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THE INFLUENCE OF SOCIO-ECONOMIC A ND MANAGERIAL FACTORS OF FARMERS ON THE SUCCESS OF AGROFORESTRY MODEL FARMING AGRISILVICULTURE PATTERN

(A Case of Farmers Around the Forest in Kiarapayung Area, Sumedang Regency, West Java)

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ABSTRACT

This study aims to Influence Farmers' Socio-Economic and Managerial Factors on the Success of Farming with Agroforestry Models with Agrisilvicultural Patterns. (A Case of Farmers around the Kiarapayung Regional Forest. The respondent determination technique was carried out by census as many as 65 respondents. The analysis technique used was path analysis. The results obtained were the performance of the socio-economic factors of farmers who were active in the agroforestry model of agrisilvicultural patterns in the forests of the Kiarapayung area which included: age; education; experience; family dependents; land area; and capital obtained 48.78% achievement criteria Enough. This illustrates the socio-economic factors of farmers seen from age are old age (54 years); low education mostly elementary school graduates; family dependents of 2 people, narrow land 0.26 ha, and low capital Managerial performance of agroforestry farmers in agricultural patterns around the Kiarapayung forest area obtained an achievement level of 73.07% good criteria Consisting of technical managerial achievements obtained 83.37% very good criteria and business managerial 65.49% good criteria. Successful performance of an agroforestry model farming agrisilvicultural pattern of farmers around the forest area of Kiarapayung which consists of Social Aspects 66.54% Good criteria; Economic Aspect 63.46% Good Criteria and Ecological Aspect 64.42% Good Criteria. The overall level of achievement obtained 64.91% criteria Good. There is a real and strong positive correlation between socio-economic factors and managerial agroforestry farmers with agrisilvicultural patterns, which is indicated by the correlation coefficient r = 0.365, it can be interpreted that the better the socio-economic factors, the better the managerial farmers. The hypothesis is proven that the socio-economic and managerial factors of farmers have a positive effect on the success of the agroforestry model of the agrisilvicultural pattern, either simultaneously or partially. The total influence of the two variables is 67.00% which is contributed by the total influence of socio-economic factors 9.32% and the total managerial influence of farmers is 57.69%, the remaining 37.00% is influenced by other factors. Efforts need to be made to increase the productivity of the types of seasonal crops cultivated by increasing the amount of use of organic fertilizers, and coaching for follow-up and control so that farmers remain interested and continue to apply the agroforestry farming model.

Keyword : *Agroforestry, Social, Economic, Success.*

INTRODUCTION

Kiarapayung Regional Forest is a former Jatinangor plantation (PD. Kerta Gemah Ripah of West Java Province Level I) which was formerly administratively included in the area of Cikeruh Village, Cikeruh District, Sumedang Regency. In 1965, based on the Decree of the Governor of West Java No. 33/b.2/BPDa/SK/65 dated March 1, 1965, the former plantation area of 907.3740 Ha was separated from PD. Kerta Gemah Ripah and became an asset of West Java Province. Furthermore, through the Decree of the Governor of the West Java Tk. I Region No. 593/SK-83-PLK/1989, the land was designated for the construction of the Pajajaran University (UNPAD) campus, the Indonesian Cooperative Institute (IKOPIN), the Academy of Domestic Government (APDN), the Academy of

Forestry Sciences (AIK), Scouts, Greenbelt and Conservation Land (Forest Plant Seedling Center, 2016).

The Kiarapayung Regional Forest is geographically located at 6053'47 "N and 107045'15 "E with an altitude of 900 to 1,100 meters above sea level. The Kiarapayung Regional Forest is a volcanic hilly area that has a topography that varies from gentle to steep. This area is part of the hills of Mount Geulis and Mount Manglayang. According to the Scmidt and Ferguson climate classification (1951), the climatic conditions of the Kiarapayung Regional Forest are type C. Soils in the Kiarapayung Regional Forest are classified as fertile with soil C-organic content of 2.18% (medium), N-Total of 0.16% (low), soil CEC of 27.54 cmol/kg (high), P2O5 HCl 25% 94.37 mg/100 g (high) and K2O HCl 25% 32.41% mg/100 g (high) and Si content of 34.49% (high) (Forest Plant Seedling Center, 2016).

