the people's choice during COVID 19 pandemic. Despite the fact that Covid-19 lockdown helped in boosting interest in cultivation of grape vine at home, most of households have no access to a vineyard. Urban farming omits this issues by forming a grape vine community for free accessing vineyards, while creatively redesigning the urban tissue in a sustainable manner.

Choosing grape cultivars for Indonesia is a compromise hardiness, quality, and flavor of the grapes. The development of grape vine in Indonesia is quite prospective because of the soil and climatic's supports. The ideal climate for grape growing is the Mediterranean climate. The suitable climates are generally have temperature between 28°C-32°C, air humidity 75%-80%, sandy loam soil structure, neutral acidity (pH) and soil elevation 0-1,000 meters above sea level (Al-Jabri, 2008). The grape is widely adopted to various soil conditions, but the yield and quality reach to the highest on

fertile soils which have pH level 6.5 to 8.5, organic carbon above 1.0%, free of lime and having a medium water holding capacity (Winarno, 1994)

Grape vines have been grown in the South Tangerang City at elevations of about 0-25 meters above sea level, under latosol soil type. The growing areas generally have monthly temperatures in the range of 23.4°C-34°C with an air humidity aproximatelly in 80% (Badan Pusat Statistik, 2021). Annual rainfall is 1500 mm with a period of at least 3-4 dry months (Government of South Tangerang City, 2018).

Grapes are popular to be cultivated in the house yard, along with poor management system (Jatuporn *et al*., 2020). Although it runs on a small business scale, grape farming began to spread and widely cultivated by people in many backgrounds. Grape farming began to be cultivated by people in many backgrounds, generally under the small business scale. Although this business is potential, yet the providers of these products, the farmers, are struggling to make a living. Community Supported Agriculture (CSA) could provide a solution to this dilemma (Paul, 2016). The basic economic arrangement of CSA enables participants to engage actively in key decisions regarding the farm, such as the farm's growing practices, and the farm's relationship with the community

Tangerang Grape Community / *Komunitas Anggur Kota Tangerang Selatan* (KAT) is part of CSA which plays role for adequately supports the farmer through linking members, consumers, and supplier for their grape farming activities. This community is initiated by meaning of sharing information about market and material procurements. KAT has worked under collaboration with the Agriculture Office and Agricultural Extension Center of South Tangerang City, Mainstay Fishermen Farmers Contact (KTNA), the Indonesian Online Media Association – DPC MOI South Tangerang City, Marketplace *dagangkreatif.com* and others.

KAT has cultivated at least 60 types of *Vitis Vinivera* grape vines variants. Of the several types of grape vines that exist, it is the variant from Ukraine that predominates. Some types of grape vines are cultivated in green house owned by Agricultural Extension Center (BPP) of South Tangerang City. Grape breeding efforts in this community are generally carried out through vegetative propagation (grafting), and less by generative production (seeds). Grafting is more preferable due its faster production time, identical character to the brood, and adaptive root to the soil (Singh & Kaur, 2018). Grafting is carried out by connecting rootstocks and scions of other varieties (Gale & Moyer, 2020).

This grape breeding business has great potential in reaching a niche market, because it has not been deeply explored in other regions. This business provides a breakeven point faster than grape production, as well as the support of business diversification (Piorr *et al*., 2018). That business diversifications referred to the expansion of business through joint utilization of production activities (Porter, 1985; Yoshida *et al*., 2019). This community not only provides grape seedlings but also sells grape-specific growing media, and other services like consulting, training, and installation of grape post-wire (Haryanto *et al*., 2021). This community also maintain the cultivation by young people as hobbyists, which less experienced compared to farmers with extensive knowledge of agriculture. Contrariwise, it can be used as a business opportunity because not everyone can access this cultivation technology, and so that grape farming increasingly attracting the interest of farmers to develop this community.

While exact numbers on national membership in grape community are not available, KAT continues to grow in popularity. Grape farmers offering community range from small scall of families, adhering closely to larger farming scale by using KAT as a marketing strategy. Beside benefits and transformative potential of community farmers were discussed, there is a lack of systematic evaluation to understand what KAT is and is not delivering, what progress need to be achieved, and how far does the grape farming provides a viable farm livelihood for the farmers?

This paper takes a step in evaluating the farmer’s perspection, and expectations within grape farming livelihoods in community supported agriculture, like KAT. This

paper aimed 1) to describe the characteristics of grape farmers based on their background, 2) to show the scale of view of farmers, and 3) to identify problems and expectations in carrying out grape cultivation in South Tangerang City. The paper is organized as follows; section second describes the methods utilized to conduct this study, the third section identifies and discusses key findings of the work, and the last section concludes by explaining the implications of the findings and suggesting areas of future work.

