

THE INFLUENCE OF INTERNAL AND EXTERNAL FACTORS ON ENTREPRENEURSHIP BEHAVIOR IN IMPROVING CLOVE FARMING PERFORMANCE IN CENTRAL MALUKU DISTRICT, MALUKU PROVINCE

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ABSTRACT

The clove is one of many commodities that have economic value and contributes to improving government revenues. This research aimed to determine the influence of internal factors and external factors on entrepreneurship behavior in improving farming performance. Studies were conducted on 100 sampling farmers, with data collection techniques of interviews and using questionnaires. The data was analyzed using Structural Equation Model (SEM) with Lisrel software. The results showed that internal factors (X1) which consisted of age, education level, length of business, motivation, business scale simultaneously had a positive effect on entrepreneurship behavior. External factors (X2) consisting of the availability of inputs and institutions simultaneously have a positive influence on entrepreneurship behavior.

Keywords: *farming performance, entrepreneurship behavior, external factors, internal factors*

BACKGROUND

Indonesia exports cloves in the form of whole fruit to 53 countries in the world and in the form of cloves with stalks to 31 countries in the world (Ministry of Agriculture, 2016). FAO data from the Ministry of Agriculture (2014) states that Indonesia is a country with the largest clove planting area in the world with a contribution of 79.80% and is the world's largest clove producer with a contribution of 70.99%, and an average production of 79.25 thousand tons per year. Clove plants in Indonesia are more than 90% owned by the people and are not properly cared for, so that the productivity of the plants fluctuates (Tupamahu, 2015).

The application of the concept of entrepreneurial behavior to clove farmers is expected to flyun behavior to be more active in exploiting and developing the clove business potential, being innovative in the production process and creating quality clove products, and at competitive prices, and having the courage to take business risks (risk takers). Clove farmers are also expected to be able to make efforts to build clove business institutions and actively carry out promotions both at home and abroad. Thus, the performance of the clove business will increase and be able to achieve competitiveness in national and international markets (Puspitasari et al., 2018).

Farmers' entrepreneurial behavior is influenced by internal and external factors from farmers. Internal factors are attributes that are attached to the nature, attitudes, and personal or personal qualities shown in running a business which includes several indicators such as business scale, achievement motivation, perceptions of business, and the desire/intention to cultivate cloves. External factors are factors that cause behavior originating from the environment or situation, with indicators

including the use of production inputs, counseling, capital assistance, promotion, regulations, farmer cohesiveness, and ease of access to clove business information (Puspitasari et al, 2018).

The research objectives were (1) to analyze the influence of internal factors on entrepreneurial behavior clove farmers in Central Maluku Regency, (2) to analyze the influence of external factors on the entrepreneurial behavior of clove farmers in Central Maluku Regency, (3) to analyze the influence of entrepreneurial behavior on the performance of clove farming in Central Maluku Regency.

RESEARCH METHODS

The research was conducted from April to May 2019. The research was conducted in Central Maluku Regency, the research locations were selected purposively using the multi-sampling stage method with several perconsidering that based on BPS data, Central Maluku Regency is the largest clove-producing area in Maluku Province with an area of clove plantations in 2017 of 18,614.50 Ha, total production of 9,954.20 tons and number of clove farmers of 32,895 households. Based on these data, three clove-producing sub-districts were selected in the Central Maluku Regency, namely Leihitu, West Leihitu, and Amahai Districts, from each sub-district one village was selected, namely Sepa Village, Seith Village, and Allang Village.