The land cover condition of the Kiarapayung Regional Forest is dominated by trees including: suren (Toona sureni), manglid (Manglieta glauca), kaliandra (Calliandra calothyrsus), and bamboo. The land is utilized by the surrounding community to grow crops under stands with plants including: avocado, coffee, banana, orange, mango and also seasonal crops including: corn, beans and vegetables as well as grass which is used as a source of animal feed by the surrounding community. Forests are natural resources that are able to provide basic needs and are used as a source of income and improve welfare for communities around the forest. Forests are also the lungs of the world and a place for various plants, animals, mining products and various other resources that we can get from forests that are invaluable to humans. (Marina, I., & Sulandjari, K. 2013).

The increasing population has increased the need for land, both as an expansion of housing, infrastructure, plantations, mining, and cultivation of food and horticultural crops. On the other hand, the community's need for agricultural products is increasing, both in terms of quality and quantity (Wahyu et al., 2018). In running the farming business, there are several influencing factors including socio-economic factors consisting of: age, education, occupation, experience, income, number of family dependents, where the influence of the community's socio-economic conditions on their forests includes various protein needs, cultivation and plantation areas, building materials, and other functions related to traditional social institutions in the community. (Marina, I., dkk. 2022).

Farmers need to have adequate competencies to manage their farms well. Farmer competencies are divided into several elements, namely, knowledge competencies, technical competencies, and managerial competencies. These three competencies, if implemented and mastered by farmers, will affect farmer performance. Farmer performance can be seen from the productivity reflected by production capacity. Farmer competence is the ability of farmers to manage farming. The knowledge aspect consists of: knowledge of seed types, flower types, plant varieties, planting season and planting distance. Technical aspects consist of: land preparation, seedbeds, planting, maintenance and harvest and post-harvest. Managerial aspects consisting of: making farming plans, seeking farm capital, marketing results, combining farming branches and institutional cooperation (Sudiarsana et al., 2017).

One of the land management systems that has been a tradition of the community for generations is the agroforestry system. Agroforestry systems have many advantages compared to other land use systems. The benefits that can be obtained from this system in the long term are higher than the monoculture system. With agroforestry, the quality of land is increasingly fertile and productive because it always gets additional organic matter from fallen leaves. In terms of ecology, land cover in the form of trees provides the maximum protection for local land because the risk of erosion by surface water is low (Wahyu et al., 2018).

As a land use system in accordance with the local wisdom of the community, agroforestry can contribute to national development strategies by providing employment opportunities (pro job), alleviating poverty (pro poor) and improving the regional economy (pro growth) by maintaining environmental balance (pro environment). The contribution of agroforestry is realized at the local level in the form of contributions to the provision of employment, local economic development and increased environmental resilience which can then be expanded at the national level (Press et al., 2013).

In addition to economic contributions, agroforestry systems also have a positive impact on conservation. These systems are proven to maintain soil fertility, protect water catchments, contribute to carbon sequestration efforts and support biodiversity conservation and landscape restoration efforts. Agroforestry practices can serve as a means of reconciling conflicts. If well designed, agroforestry practices can provide livelihoods for communities, and can also be geared towards forest conservation. Forest management with this dual purpose is not new and needs to be developed so that the interests of multiple parties can be met (Press et al., 2013).

In its implementation, of course, many factors influence the success of this agroforestry system, so a study is needed to analyze and identify, among others, socio-economic and managerial factors on the success of agroforestry, especially agrisilviculture patterns in the Kiarapayung Regional Forest. In order to achieve the objectives of managing the Kiarapayung Regional Forest as a conservation land and arboretum, the surrounding community needs to be involved in efforts to improve the ability and independence of the local community to obtain optimal and fair benefits from forest resources through capacity building and providing access in order to improve the welfare of the local community while still applying conservation principles. (Dyanto, R., dkk. 2022).

MATERIALS AND METHODS

verification research, which is a study to prove and explain the causal relationship that occurs based on verification of empirical data in the field. The nature and influence between variables are obtained based on hypothesis testing using inference statistical calculations. In this study, inference statistical analysis was used to test the effect of variable X1 (Socioeconomic Factors, variable X2 (Farmer Managerial)) on variable Y (Agroforestry Model Farming Success).

Variable Operationalization

These three variables are variables that will be measured based on dimensions. The next dimension measurement is from the indicators. Measurement is based on the technique of scoring 4 (four) levels, namely very good (SB); good (B); enough (C); and less or low (R). Furthermore, the subject or unit of analysis of this research is farmer activists of agroforestry farming models around the Kiarapayung forest area in Sumedang Regency, West Java.

Data Sources and Methods

In this research, the data required consists of primary data and secondary data. Primary data is needed to test the hypothesis as proposed earlier. To complement or deepen the information, primary data was also taken from informants such as: Forestry extension officers or other subjects/institutions.

