Social-Economic Factors that Determine the Income of Horticultural Seed Care Partner Farmers in Karang Sidemen Village, Batukliang Utara District, Central Lombok

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Abstract. One of the determinants of agricultural success is the availability of seeds to be cultivated by farmers. This is where the importance of having groups of seed breeders will later become a source of farmers' seeds. The price of kernels is relatively high and can be a source of income for farmers in addition to cultivating for consumption. The research's objective - is to see how far the process of empowering partner farmers through socio-economic factors can affect the payment of partner farmers for seed breeders. Based on the results of multiple linear regression analysis, it is known that nine independent variables have a simultaneous effect on the income of 94 %, farmer partners include selling price with a percentage of 40.24 %; total production with a rate of 32.04 %; and production costs with a ratio of 8.69 %. These results indicate that the empowerment of partner farmers in horticultural seed captive farming with related companies has good prospects huge. It can be seen that seed is one of the most vital inputs that can affect the success of a plant's productivity, so excellent sources are needed.

Keywords: partner; income; socio-economic.

INTRODUCTION

Agriculture is an activity with a broad scope, ranging from cultivation to marketing and processing of products, on and off the farm, to implement agricultural activities, of course, to get results and profits. The agricultural sector is one of the sectors of economic strength where this sector can absorb a lot of labour and produce basic needs for the community. The progress of this sector is very dependent on how to manage the agricultural resources that are owned as well as possible.

One of the determinants of agricultural success is the availability of seeds to be cultivated by farmers. This is where the importance of having groups of seed breeders will later become a source of farmers' seeds. The price of kernels is relatively high and can be a source of income for farmers in addition to cultivating for consumption. The application of agricultural technology uses a group approach, including the potential development program for seed breeders. According to [1] the organisation is a social unit that is deliberately formed with full consideration to achieve specific goals. A group is a collection of two or more people living together. There is a reciprocal relationship and mutual influence on awareness of having a standard plan consisting of social groups and task groups [2–5]. According to [6], farmer groups play a role as a learning forum, a forum for collaboration, an organisation forum, a farming production unit, and a unit responding to technological performance feedback. The role of farmer groups and seed breeders is highly expected in implementing the preparation of regional seed reserves.

Meanwhile, not many farmers are doing seed breeding business, even though the seed breeding business can provide more significant profits. The lack of farmers and farmer groups as seed breeders is constrained by socio-economic factors. Farming activities and good cultivation management, marketing of products, and other businesses are strongly influenced by socio-economic factors inherent in farmers. Socio-economic is the position or position of a person in a community group, which is determined by the type of economic activity, education and income.

Several factors can determine the high and low socio-economic conditions of a person in a society public, namely (1) level of education, (2) type of work, (5) place of residence, (6) ownership of wealth, 7) position in the organisation, (8) economic activity. Therefore, it is necessary to see to what extent the process of empowering partner farmers through socio-economic factors can influence the income of partner farmers for seed breeders.

Literature review

Definition of Partnership. The definition of partnership, according to [7], is business cooperation between Small and Medium Enterprises or Large Enterprises accompanied by guidance and development by Medium or Large Enterprises by demonstrating the principles of mutual need, mutual strengthening, and mutual benefit.

Partnership Model. The business partnership model aims to cultivate partner groups in agribusiness-oriented agricultural development. To further improve business partnerships, assessing the level of business partnership relationships is necessary to identify problems and development opportunities [8].

According to [9], the partnership can be done in various ways, namely through models in the collaboration itself. The partnership models are divided into:

(a) Pseudo partnership (quasi partnership). An alliance occurs between two or more parties but does not cooperate in a balanced way. One party does not necessarily understand the meaning of collaboration and for what purpose it was all carried out and agreed upon. Both parties and more feel it is important to cooperate. Still, the partnering parties do not necessarily understand the substance being fought for and the benefits.

(b) Mutualism partnership (mutualistic partnership). They are departing from an understanding of the importance of partnership. Two organisations or groups with the same or different statuses cooperate. Cross-benefits between the parties who collaborate can be obtained so that they support each other simultaneously.

(c) Conjugation partnership (partnership through fusion or development). It is a partnership that is analogous to a paramecium. Two paramecia perform conjunctions to get energy, separate from each other, and further divide

themselves. Starting from this analogy, an organisation or group, individuals with weaknesses in doing business or activities can partner with this model.

Seed Breeding. Author [10] stated that seed breeding is an effort to produce superior seeds as source seeds and spread seeds that will be used to create unique varieties. In seed captivity, the source seed used for planting seed production must be one grade higher than the seed to be produced. To produce BD class seeds (essential seeds): the source seeds must be in BS class (type seeds); the source comes from critical seeds or breeders. Meanwhile, the head of BR class seeds (spread seeds) comes from the main, essential seeds or breeder seeds.

One of the efforts to increase productivity and yield quality is through the use of certified superior varieties. For this reason, the government continues to strive so that the use of certified excellent varieties seeds increases yearly. In captivity, if other types live in the seed variety itself, cleaning must be carried out on these varieties so that the purity of the seeds can be maintained. Further processes of seedling are treatment, packaging, which requires materials that can keep the moisture content of the sources themselves, and storage. This storage will later increase production costs which affect the income of rice seed breeders and the quality of the rice seeds themselves [11] as a seed breeder farmer is not easy. The farmer must meet the requirements in the seed breeding business.