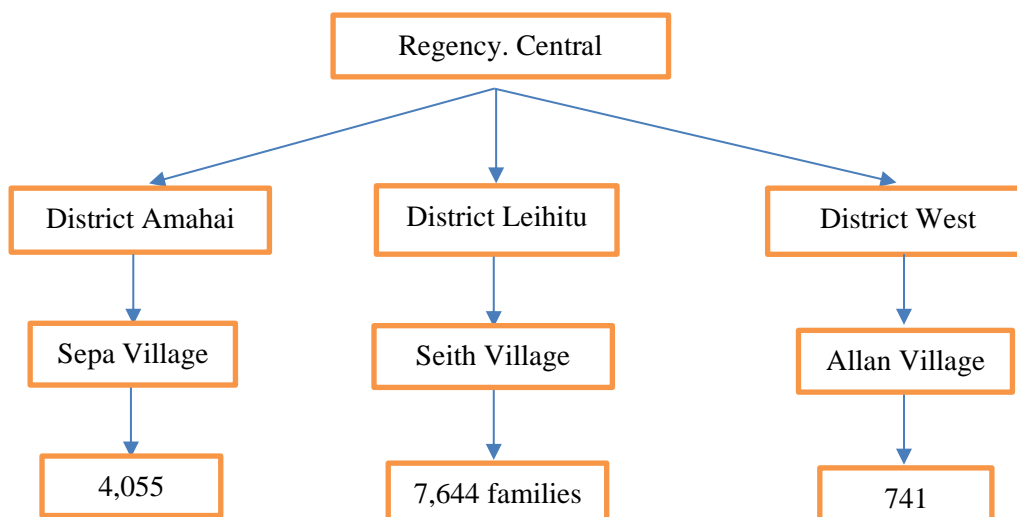


Figure 1. Determination of Sample Location

The population size was determined using the Slovin formula, and 100 people were obtained. Determination of the sample of farmers in each village using proportional random sampling. The criteria for farmers are having a minimum of 0.5 ha of land and 10 years of farming experience. The number of samples in the field was obtained using the formula $n_i = n$, so that 31 people were obtained from Sepa Village, 61 people from Seith Village, and 6 people from Allang Village. Data collection was obtained by means of interviews with the help of a list of questions or questionnaires.

Data analysis was carried out using SEM with assistance *lisrel software* to see relationship between endogenous variables (age, education level, length of farming, motivation and business scale), exogenous variables (availability of inputs and institutions), to intervening variables

(entrepreneurial behavior) and dependent variables (farming performance). The following is the formula for the SEM analysis test.

Latent variable : Exogenous Variable + Endogenous Variable + error

Entrepreneurial behavior : γ_1 Internal Factors + γ_2 External Factors + ϵ_1

Farming Performance : γ_3 Entrepreneurial Behavior + ϵ_2

Table 1. Determination of the Sample in Each Village

District/Village	Population (household)	Number of sample farmers (farmer)
Amahai (Sepa)	4,055	$ni = 33 \frac{4055}{12.440} \times 100$
Leihitu (Seith)	7,644	$ni = 61 \frac{7644}{12.440} \times 100$
West Leihitu (Allang)	741	$ni = 6 \frac{741}{12.440} \times 100$
Total	12,440	100

RESULT AND DISCUSSION

Characteristics of Clove Farmers

The majority of clove farmers are in the age group of 15-54 years, of which 100 respondents interviewed 61 people are in the productive age group and 39 people are in the old (unproductive) age group. The average education of the majority of farmers is high school with 37 people, the second highest education level for farmers is elementary school with 24 people, and the lowest is in tertiary education with 18 people. The duration of farming for the majority of farmers is more than 30 years as many as 43 people. Then followed by a group of 21-30 years of 36 people, where the majority of farmers have been doing clove farming for a long time which is the result of knowledge inherited from previous generations. So that the average farmer has been cultivating cloves for a long time.

Table 2. Characteristics of Respondents

Characteristics of Respondents	Number of People	Percentage
Age (years)		
0 – 14	0	0
15 – 64	79	79 %
> 65	21	21 %
Level of education		
Elementary School	24	24 %
Junior High School	21	21 %
Senior High School	37	37 %
College	18	18 %
Length of Business (years)		
1-10	2	2 %
11-20	19	19 %
21-30	36	35 %
> 30	43	43 %
Business Scale (ha)		
0.5	56	56 %
>0.5 – 1	23	23 %

1.1 – 2	17	17 %
> 2	4	4 %
Land Ownership Status		
Personal	89	89 %
Family Land	4	4 %
Rent	0	0
Partnership (village land)	7	7 %
Income (Rp.)		
800,000-16,612,667	95	95 %
>16,612,667-32,425,334	3	3 %
>32,425,334-48,238,001	2	2 %

Source: Processed Primary Data, 2020

Most of the business scale owned by farmers is in the 0.5 ha group of 56 people where the majority of the land owned is private land resulting from the distribution of family inheritance and land obtained from their own businesses. The majority of farmers are in the income group 800,000-16,612,667 as many as 95 people, the lack of farmer income has something to do with the area of land owned so that it indirectly impacts the amount of production and income earned.