Data collection procedures were carried out using direct and indirect communication techniques. Direct communication is done through interviews and observations. Data collection used research instruments in the form of questionnaires and documentation studies. Secondary data as supporting data related to the context of the research variables were obtained from competent and officially published institutions.

Respondent Determination Technique

Based on the results of the study, data and information were obtained that there were 65 farmers who were activists of the agroforestry model farming around the Kiarapayung forest area in Sumedang Regency, West Java in 2021. The determination of respondents was carried out by census.

Analysis Design and Hypothesis Testing

The analysis used is descriptive and quantitative. To test Hypothesis 1: Pearson correlation analysis is used. Furthermore, to test hypotheses 2, 3, and 4, the path analysis test was used.

Place and Time of Research

The research was conducted in the Kiarapayung forest area of Sumedang Regency, West Java. The research time was carried out for 3 (three) months, starting in November 2021.

RESULTS AND DISCUSSION

Trigona Honey Bee Farming Practices

1 The investment required in the production process of Trigona Honey Beekeeping consists of land for production sites, honey bee seeds, production equipment, and labor. The tools used are stups (bee cages) with small sizes, filters, knives, suction injections, plastic and personal protective equipment (PPE). The tools are made with simple technology and generally have an average economic life of 3 (three) years. The investment value of these tools is one unit each, totaling around Rp 500,000 to Rp 1,000,000. Fixed costs incurred in trigona honey bee farming are to pay: land rent even if the land is owned, maintenance; interest on capital and depreciation of equipment. Fixed costs for an average business scale of 20 stups are IDR 5,853,526/year. Variable costs incurred for trigona honey beekeeping consist of costs for : bee seeds, water, NPK fertilizer and labor. Variable costs incurred amounted to Rp 2,108,050 for a business scale of 20 stups. The total cost of trigona honey beekeeping is the sum of fixed costs and variable costs per year averaging Rp 2,572,757.

The average productivity achieved for a business scale of 20 stup units is 24 bottles. The bottle size is 250 ml made of plastic. In other words, the honey produced is 600 ml. Or one stup can produce 300 ml for a year (3 times the production process). The productivity achievement is 24 bottles/year. The selling price received at the time of the study depends on the quality of the honey, ranging from IDR 150,000/bottle to IDR 250,000/bottle. The profit of trigona honey bee farming obtained Rp 2,678,516. Business efficiency used R / C, obtained 2.03, which means that every one rupiah of costs incurred obtained revenue of Rp. 2.03 or got a profit of Rp. 1.03.

Socioeconomic Factors (X1).

Farmers' social factors include: age, formal education, non-formal education, farming experience, and number of family dependents. Measurement is based on a combination of frequency and scoring techniques.

The age of respondent farmers at the time of the study was mostly those over 50 years old (57.14%). The age of respondent farmers was 45.00%, categorized as Moderate. This illustrates the age of agroforestry model farmer activists tend to be at a nonproductive age. Formal education of respondent farmers at the time of the study were mostly in the level of basic education (elementary and secondary) 64 people out of a total of 65 respondents. Achievement of formal education level of respondent farmers 36, 92%, low category. Furthermore, the respondents' farming experience is relatively long enough, more than 20 years. Most became farmers began at the age of 16 years. Along with the length of the business, the understanding of forest farming has been long enough. The achievement of farming experience of respondent farmers is 72.31%, good criteria. Family dependents of respondents ranged from 2-4 people. The level of achievement of family dependents is 66.29% including Good criteria, the farmland area of agroforestry model farmer activists show small that is below 0.25 ha. Land tenure status is generally as cultivators. The level of achievement is 38.08%, Low criteria. The availability of capital in cash owned by farmers for agroforestry farming is very important. Farmers will be motivated to implement the farm if supported by the availability of capital in the form of cash, especially to pay labor and other wages. The level of achievement obtained is 34.62%, Low criteria. Of the six inidkator socio-economic factors of farmers: age; fomal education; farming experience and family dependents, land area and capital. Obtained the level of achievement of 48.78% of the criteria is sufficient. The recapitulation results are presented in table 1**.**

Table 1. Achievement Level of Socioeconomic Factors (X1)

Dimension/Indicator	Frequency Of Farmers On The Score				Score		Level	
	4	3	2	1	Achivments	hope	Achivments %	Criteria
Age	2	13	20	30	117	260	45	Simply
Formal Education	0	1	29	35	96	260	36,92	Low
Farming Experience	18	25	19	3	188	260	72,92	Good
Family Dependents	15	23	15	12	171	260	65,77	Good
Land Size	0	9	16	40	99	260	38,08	Low
Capital	1	6	10	48	90	260	34,62	Low
Amount	36	77	109	168	761	1560	48,78	Simply