For the seeds to be distributed according to the target, it is necessary to pay attention to the following matters [12]:

(1) The implementation of seed breeding must have arable land, knowledge, skills and security, and seed processing and storage facilities.

(2) Locations are easily accessible by vehicles and free from other plants that can hinder the captive area.

(3) The captive area must be adjusted to the needs of the seeds to be distributed.

(4) Seeds must be selected as primary seeds from superior varieties because they are clean and have high growing power to the nature of the parent.

(5) The preferred varieties of rice seeds are varieties that have high production power (VPT) and varieties of medium production (VPS).

Definition of Socio-Economic. According to [13], socio-economic status is a person's position in society to other people regarding the social environment, achievements, and rights and obligations to resources. Author [13] states that the main components of the socio-economic position include a measure of wealth, a measure of power, a measure of honour, and a measure of knowledge. Economic conditions play an essential role in the education of a child. According to [14] the part of economic conditions in children's education holds a critical position.

Factors Affecting Socio-Economic Conditions. According to [15] socio-economic status is seen or measured from parents' occupations, income and wealth, parents' education level, home and location conditions, relationships and social activities. The following is an explanation:

1) Education level. The meaning of education, according to [16] is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious, spiritual strength, self-control, personality, intelligence, noble character, and good skills needed by himself, society, nation and state.

2) Parents' income. According to [17] income is the amount of income received by residents for their work performance during a certain period, either daily, weekly, monthly or yearly. Income is the total income (money and not money) of a person or a household during a specific period. According to [18], income is money received by a person and company in the form of salaries, wages, rent, and profits, including various benefits, such as health and pensions.

METHODS

The method used in the study of the extent to which social engineering results have an influence on farmers' income is carried out using secondary data from one of the seed breeder farming studies with research data collection techniques from several research journals, as well as a test study on farmers' income in Karang Sidemen Village, Batukliang Utara District. Central Lombok Regency. The tool used to analyse is the SPSS V26 application using multiple linear regression analysis.

RESULTS AND DISCUSSION

Based on results of multiple linear regression analysis (Table), it is known that the R^2 value is 0.943, which indicates that the nine independent variables of socio-economic factors have an influence of 94.3% on the income of horticultural seed breeders. In contrast, other factors influence the remaining 5.7%.

Table 1 − Results of Multiple Linear Regression Analysis of Farmers' Incomes for Horticultural Seed Breeders in Karang Sidemen Village, Batukliang Utara District, Central Lombok

Independent Variable	Regression Coefficient	t-count	t-table	R^2	F-Count	F-table
Age (X1)	0.168	1.088	2.042	0.943	54.688	2.20
Experience (X2)	-0.134	-0.642				
Land Area (X3)	-9,195	-1.248				
Total Production (X4)	0.479	9.381				
Production Cost (X5)	-1,289	-2.546				
Number of Dependents (X6)	-0.175	-0.343				
Selling Price (X7)	36,860	11.782				
Length of Cooperation (X8)	0.143	0.636				
Education Last (X9)	1.925	1.609				
Constant	-24,562	-3.807				

The data shows that the F-count value (54.688) > F-table (2.20) which indicates that nine independent variables have a simultaneous/joint effect on the dependent variable or the nine independent variables have a collective impact on the income of partner farmers. In other words, 94.3% of the payment of horticultural seed breeders can be influenced by the nine independent variables. The following is the analysis of multiple linear regression data so that the value of each variable is obtained, namely:

$$Y = a + b1X1 + b2X2 + b3X3 + b4X4 + b5X5 + b6X6 + b7X7 + b8X8 + b9X9$$

$$Y = -24{,}562 + 0{,}168\,X1 - 0{,}134\,X2 - 9{,}195\,X3 + 0{,}479\,X4 - 1{,}289\,X5 - 0{,}175\,X6 + 36{,}860\,X7 + 0{,}143\,X8 + 1{,}925\,X9$$

The effect of each independent variable on the dependent variable on the income of horticultural seed breeder partner farmers in Karang Sidemen Village, Batukliang Utara District, Central Lombok, according to the magnitude of the t-count can be explained as follows.

Age (X1). The variable age of seed breeders has a positive regression coefficient. The regression coefficient obtained is 0.168, which means that every 1-year addition of the age of the seed breeder farmer will increase the farmer's income by Rp. 168,000 assuming other variables are fixed. Based on the results of statistical tests, it is known that t-count (1.088) < t-table (2.042) indicates that the age factor of the farmer has no significant effect on the income of the farmer partners of seed breeders in Karang Sidemen Village. Increasing age will increase the income of partner farmers because more knowledge and skills are known beforehand. However, the older the farmer does not guarantee that the farmer has the knowledge and skills.