Analysis with Structural Equation Models (SEM) Approach

The analytical tool used in this study was Structural Equation Modelling (SEM). SEM is a multivariate statistical technique which is a combination of factor analysis and regression (correlation) analysis, which aims to examine the relationships between variables in a model, both between indicators and constructs, or relationships between constructs (Santoso, 2014).

Table 3. Covariances (Group Number 1 – Default Model)

		Estimates	SE	CR	P
Entrepreneurial behavior factors	<--> Farming performance	.071	.032	2,237	.025
Internal factors	<--> Entrepreneurial behavior	.215	.043	5,014	***
External factors	<--> Consumer behavior	.146	.040	3,602	***

Source: Processed Primary Data, 2020.

Based on the Table 3, the results of the hypothesis testing are obtained as follows:

1. First hypothesis: Obtained internal factors have a significant influence on entrepreneurial behavior with a regression coefficient of 5.014 so that it is stated that there is a mutual influence relationship between internal factors and entrepreneurial behavior.
2. Second hypothesis: It is obtained that external factors have a significant effect on entrepreneurial behavior, with a regression coefficient value of 3.602, so that it is stated that there is a relationship of mutual influence between external factors and consumer behavior.
3. The third hypothesis: It is obtained that entrepreneurial behavior does not have a significant effect on farming performance as seen from the probability value in the regression weights table which is $0.023 > 0.05$.

Goodness Of Fit Index

Goodness of Fit measure the suitability of the observed input with the predictions of the proposed model. The characteristics of the Chi-Square Statistics is that the higher the value, the lower the P-value will result, which indicates that there is a significant difference between the sample covariance matrix and the estimated population covariance matrix. The model can be said to be fit with the data if the Chi-Square statistics obtained are able to produce a P-value equal to or greater than the tolerable error rate, which is equal to 0.05.

Table 4. Goodness of Fit Index Research Data

GOFI indicator	Value Standard	Count Result	Conclusion
RMSEA	≤ 0.08	0.036	Fit
GFI	≥ 0.90	0.912	Fit
AGFI	≥ 0.90	0.869	Marginal Fit
CMIN/DF	≤ 2.00	1.134	Fit
TLI	≥ 0.95	0.985	Fit
CFI	≥ 0.95	0.988	Fit

Source: Primary Data Analysis, 2020

Confirmatory Factor Analysis (CFA) Test

Confirmatory analysis is designed to test the multi-dimensionality of a theoretical construct. The latent variables used in research are formed based on theoretical concepts with several indicators or manifests. Confirmatory analysis wants to test whether these indicators are valid indicators as a measure of latent constructs (Ghozali, 2013).