## METHOD

The scope of this research was grape farmers in South Tangerang who was a member of the South Tangerang Grape Community (KAT). The research was conducted in September – November 2021. The selection of the location was carried out deliberately under consideration that this community received the support of the government / Food Security, Agriculture and Fisheries Service (DKP3) of South Tangerang City, to make grapes an Icon of South Tangerang City (Government of South Tangerang City, 2018). The population was grape farmers who were members of the South Tangerang Grape Community (KAT), as many as 203 people. From a total of 203 farmers, a sample of respondents was then taken using the following Slovin formula (Sugiyono, 2017) :

$$\boldsymbol{n = \frac{N}{1 + Ne^2}}$$

Notes:
N : population
n : sample
*e* : precision level

The desired accuracy rate was 90 percent, in other words the expected error rate was 10 percent on the basis of consideration that tolerable error rate in social study was up to 10 percent (Sugiyono, 2017). With this formula, the sample used as the object of this research was 68 farmers.

This research was in the form of qualitative analysis, in-depth interview and systematic information processing through survey data and literature studies. In depth interview held with key informants, which are the Organization Committee of KAT. This is to clarify whether the data taken from the respondents has accurately described the condition of the community. Primary data collection was carried out through observations and interviews, while secondary data collection was obtained through books, journals, the internet and literature related to this research. The instrument used was a questionnaire containing a list of questions that had been prepared for farmers. The data presented in the form of a distribution table was then analysed by the method of descriptive statistical analysis. Descriptive statistical analysis was a statistic that served to describe or give an idea of the object under study through sample or population data as it was, without making general conclusions. Objects were described or depicted in the form of tables, graphs, diagrams / pictodiagrams (Sugiyono, 2017).

The focus of this research was grape breeding farming, instead of the sale of grapes fruit. The data collection included some parameters such as (1) age, education, farming experience, status and area of land ownership, and parents' job background; 2) farmers' perceptions of the agricultural sector; and 3) farmers' expectations of the farming business being undertaken. The research period was September – November 2021. Data analysis was carried out through the content and depth of translation of a social phenomenon with descriptive analysis, especially when discussing social, economic, and characteristics of farmers. Likert Scale was used to measure farmers'

perceptions of grapes vine cultivation, under the range: *Strongly Disagree, Agree, Doubtful, Agree,* and *Strongly Agree*.

Indicators of farmers' perceptions included the statement, i.e: 1) there is a noble in working in agriculture field besides contributes the positive effects to environment, 2) the influence and parents' support are the factors of working in this field, 3) the standard of living needs can be fulfill by working in this field 3) there is a pride to work independently as entrepreneur, 4) to develop a hobby farm, 6) to spend the spare time, to be better than being unemployed. Indicators of farmers' expectations included statements: 1) there is a need in financial support to enlarge the business, 2) there is a need in accessing the marketing networks for products selling, 3) there is a need in acquiring the sources of raw materials (e.g. Rootstock / scion), 4) there is a need in assistancy of grape cultivation, 5) there is a need in publications so that more people could join the community.

## RESULT AND DISCUSSION

### Respondents Demographic Profile

Grape farmers have slightly different characteristics from farmers of other commodity. Grape farmers are taken under community which directly connected with and also invest in field of area. This study focus on members of South Tangerang Grape Community (KAT). KAT was founded on December 27, 2019 by Roy Nurdin and inaugurated by Benyamin Davnie – Mayor of South Tangerang. This community was previously a form of conservation activist who planted mangroves in the Cisadane estuary, but then expanded their activities to the grapes vine cultivation. This community actively shares information about grape cultivation ranging from agricultural input procurement activities to cultivation consultations. Community members are grape enthusiasts consisting of not only farmers, but professions outside of agriculture such as businessmen, policemen, soldiers, security guards, drivers, and others. This community is built on awareness of the social, economic, and ecological development of urban agriculture.

Descriptive analysis is used to provide an overview of the background of the KAT farmers including age, education, farming experience, status and area of land ownership, parental work background, perceptions and expectations of work in the agricultural sector. The data shows the uniqueness because this grape post has different characteristics from other commodities. Data on the characteristics of farmers are shown in Table 1.