Farmer Managerial Demonstration (X2)

Land management according to conservation principles

Basically, the agroforestry farming model is a conservation farming, which is an agricultural system that applies 3 principles: limited tillage, soil surface cover, and crop rotation. Land cultivation carried out by farmers in accordance with the principles or rules of conservation, using a reduced conventional tillage system, namely using conventional tillage methods combined with adding organic mulch so that it can still keep organic matter in the soil high and soil aggregate stability can still be maintained.

Before planting, the land is first cleared of nuisance plants such as reeds, or small cuts are made to the surrounding branches. Cutting branches or plants is done on land to be cultivated partially left as a windbreak, or fence, green manure and protection for the plants being cultivated. On sloping lands, simple terraces are made according to the degree of slope and the shape of the terrace to be made whether the bench terrace system, flat, or credit, while for damaged terraces, repairs are carried out so that they can be used as land for crops properly. On the edges of the terrace, the land is planted with grasses such as elephant grass as a terrace reinforcement, and annual plants. In addition, water drains were constructed and repaired to facilitate the flow of surface water.

After this stage is completed, they then do the first and second tillage with a hoe and a sideways plow with a tillage depth of about 30 cm to 40 cm. The interval between the first and second tillage is about two weeks so that the plowed soil can be illuminated first by sunlight so that bacteria or diseases in the soil can be killed. Next, basic fertilization is done with organic fertilizer (mulch). Next is the making of beds for the growth medium of annual plants. On flat land, the beds are made in the West-East direction to get optimal sunlight, while on hilly land, the beds are made perpendicular to the slope of the land to prevent erosion. The overall achievement for the dimension of land cultivation was 81.54% with very good criteria.

Seed Usage

Seasonal crop commodities cultivated by farmers in agroforestry farming model of agricilviculture pattern are: curly chili; long beans, eggplant, corn, ginger, turmeric. cayenne pepper; long beans; serawung; pecay and so on. While annual plants are: coffee, kapol, oranges, petai and jengkol. The use of seeds is from superior and certified seeds. Farmers believe that the use of the right seeds is the beginning of farming success and will apply otherwise. In more detail, the application of technical aspects of agroforestry model farming production obtained an achievement of 83.08%, very good criteria.

Basic Fertilization

Fertilization aims to improve soil fertility or provide nutrients for plant needs. In addition, fertilization helps improve air circulation and soil binding capacity to water. Fertilizers are given in the form of organic/natural fertilizers such as sheep manure or composted plant residues. Furthermore, basic fertilization is done with organic fertilizer (mulch). The dose of fertilizer given by farmers in various land processing based on the results of interviews in the field is around 5,500 kg/ ha. The achievement is still not in accordance with the recommendation or the minimum expectation is 6 to 7 tons/ha. The level of achievement of basic fertilization was 81.54% with very good criteria.

Supplemental Fertilization

Subsequent supplementary fertilization applied to agroforestry model farming basically adheres to the principle of balanced fertilization and fertilization methods, which include: dose (amount) of fertilizer per hectare, fertilization time, how to mix fertilizers, water conditions when fertilizing. The fertilizers given are organic fertilizers and inorganic fertilizers obtained from buying. It is done approximately a week before planting. The principle adheres to the principle of balanced fertilization and fertilization methods, which include: dosage (amount) of fertilizer per hectare, time of fertilization, how to mix fertilizers, water conditions when fertilizing. The fertilizer given is inorganic fertilizer: NPK fertilizer obtained from buying at agricultural kiosks.

In the early growth phase, plants require urea fertilizer to support their growth. The use of urea fertilizer in accordance with the recommendation is given 21 days after planting as much as 165-350 kg and 45 days after planting is done again as much as 165/365 kg. Events in the field show a situation that still varies from one farmer to another. The application of technology in terms of the use of NPK fertilizer for plants is very important. The use of NPK fertilizer in the presence of KCL compounds/elements is very important, especially for the phase of the plant experiencing fertilization and maturation. The use of NPK fertilizer in accordance with the recommendation is given when the plant is 21 days after planting as much as 100 kg. Events in the field show a situation that still varies from one farmer to another. The overall achievement of the fertilization dimension obtained 81.54% of Very Good criteria.