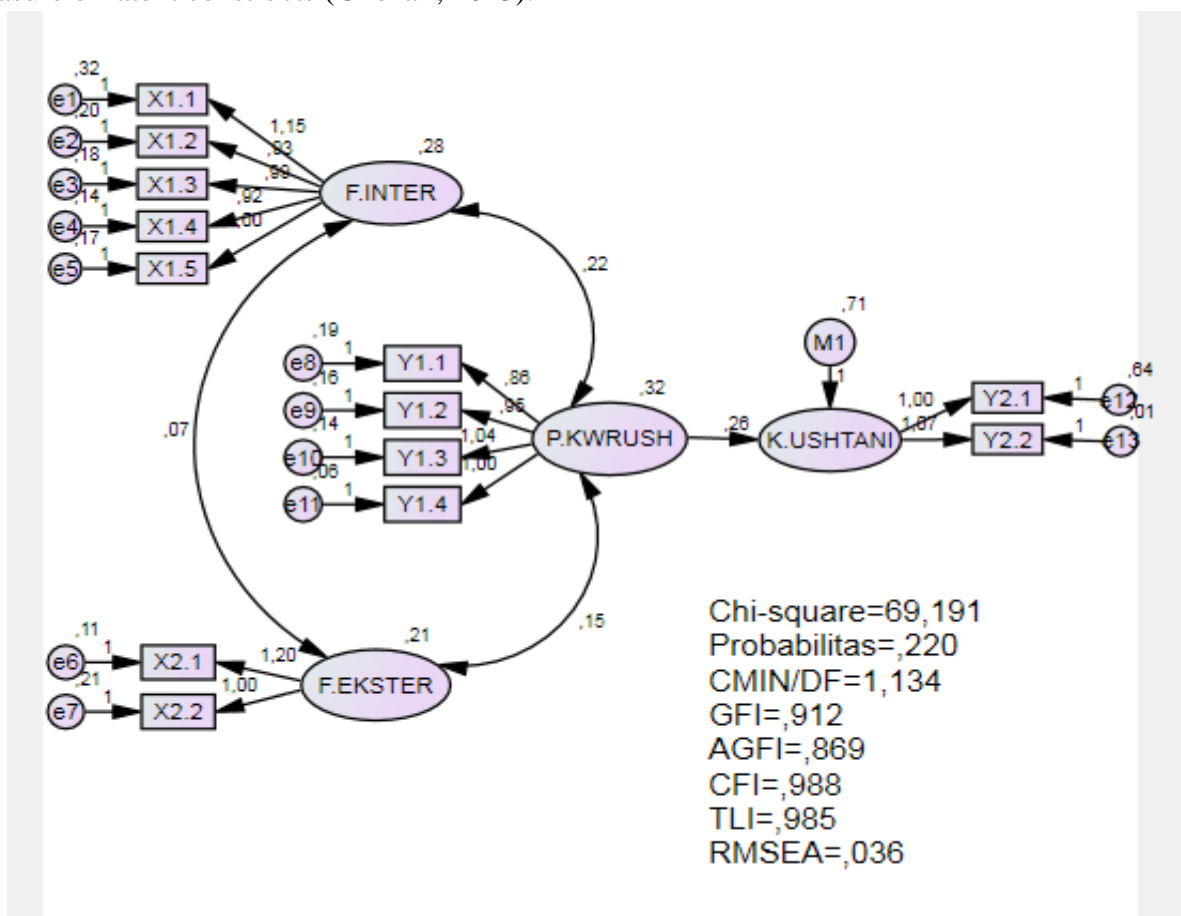


Figure 2. The Results of Path Analysis of the Influence of Internal and External Factors on Entrepreneurial Behavior in Improving the Performance of Clove Farming

Information:

1. Arrows describe the direction of influence between variables
2. The number that is parallel to the arrow indicates the value of the inter-path coefficient variable
3. The number above the box shows the value of the coefficient of determination (R²)

The Influence of Internal Factors on the Entrepreneurial Behavior of Clove Farmers in Central Maluku Regency

Internal factors have a positive and significant effect on consumer behavior with a correlation coefficient value of 0.22. Containing the meaning of increasing the variable age, income level, length of business, motivation and business scale will increase the entrepreneurial behavior of clove farmers. The results showed that the majority of clove farmers in the villages of Sepa, Seith and Allang were in the productive age group. The majority of types of cloves planted were cloves of the Tuni variety, Zanzibar, while in the village of Seith some farmers also plant Forest (Ambon) varieties of cloves apart from Tuni and Zanzibar cloves. The clove planting pattern in Seith and Allang Villages is the same, namely polyculture, while for Sepa Village the cropping pattern is monoculture. The seeds used are homemade seeds, and the cultivation process does not use fertilizers and pesticides. Farmers in Allang Village use fallen clove leaves as germplasm, while Sepa and Seih Villages do weed 3-4 times a year to avoid competition for nutrients, after the land is cleared it is then burned.

Rehatta et al (2019) showed that garden cultivation techniques are still traditional, not using fertilizers or pesticides. The knowledge possessed by farmers is limited to the knowledge and farming habits of previous generations. The most dominant indicator variable measuring internal factors is the age variable with a factor loading value (λ) of 1.151. Rahmi (2015) states bahwa that the older the farmer, the greater the opportunity to become an entrepreneurial farmer, because the older the farmer, the more experience he has so that he is able to deal with shocks in farming.

Indicator variable ythe least measure of the individual characteristics of clove farmers is motivation with a factor loading value (λ) of 0.924. This could be due to the fact that farmers perceive clove cultivation as a hereditary tradition, so that the motivation to care for the plant is based on the old cultivation method. Farmers consider that motivation does not influence behavior for entrepreneurship, but rather the desire to continue cultivating cloves. Respondents in general are mapi belong to the productive age group, where out of 100 respondents who were interviewed 61 people were in the productive age group and 39 people were in the old (unproductive) age group.