**Table 1.** The Characteristics of Grapes farmers

| Characteristics | Average (%) |
|---|---|
| Age | |
| • 25 – 40 years old | 58,82 |
| • 15 – 24 years old | 19,11 |
| • Above 40 years old | 22,07 |
| Sex | |
| • Male | 100 |
| • Female | 0 |
| Educational background | |
| • Undergraduate degree | 41,17 |
| • High school or equivalent | 38,23 |
| • Middle school or equivalent | 19,11 |
| • Graduate degree | 1,49 |
| Farming experience | |
| • 1 – 5 years | 69,11 |
| • 5 – 15 years | 30,89 |

| Characteristics | Average (%) |
|---|---|
| Land ownership | 79,41 |
| • Private land | 20,59 |
| • Community land | |
| Number of farmers who have the private land less than 0.5 hectares | 100 |
| Number of farmers who have the community land less than 0.5 hectares | 100 |
| Parents' duties background | |
| • On farming | 31,89 |
| • Off farming | 69,11 |
| Reasons for choosing to work in agriculture | |
| • Hobby | 64,70 |
| • Pride that agriculture is considered rewarding occupation | 35,30 |

Source: Primary Data, processed (2021)

The age structure of respondent, as shown in Table 1, indicates that the agricultural sector, especially grape breeding, is quite in demand in South Tangerang City. It characterized by the large number of actors of productive age (25 -40 years) who are involved in this business. This is different from the characteristics of the agricultural sector which in general are less in demand (Tana *et al*., 2020). Farmers' knowledge of grape cultivation tends to be better because at a young age it is easier to find and receive information, simpler to change the way of thinking and looking at something new (Kusumo & Mukti, 2019), unlike the older farmers (Liu *et al*., 2021). Acceptance of access to information is supported by the background of farmers who are mostly in undergraduate level. This yield is different from the characteristics of farmers for other commodities, who tend to be poorly educated (Filimon *et al*., 2016; Khan *et al*., 2020).

Grape farmers are often at a preliminary stage and do not have enough experience in farming (Dharmawan & Sunaryanto, 2020; Kusumo & Mukti, 2019; Tana *et al*., 2020). Grape farmers at the research site are also relatively new to the agricultural sector (less than 5 years). In-depth interviews show that the farming experience should be taken seriously, although farmers have tried several times to carry out farming activities. Farming experience is a factor that can influence farmers in making the right decisions. Lack of experience in farming risks the failure of running the business (Mukti *et al*., 2017; Tana *et al*., 2020). The supporting activities such as training and assistance in farming for farmers need to be carried out.

Land tenure includes land ownership both private and community. The structure of this grape breeding farm is unique, compared to other farming businesses, especially the existence of community land. Community land ownership is under a private land or The Right of Exploitation (*Hak Guna Usaha* or HGU), that is jointly utilized by the Grape Farmers Community and it is free of charge for its use. Whether it is a private or community land, the area of land owned is no more than 0.5 hectares, considered that this business focuses on nurseries and not orchards. The orchard is only used to display the products.

Grape farming activities are not carried out for generations as in the agricultural sector in general. This grape farming business is accomplished because of the large role of the community in exerting influence on the community. Grape cultivation is considered as a craze (hobby) and is not entirely focused on commercial activities. For farmers who are not a direct descendants, opportunities and hobbies are the main factors that influence interest in agriculture field (Csizmady *et al*., 2021; Kusumo & Mukti, 2019). The environment of the farmer's own family is more frequent in the rural instead of the urban area. It supports Piorr *et al*. (2018) which states that agricultural activities in the city area tend to be a leisure for the distribution of hobbies. It contradict to village agricultural activities which generally are the main culture and source of livelihood (Kusumo & Mukti, 2019). The other reasons for cultivating grapes are its

economic, social, ecology benefits. Young farmers tend to improve product quality through an efficient production process (Csizmady *et al*., 2021; Moonti & Wibowo, 2020; Mukti *et al*., 2017; Rasmikayati *et al*., 2017). In terms of carrier, most farmers in this group view agriculture as a promising undertaking.

**Farmers' Perceptions and Expectations of Jobs in the Agricultural Sector**

In general, the study found that the respondents' attitude towards the agriculture sector is high, related to their perception, motivation and knowledge. Perception is defined as the farmer's response to the current reality/condition of grape farming. Perception is one of the important aspects on how each individual responds to aspects or symptoms that arise from their environment. The perception of the individual is so important because it affects the actions performed (Kusrini, 2017). This explains that the changes of farmers' attitudes and behaviours will be preceded by the changes of their perception.

Table 2 shows the views of farmers on employment in the agricultural sector. The main factors to engage in grape farming are the assumption that agriculture contributes the positive effects to environment, and tend to be a new hobby. Others farmers take this business due to the economic pressure and hurdle in finding other jobs, especially during Covid-19 pandemic.