How to Plant

Planting of annual crops is done with a planting distance of 10 x 10 m or 5 x 5 m or according to the purpose of the next farm and the number of plants that expect more dominant aisle plants, the spacing of annual crops will be wider until it reaches 10 x 15 m. The use of production facilities in each type of plant both annuals, aisle plants, shrubs and perennial plants is tailored to their respective characteristics, as well as in technical terms, of course, choose their own style. Planting arrangements include planting distance and planting time. The recommended planting distance for annuals is

generally 30 cm x 30 cm. However, events in the field show a relatively diverse situation. The recommended planting time is at the end of the rainy season. Farmers have done much in accordance with what is recommended. The achievement of planting method is 81.54% with very good criteria.

HPT and Weed Control

In pest management, farmers do not use commercial medicines. Weed control is done mechanically by pulling weeds directly by hand, using traditional tools such as small hoes or kored. Farmers realize the use of such tools and methods requires time, diligence and patience. The achievement level of pest, disease and weed control is 83.08%, including the criteria of Very Good.

Water Management

Water management for crops on drylands is clearly very important and determines the success of agroforestry farming models. . Apart from being a solvent of nutrients, water is a source of essential nutrients (hydrogen and oxygen) and is the main component of plant cells (75 - 85%). When the soil is unable to fulfill the water needed by plants, plant water content, osmotic potential and turgor decrease, stomata close, and nutrient uptake is disrupted. Signs that are easily seen in plants that lack water are wilting leaves, and if prolonged both leaves, flowers and fruit fall off and then die.The method used is the sprinkler method. This method is done by spraying water upwards so that the water that falls resembles rain. This method can utilize water more efficiently and can be applied to various conditions such as passive soil, clay soil, and shallow soil. This method can also be used to regulate the temperature around the tree as well as the application of fertilizers or pesticides. The water management achievement rate was 87.69%, which is very good.

Harvest and Post-Harvest

The application of harvest and post-harvest technology in agroforestry model farming includes activities: determining harvest time Determination of harvest time depends on the type of crop that farmers cultivate. For seasonal crops that are cultivated such as: curly chili; long beans, eggplant, ginger, turmeric. cayenne pepper; long beans; serawung generally around 100-120 days. While annual crops, namely: coffee, kapol, oranges, petai and jengkol are annual crops and the harvest is done several times a year. Coffee production is a crop that farmers rely on with relatively stable prices and at the time of the study Rp 12,000/kg in the form of glondongan coffee fruit. As for the production of annual crops, the price received by farmers still depends on the season. The achievement level of 85.38% is included in the criteria Very good. Based on the eight indicators of the level of achievement of Managerial / Technical Skill Farmers agroforestry model farming activists obtained an achievement of 83.37% very good criteria.

Production Managerial includes aspects of: Ability to plan products, location, time and production; Ability to control farm production; Ability to plan and control financial and labor and Ability to supervise processes and products. The level of achievement of the four indicators of the production aspect obtained 74.71% Good criteria. Financial Managerial includes aspects: Ability to obtain financial resources; Ability to manage/allocate finances; Ability to conduct financial bookkeeping. For the three financial aspects, the achievement level was 73.45%, including the Good criteria.

Human Resource Managerial includes aspects of: Ability in action to carry out division of labor / tasks; and Ability in action to provide wages and incentive systems. Against both aspects of human resources obtained an achievement level of 69.03% good criteria. Furthermore, Marketing Managerial on agroforestry model farming includes: Ability to sell in cooperation; and Ability to find / expand new markets. Against both aspects of marketing obtained an achievement level of 58.08% good criteria.

The level of achievement of Business Managerial farmers agroforestry model farming activists obtained 65.45%, Good criteria. Of the four aspects of Business Managerial, the highest achievement is in terms of production aspects 74.71%. While the lowest achievement is in terms of financial aspects 55.64%, sufficient criteria. The overall achievement level of Business Managerial Agroforestry farmer obtained 73.02%, Good criteria. Recapitulation of the level of achievement of Business Managerial Farmers Agroforestry model farming activists are presented in Table 2 below.