Experience (X2). Variable experience of seed breeder farmers has a negative regression coefficient. The regression coefficient obtained is -0.134, which means that every additional year of experience of seed breeder farmers will reduce farmers' income by Rp. 134,000, assuming other variables remain. Based on the results of statistical tests, it is known that t-count (0.642)<t-table (2.042) indicates that the experience of farmers has no significant effect on the income of farmer partner farmers in Karang Sidemen Village. The length of experience gained from seed captive farming does not guarantee that it can increase farmers' income because it is caused by education related to the knowledge and skills received to increase the income of partner farmers.

Land Area (X3). The variable land area of seed breeder farmers has a negative regression coefficient. The regression coefficient obtained is -9,195, which means that for every additional 1 ha of land area for seed breeders, it will reduce farmers' income by Rp. 9,195,000, assuming other variables remain. Based on the results of statistical tests, it is known that t-count (1.248)<t-table (2.042) indicates that the farmer's land area has no significant effect on the income of seed-breeding partner farmers in Karang Sidemen Village. If the land area is low, the partner farmers'

income could be high because the quality produced is good.

Total Production (X4). The variable number of seed breeders' production has a positive regression coefficient. The regression coefficient obtained is 0.479, which means that every additional 1 kg of the production of seed breeders will increase farmers' income by Rp. 479,000, assuming other variables remain. Based on the results of statistical tests, it is known that t-count (9.381)>t-table (2.042) indicates that the number of farmers' production has a significant effect on the income of seed-breeding partner's farmers in Karang Sidemen Village. The amount of output produced by partner farmers can affect the payment of partner farmers because the higher the number of products made, the higher the income received by partner farmers.

Production Cost (X5). The variable cost of production of seed breeders has a negative regression coefficient. The regression coefficient obtained is -1,289, which means that every additional 1 million production costs for seed breeders will reduce farmers' income by Rp. 1,289,000, assuming other variables remain. The results of the statistical test are known to be t-count (2.546) > t-table (2.042), which indicates that the farmer's production cost factor has a significant effect on the income of the farmer partners of seed breeders in Karang Sidemen Village. This shows that the expenditure of production costs by partner farmers must be managed to a minimum so that the income generated can increase so that production costs significantly affect the payment of partner farmers.

Number of Dependents (X6). The variable number of dependents of seed breeders has a negative regression coefficient. The regression coefficient obtained is -0.175, which means that each additional person in the number of dependents of the seed breeder farmer will reduce the farmer's income by Rp. 175,000 assuming other variables remain. Based on the results of statistical tests, it is known that t-count (0.343) < t-table (2.042) indicates that the number of dependents of farmers has no significant effect on the income of seed-breeding partner's farmers in Karang Sidemen Village. The addition of the number of dependents can affect the payment of partner farmers because they incur more costs so that

their income is reduced. However, increasing the number of dependents of partner farmers if they are in their productive period will affect the income of partner farmers so that they can improve their revenue. Therefore, it can be said that the number of dependents has no significant effect on the payment of partner farmers.

Selling Price (X7). The variable selling price of the production of seed breeders has a positive regression coefficient. The regression coefficient obtained is 36,860, which means that every additional 1 million selling price of seed breeder farmers will increase farmers' income by Rp. 36,860,000, assuming other variables remain. Based on the results of statistical tests, it is known that t-count (11.782) > t-table (2.042) indicates that the selling price factor of farmers has a significant effect on the income of farmer partners of seed breeders in Karang Sidemen Village. This is because the guaranteed selling price provided by the partner company provides benefits for partner farmers so that partner farmers do not need to worry about their income as long as the product produced is by the standards of the partner company.

Length of Cooperation (X8). The variable length of collaboration between seed breeders has a positive regression coefficient. The regression coefficient obtained is 0.143, which means that every additional year of cooperation between seed breeders and other parties will increase farmers' income by Rp. 143,000 assuming other variables remain. Based on the results of statistical tests, it is known that t-count (0.636)<t-table (2.042) indicates that the length of cooperation between farmers has no significant effect on the income of seed-breeding partner farmers in Karang Sidemen Village. The association's size can increase revenue because of the transfer of knowledge and skills from partner companies to partner farmers.

Last Education (X9). The previous education variable of seed breeder farmers has a positive regression coefficient. The regression coefficient obtained is 1.925, which means that every additional education level of the seed breeder farmer will increase the farmer's income by Rp. 1,925,000, assuming other variables remain. Based on the results of statistical tests, it is known that t-count (1.609)<t-table (2.042), which indicates that the last education factor of farmers has no significant effect on the income of farmer partner farmers in Karang Sidemen Village. As with partner farmers, they take high formal education, which causes their knowledge and skills to be high enough to affect their income.

CONCLUSIONS

From the results of the research above, it can be concluded that to determine the process of community empowerment, especially for partner farmers with related companies. Nine variables have a joint effect on the income of horticultural seed breeder partner farmers of 94.3%, where there are three variables independent factors that have a major influence on the income of partner farmers of horticultural seed breeders, including the selling price factor with a percentage of 40.24%; total production with a percentage of 32.04%; and production costs with a percentage of 8.69%. These results indicate that the empowerment of partner farmers who cultivate horticultural seeds has extensive prospects.

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