**Table 2.** Farmers' Perceptions and Expectations of Working in the Agricultural Sector

| Farmers' Perceptions | Strongly disagree | Disagree | Doubtful | Agree | Strongly agree |
|---|---|---|---|---|---|
| Agriculture is a noble job and beneficial for others | 0 | 0 | 0 | 11,8 | 88,2 |
| Working in agriculture due to the influence and support of parents | 50,0 | 19,1 | 30,9 | 0 | 0 |
| Agriculture generated income that sufficient to meet daily needs | 0 | 19,1 | 11,8 | 50,0 | 19,1 |
| Proud to work independently as entrepreneur | 0 | 0 | 10,3 | 14,7 | 75,0 |
| Self interest in grape farming, intent to develop knowledge and skills | 0 | 0 | 0 | 20,6 | 79,4 |
| It is better than being unemployed | 8,8 | 0 | 2,9 | 11,8 | 76,5 |

Source: Primary Data, processed (2021)

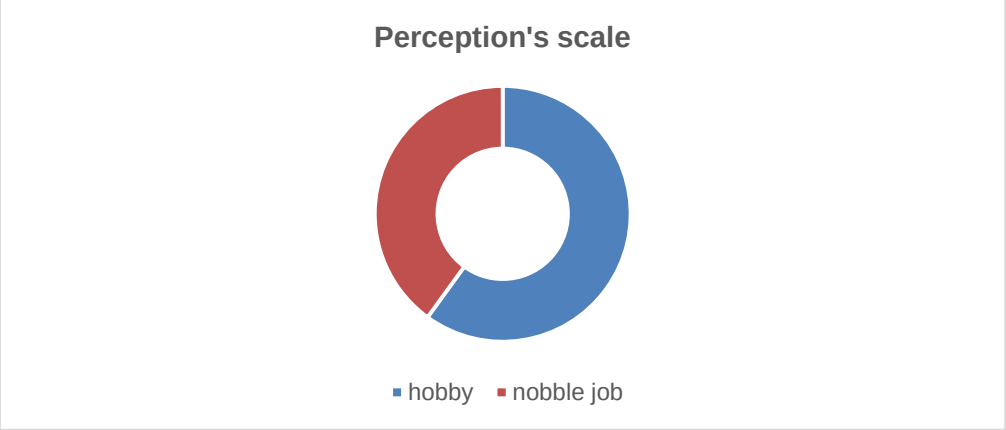


**Figure 1.** Scale Graph of Farmers' Views on Working in the Agricultural Sector
Source: Primary Data, processed (2021)

In Figure 1, it can be seen that only 2 factors are considered as the cause of respondents choosing to work in agriculture, i.e: hobbies and the assumption that agriculture is a noble job. Grape cultivation in South Tangerang is often associated with

support for urban agriculture. Like trees in general, this plant is one of the contributors of oxygen to the environment, its added the live value in the aesthetics as attractive fruits (Csizmady *et al*., 2021). The contribution of the grape vine to the environment has a great influence on the community, considering that the background of the formation of this community is to conservate the environment. The promotion of their activities is quite impactful for the community. Grape cultivation attracts people's interest because grapes are an aesthetic commodity and have high selling value (Dharmawan & Sunaryanto, 2020; Gale & Moyer, 2020). Some started this business because they wanted to try, until they succeeded and finally developed this business under the base of the community.

**Table 3.** Grape Farmers' Expectations of Working in Agriculture

| Farmers' Expectations | Strongly disagree | Disagree | Doubtful | Agree | Strongly agree |
|---|---|---|---|---|---|
| There is a need in financial support to enlarge the business | 0 | 0 | 0 | 30,9 | 69,1 |
| There is a need in accessing the marketing networks for products selling | 0 | 0 | 0 | 25,0 | 75,0 |
| There is a need in acquiring the sources of raw materials (e.g. *Rootstock / scion*) | 0 | 2,9 | 10,3 | 16,2 | 70,6 |
| There is a need in assistancy of grape cultivation | 0 | 0 | 0 | 8,8 | 91,2 |
| There is a need in publications so that more people could join the community | 0 | 0 | 0 | 14,7 | 85,3 |

Source: Primary Data, processed (2021)