Table 2. Managerial Achievement Level of Agroforestry Farmers (X2)

Dimension/Indicator	Frequency Of Farmers On The Score				Score		Level	
	4	3	2	1	Achivments	hope	Achivments %	Criteria

A. Technical Skill								
Principle Land Treatment	17	43	0	0	212	260	81,34	Very good
Seedling Seed Use	21	44	0	0	216	260	83, 08	Very good
Basic Fertilization	17	43	0	0	212	260	81,34	Very good
Supplementary Fertilization	21	44	0	0	216	260	83, 08	Very good
Planting Method	17	43	0	0	212	260	81,34	Very good
Hpt And Weed Control	21	44	0	0	216	260	83, 08	Very good
Water Treatment	33	32	0	0	225	260	87,69	Very good
Harvest and Post-Harvest	27	33	0	0	222	260	83,35	Very good
Quantity Of A	176	346	0	0	1736	2080	83,37	Very good
B. Business Management								
Production Managerial	20	220	17	3	777	1040	74,71	Good
Financial Managerial	5	63	98	29	434	780	55,64	Simply
HR Managerial	4	94	30	2	360	520	60,23	Good
Managerial Marketing	2	32	62	14	300	2860	58,00	Simply
Number B	31	429	207	48	1873	4940	65,49	Good
Sum Of A And B	205	775	207	48	3607	1040	73,02	both

Demonstration of Agroforestry Model Farming Success (Y)

The successful implementation of the model on the farm consists of three dimensions, namely: economic; social and ecological. Economic aspects include: Productivity of seasonal crops cultivated; Diversity or diversity of crops cultivated; Increased farm income as a result of the application of the agroforestry farming model. Social aspects include: Availability of employment opportunities; Formation of a community system. Furthermore, ecological aspects include: The number of existing trees; frequency of tree felling; Types of agricultural crops cultivated in accordance with the physical conditions and functions of the land; and Principles of land management in accordance with conservation principles. The level of achievement of the success of the agroforestry model farming based on the three dimensions: economic aspects; social aspects and ecological aspects obtained an achievement level of 64.91% good criteria. It appears that the achievement of success for each dimension shows a situation that is not much different.

Table 3: Achievement Level of Success of Agroforestry Model Farming

Dimension/Indicator	Frequency Of Farmers On The Score				Score		Level	
	4	3	2	1	Level	achivments	Achivments %	Criteria
economic aspects	33	77	71	14	519	780	66,54	Good
social aspects	7	56	67	0	330	520	63,46	Good
ecological aspects	14	122	124	0	670	1040	64,42	Good

Amount	54	255	262	14	1519	2340	64,91	Good

Hypothesis Testing

Hypothesis Testing 1

Hypothesis 1 stated: There is a positive relationship between Farmer Socio-Economic Factors and Farmer Managerial tested by analysis tested by Pearson Correlation analysis. The results of the analysis are presented in Table4.

Table 4. Correlation test analysis results

		X1	X2
X1	Pearson Correlation	1	.
	Sig.(2-tailed)		,003
	N	65	65
X2	Pearson Correlation	.365**	1
	Sig.(2-tailed)	,003	
	N	65	65

Obtained count = 0, 305 which is greater than r table = 0.207, then reject H0 or accept H1; The conclusion: There is a real positive relationship between Socio-Economic Factors with Farmer Managerial. It can be interpreted that the better the Socio-Economic Factors, then Farmer Managerial will be better and vice versa.

Hypothesis Testing 2,3 and 4

By using path analysis and the SPSS program, the results of the analysis presented simultaneous testing of the effect of variables X1 and X2 are presented in Table 5.

Table 5. Simultaneous Test analysis results of variables X1 and X2

Model		Sum of square	df	Mean square	F	sig
1	Regression	248,641	2	124,320	62,923	.000[1]
	Residuals	122,498	62	1,976		
	Total	371,138	64			

Obtained F hit = 62.923 is greater than F table = 3.18, then Ho is rejected or H1 is accepted. This means that the path coefficient really shows a real influence so that it can be used for further prediction in accordance with what is hypothesized. The magnitude of the ability to explain the diversity of Socio-Economic Factors and Farmer Managerial variables on Agroforestry Farming Success is indicated by the R square (R2) = 0.670 or 67.00% (presented in appendix 13), while the remaining 32.00% is influenced by other factors or variables not included in the model.

Table 6. Results of Pasial Test analysis of X1 and X2 variables

Model		Ustandart dized Coefficie		Zed Coefficie	f	Sig
		B	Error	beta		
1	(Constant)	-5,144	2,548		-2,019	,048

X1	,342	,134	,200	2,559	,013
X2l	,444	,048	,724	9,237	,000

From the table above, it can be seen that the partial effect of X1, X2, on Y can be arranged into the equation: Y = 0.200 X1 + 0.724 X2 + Є. Partial influence is analyzed based on the significance of the path coefficient which is compared between tcount and t table or can also be compared from the chance of significance (.sig) with the error rate (α) set = 0.05. The effect of each variable is direct and indirect is as follows.