The table of respondent characteristics shows 100 clove farmers inMost of the districts of Central Maluku have a high school level of education, namely 37 people, the second highest level of education is owned by farmers, namely elementary school, with 24 people, and the lowest is in tertiary education, with 18 people. Priatna (2011) suggests that entrepreneurs with relatively low education based on their experience may have abilities that can be achieved by entrepreneurs with higher education, the difference is that the time required usually tends to be longer. The agricultural sector has so far been considered unable to provide high income compared to other sectors, so it tends to be less attractive to highly educated workers. The low level of education of farmers can be one of the factors in their inability to respond to market demands.

The motivation of farmers to cultivate cloves is caused by hereditary factors and factors due to experience, where the majority of clove farmers obtain land from family inheritance. The family that has always been Clove farmers pass on the knowledge they have known for a long time, so since

they were young, they have been accustomed to going to the village and seeing and being involved in the business process which then becomes a provision in the future.

The Influence of External Factors on the Entrepreneurial Behavior of Clove Farmers in Central Maluku Regency

Based on the picture of the path analysis results obtained external factors have a positive and significant effect on entrepreneurial behavior with a correlation coefficient value of 0.15. This implies that increasing external factors (institutional variables and input availability) will also increase the entrepreneurial behavior of clove farmers. Improving institutional performance, both marketing, capital and counseling institutions as well as the availability of inputs (quality seeds) will also increase the entrepreneurial behavior of farmers. The dominant variable measuring entrepreneurial behavior is an institutional variable with a factor loading value (λ) of 1.066 which is then followed by the input availability variable with a factor loading value (λ) of 1.000. It means that if the institutional variables and the availability of inputs are added, it will indirectly increase entrepreneurial behavior.

The seeds used by the majority of farmers are merupfor self-made seeds, namely as many as 77 respondents, 16 respondents used seeds obtained from the assistance of extension workers/related offices apart from seeds made by farmers themselves, and 7 respondents besides using self-made seeds they had also bought clove seeds from the nearest seed garden. Clove farmers have good relations with traders, both district traders and provincial city traders. The good relationship that exists can be seen from the assistance from traders who facilitate farmers by providing sacks of 25 kg, 50 kg and 80 kg in size, which will later be used by farmers to accommodate their crops. This is done so that when the harvest season arrives, the farmers will continue to sell their garden produce to the traders in exchange for a reciprocal relationship.

The majority of farmers running businesses using personal capital have never made loans to other parties to increase capital as many as 96 people. Respondents who claimed to have asked for a good loan from the village cooperative, pawned the resultmotorcycles, as well as a bank to be used as initial capital or additional capital for farming as many as 4 people. Relations between farmers and extension services have been established but not often, it's just that this happens when there are programs or projects so it is hoped that extension workers or related agencies will visit more often and farmers can meet extension workers and related institutions more often.

The results of this study indicate that entrepreneurial behavior is directly influenced by internal factors and external factors. Friederike and Smallbone (2011) state that entrepreneurial behavior is not mechanistic or homogeneous in the face of external pressure but is influenced by complex interactions of internal and external factors, so that there is heterogeneity in entrepreneurial behavior. The heterogeneity of entrepreneurs is generally influenced by firm size, the nature of venture and human capital.

The Effect of Entrepreneurial Behavior on Farming Performance

The correlation coefficient value of the relationship between entrepreneurial behavior and farming performance is 1.22 not > 2 or a significant level for entrepreneurial behavior that is worth 0.223 greater than the significance level of 0.05 (5%). This means that entrepreneurial behavior has no significant effect on improving farming performance, in other words entrepreneurial behavior is not the dominant factor affecting clove farming performance. The result of the factor loading value (λ) of consumer behavior on farming performance is the smallest of all variables, namely 0.256.

Shows to improve the performance of clove farming is influenced by other factors. Increasing the performance of clove farming is not enough only with entrepreneurial behavior of farmers, but is also supported by other factors, namely farmer age, education level, length of business, motivation, business scale, input availability and institutions.