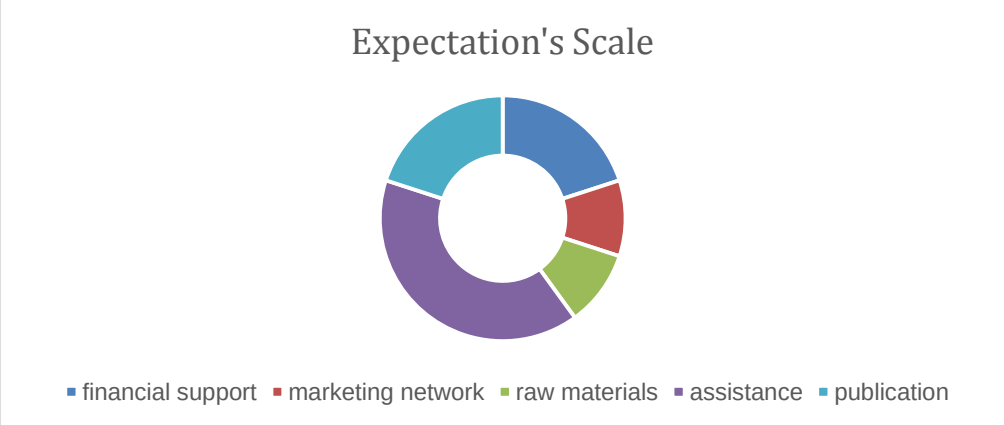


**Figure 2.** Graph of Farmers' Scale of Expectations for Possible Assistance Provided
Source: Primary Data, processed (2021)

Table 3 and Figure 2 show that the main desire of grape farmers is the holding of cultivation training and guidance, followed by business capital and publications. Training is focused on improving the technical aspects of cultivation through the application of technology. Although, raw materials (i.e. *rootstock*) are determinants of grape production (Titova *et al*., 2021) but the fulfillment of such raw materials is not the main desire. This is because the community has already met these raw materials independently. The procurement of *scion* (raw materials) comes from Ukraine and *rootstock* is obtained from local suppliers in Indonesia. The marketing network is open globally, several business actors have succeeded in exporting products to Malaysia.

The publication is an important part of the development of this venture associated with KAT's visionary goal of expanding the grape community's membership network.

### Factors Reducing Interest in Grape Farming

Consistency to the cultivation of grapes depends on the motivation and interest of the farmer. The background of farmers, who are generally in non-agricultural businesses, causes the possibility of changing professions when this farming business is considered less profitable. Table 4 shows the important factors that led to a decrease in interest in continuing grape farming.

**Table 4**. Factors That Influence Interest in Grape Farming

| Factors | Strongly disagree | Disagree | Doubtful | Agree | Strongly agree |
|---|---|---|---|---|---|
| Inadequate agricultural funding base | 0,0 | 10,3 | 20,6 | 29,4 | 39,7 |
| Difficulty to reach buyers need | 0,0 | 8,8 | 39,7 | 45,6 | 5,9 |
| Insufficient land | 0,0 | 0,0 | 0,0 | 41,2 | 58,8 |
| Short of raw materials (*Rootstock)* | 0,0 | 58,8 | 0,0 | 22,1 | 19,1 |
| Short of raw materials (*Scion)* | 0,0 | 8,8 | 32,4 | 58,8 | 0,0 |
| Uneasy to make suitable media | 2,9 | 0,0 | 14,7 | 58,8 | 23,5 |
| Difficulty to get constant labor | 51,5 | 38,2 | 2,9 | 7,4 | 0,0 |
| Small income | 17,6 | 41,2 | 20,6 | 11,8 | 8,8 |
| Unsupported family | 19,1 | 27,9 | 23,5 | 17,6 | 11,8 |

Source: Primary Data, processed (2021)

Like entrepreneurs in general, businesses in the agricultural sector can also experience ups and downs. Some of the factors causing the decline in interest are insufficient land, inadequate agricultural funding base, difficulty in arranging planting media, the limitation of raw materials, and issue to reach buyers need, while the other factors are less preferable to be the answers. Agricultural funding base is related to the scale that affects production and income. The difficulties to access land are also the cause of low production, because the ownership of land owned is limited, which is no more than 0.5 hectares. Limited land causes the deficiency in meeting buyer's demand.

## CONCLUSION

The results of the study provide an overview of the background of grape farmers in South Tangerang City. The farmers came up with a background in middle to upper education, a relatively young age ranged from 20-40 years and classified as beginners in grape cultivation. Farmers show a positive perception of grape cultivation, some farmers choose to carry out hobbies into small businesses of growing grapes. Farmers consider that working in agriculture field is a noble job which contributes the positive effects to environment. Difficulties in accessing the land, buyers, growing media and constant workforce are the most common problems faced by grape farmers. Based on the analysis of the value of expectations, the training program is the most desirable form of assistance for farmers, especially regarding technology in grape cultivation. Since this study was relatively small in size, it may offer a better than-average case scenario. To expand the study, a farmer survey is crucial, instead of picking only samples. Moving forward, if KTA are to play a role in a transition to a more sustainable and economical grape farming, arranging farmers training activities are essential to be central of discussion.

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