Table 7. Effect of variables X1 and X2

Path	Direct Influence	Indirect effect		Total
		X_1	X_2	
pyxl	4,02%		5,30%	9,,32%
Pyx2	52,39%	5,30%		57,69%
R2	influence of X1 and X2			67,00%
1-R2	Influence of other factors			33,00%
total	Total influence			100,00%

From the results of the analysis of the path coefficient of socio-economic factors of farmers (X1) on the success of farming agroforestry model (Y) obtained a total influence contribution = 9.32% consisting of: direct influence 4.02% and indirect influence 5.30%. The direct effect shows smaller than the indirect effect. the contribution of the influence of socio-economic factors of farmers is relatively small. It is also in line with the level of achievement descriptively that is 48.78% criteria sufficient. For indicators of farmer age shows the level of achievement is not / less good. The results showed that although the age of respondents tend to be less productive, but the success of the application of the model shows the level of achievement is still included in the good criteria. Likewise, for indicators of formal education the level of achievement is low, elementary and secondary education. Then for the experience of farmers in farming reached a good level, there are 41 people (58.57%) who have experience above 15 years. The results showed that the better (higher) experience of respondent farmers, the success of the application of the model

Furthermore, the family dependents of respondent farmers reached a sufficient level. There are 51 people (72.86%) who have a family dependency burden of 3 people or less. The results showed that the smaller the respondents' family dependents, the better the success of the model implementation. for the indicator of land area which showed a fairly small level of achievement. This is because the majority of respondents have small plots of land. The results showed that although the land cultivated was relatively small, the success of the model implementation was good. The capital availability indicator shows a low level of achievement. The results showed that even so the success of the agroforestry model farming showed good achievements.

The direct and indirect influence (contribution) of Farmer Managerial variables on the success of agroforestry model farming amounted to 67.00%, consisting of direct influence 57.69 indirect influence 9.32%. The contribution is quite large, meaning that the success or failure of the agroforestry farming model will be determined by how good the Farmer Managerial itself. The success of the business consists of technical managerial or technical skills of farmers and business managerial.

Technical managerial skills, namely the ability of farmers in the technical production of agroforestry farming models: Land processing; Seed use; Basic fertilization; Supplementary fertilization, Arrangement of planting methods; Control of pests, diseases and weeds; Water management and Harvest and post-harvest, the more successful the farm will be. Technical managerial shows greater

In accordance with the results of the description analysis where the achievement level is 83.37%, the criteria is very good, while the business managerial achievement level shows a figure of 73.02%, the criteria is good.

CONCLUSIONS

Conclusion

1. Socio-economic factors of agroforestry farmers in Kiarapayung reached 48.78% (sufficient), with old age (54 years), low education (elementary school), 2 family dependents, narrow land (0.26 ha), and low capital.
2. Managerial agroforestry farmers reached 73.07% (good), with technical managerial 83.37% (very good) and business 65.49% (good).
3. The success of agroforestry farming reached 64.91% (good) in social, economic, and ecological aspects.

Advice

1. Increase crop productivity with organic fertilizers.
2. Further guidance is needed so that farmers continue to apply agroforestry.

REFERENCES

Anantanyu, S. (2011). Farmer Institutions: Their Role and Capacity Building Strategy. 7(2), 102-109.

Arimbawa, P. D., & Widanta, A. . B. P. (2017). The Effect of Land Area, Technology and Training on Rice Farmers' Income with Productivity as an Intervening Variable in Mengwi District. Arimbawa, Dika Putu, 6, 1601-1627.

Aslichah, A., Dwiningwarni, S., Yulianto, Y., & Supriyadi, S. (2018). The Effect of Operating Capital and Sales on Operating Profit at Rice Milling Companies. J-Macc, 1(2), 169-181.

Dyanto, R., Sukmawati, D., & Apandi, N. (2022). PENGARUH FAKTOR SOSIAL EKONOMI DAN PARTISIPASI PETANI ANGGOTA KELOMPOK TANI TERHADAP KEBERHASILAN USAHATANI TOMAT (Solanum lycopersicum L). Agrivet: Jurnal Ilmu-Ilmu Pertanian dan Peternakan (Journal of Agricultural Sciences and Veteriner), 10(1), 25-32.

Forest Plant Seed Center. (2016). Master Plan of Forest Plant Seed Garden, Kiarapayung Regional Forest.

Impact, D. A. N., Welfare, T., Village, M., & Utan, J. K. (2019). Social Humaniora Social Humaniora. 3(3), 78-90.

Indrawan, M. I. (2017). The Influence of Work Ethics, Work Experience and Work Culture on Work Performance of Employees of South Binjai District. Journal Abdi Ilmu, 10(2), 1851-1858.

Marina, I., & Sulandjari, K. (2013). FAKTOR SOSIAL EKONOMI YANG MEMPENGARUHI PENGAMBILAN KEPUTUSAN PETANI DALAM SISTEM PENJUALAN SAYURAN WORTEL (Suatu Kasus Petani Sayuran Desa Nyalindung di Kecamatan Cugenang Kab. Cianjur). Cefars: Jurnal Agribisnis Dan Pengembangan Wilayah, 5(1), 50-63.

Marina, I., Andayani, S. A., Ramdhaniah, I., & Nurjaman, J. (2022). Pengaruh Faktor Sosial Terhadap Keputusan Pembelian Cabai Merah Besar (Suatu Kasus di Pasar Ciborelang, Pasar Sindangkasih, dan Pasar Maja Selatan). Jurnal Ilmiah Sosio-Ekonomika Bisnis, 25(01), 1-7.

Munawaroh, C., Suminah, S., & Ihsaniyati, H. (2020). The Effect of Farmer Experience and the Influence of Others on the Adoption of Rice Transplanter Planting Machines in Mojolaban District, Sukoharjo Regency. AGRITEXTS: Journal of Agricultural Extension, 43(1), 16. https://doi.org/10.20961/agritexts.v43i1.41626

Muttaqin, I. Z., Nurhayati, M., Rusli, A. R., & Hut, S. (2019). Practical Guide to Planting Mixed Agroforestry Patterns.

Nikolas Fajar Wuryaningrat. (2014). AGRICULTURAL PRODUCT MARKETING: PROBLEMS AND SOLUTIONS.

Nursyamsu, N., Irfan, I., Mangge, I. R., & Zainuddin, M. A. (2020). The Effect of Working Capital and Working Hours on the Income of Street Vendors in Kabonena Village. Journal of Economics and Islamic Business, 2(1), 90-105. https://doi.org/10.24239/jiebi.v2i1.25.90-105

Oktaviani.J. (2018). Introduction to Social Science. Cereal For, 51(1), 51.

Press, F., Research, P., Development, D. A. N., & Forest, P. P. (2013). National Strategy.

Purwanti, E., & Rohayati, E. (2014). The Effect of Family Dependents, Income on Labor Participation of Women Workers in the Soybean Cracker Industry in Tuntang, Semarang Regency. Scientific Journal of Among Makarti, 7(1), 113-123. https://jurnal.stieama.ac.id/index.php/ama/article/view/102

Puspasari, E., Wulandari, C., Darmawan, A., & Banuwa, I. S. (2017). Socioeconomic Aspects of Agroforestry System in Community Forest (HKm) Work Area of West Lampung Regency, Lampung Province. Journal of Sylva Lestari, 5(3), 95. https://doi.org/10.23960/jsl3595-103

Rini, Y. S. (2014). Education: Nature, Purpose and Process.

Sagoro, klima H. & E. murti. (2018). The influence of financial knowledge, financial attitude, and personality towards financial management behavior on small medium enterprises at batik craft of bantul regency. Nominal Journal, 7(1), 96-110.

Sudiarsana, I. G. A., Darmawan, D. P., & Sarjana, I. D. G. R. (2017). Competency Analysis of California Papaya Farmers. E-Journal of Agribusiness and Agritourism, 6(4), 495-504.

Sugiyono. (2018). Quantitative, Qualitative and R & D Research Methods.

Susanti, D., Listiana, N. H., & Widayat, T. (2016). The Influence of the Farmer Ages, Levels of Education and Land Area to Blumea Yields. Journal of Indonesian Medicinal Plants, 9(2). https://doi.org/10.22435/toi.v9i2.7848.75-82

Wahyu, I., Pranoto, H., & Supriyanto, B. (2018). Cash Crop Productivity Analysis of Agroforestry System in Samboja District, Kutai Kartanegara District. Journal of Agroecotechnology of Humid Tropics, 1(1), 24-33.

Wianggraini, S., Factor, A., Affect, Y., Family, P., Di, M., Lembengan, D., Wianggraini, S., Sumarsono, S., Komariyah, S., Science, J., Development, S., Economics, F., Unej, U. J., & Kalimantan, J. (2014). Lembengan District Ledokombo Jember Regency The Analysis Of Factors Affecting The Poor Families Income Lembengan Village Ledokombo Jember.