Planning is an indicator of entrepreneurial behavior, where planning can be in the form of technical planning, commercial planning, accounting planning, and financial planning (Siagian, 2007), so that it is based on Based on the conditions in the field, it can be concluded that clove farmers in Central Maluku Regency have a low level of entrepreneurial behavior. The low level of entrepreneurial behavior of farmers can be seen from the beginning of the planting period, where in the cultivation process farmers do not use good fertilizers at all.

Entrepreneurial behavior can be seen from the low value of the creativity indicator owned by farmers in finding good and correct information on cultivation and pest management, as well as the low value of the future orientation indicator owned by farmers. Planning the planting process that is not carried out in accordance with GAP (Good Agriculture Practices) is also an indicator of the low level of entrepreneurial behavior among clove farmers in Central Maluku Regency.

The majority of farmers are reluctant to expanding the planting area, namely as many as 38 people, which based on the results of the analysis can be one of the driving factors for entrepreneurial behavior that does not significantly affect farming performance. Farmers' disapproval either for expanding the planting area, or not wanting to manage cloves to make value-added products can be caused because farmers do not have the skills and knowledge to process cloves and farmers also have to learn to adapt to the new environment. Other factors are price fluctuations in the market as well as uncertain weather/climate factors that affect the amount of production. Trying out new types of business and processing cloves into added value has something to do with the age of the clove farmers, the majority of whom are elderly, so it will be more difficult in the process of adopting innovations.

Fluctuations in average clove productivity are strongly influenced by climate change and weather. Clove drying time manually requires a minimum of 48 hours with good irradiation conditions good, sunny and not raining (Tulungen et al., 2020). Clove flower drying is carried out by farmers using traditional methods, namely drying under direct sun for 3-4 days until the clove flowers are completely dry. Rehatta et al. (2019) argued that management in the maintenance of clove plants in Leihitu District was not fully in accordance with GAP, where there was no fertilization either from the beginning of land preparation or the application of basic and advanced fertilizers.

Harvest area manshow the ability of cultivated land to provide production of cultivated plants. The harvested area is affected by the area of immature and mature plantations, the higher the level of land damage the lower the harvested area of the crop which has an impact on the low productivity of clove plants (Hutuelly et al., 2007). Rejuvenation or rehabilitation of damaged land or old plants takes at least 7 years to produce ready clove plantsharvest. The results of Santoso's research (2018) show that there is a relationship between plant rejuvenation and land rehabilitation with clove crop production, where this relationship includes the area of damaged land, production, price, harvested area and number of productive trees. Nurmala et al. (2015) stated that the number of productive trees is one of the variables that has a significant effect on clove production.

The results showed that the majority of farmers were in the low productivity level group, so that it had a direct impact on their income obtained by the majority of farmers are classified as low. The low income of farmers is determined by the amount of production obtained and the prices prevailing in the market. The majority of clove farmers in Maluku have other jobs to meet their daily

needs, so the income they derive is not only from their clove farming. The majority of jobs owned by farmers are fishermen, civil servants, public transportation drivers, motorcycle taxis, and traders.

The payment system when transactions are made in cash as much as 80% of farmers when the cloves are dry will immediately sell the produce, and as much as 4% store the results waiting for the market price to rise and then sell them, while 14% sell part of the results as needed and keep some. By level, the productivity of the majority of farmers is relatively low, this could be due to the trend of old and immature plants. The cropping pattern in Allang and Seith villages is a polyculture, which is different from the monoculture in Sepa village. Farmers do not carry out the fertilization process, farmers use natural fertilizers. Another factor is the weather or climate which in 2017 and 2018 was dominated by rain and strong winds, thus affecting production which has an indirect impact on income. The majority of farmers' income is still classified in the low group, namely as many as 95 people.

CONCLUSION AND SUGGESTION

The conclusions obtained were:

1. Internal factors (age, education level, length of farming, motivation and business scale) have a positive effect on the entrepreneurial behavior of clove farmers in Central Maluku district, so as to increase entrepreneurial behavior directly or indirectly.
2. External factors (availability of inputs and institutions) have a positive influence on entrepreneurial behavior, so as to increase entrepreneurial behavior in farmers.
3. Entrepreneurship behavior has no real effect on clove farming performance.

Efforts to increase entrepreneurial behavior This can be done in several ways, for example extension workers and agricultural or plantation services routinely carry out socialization in order to provide good cultivation information and how to deal with pests and diseases, hand over assistance of superior clove seeds and fertilizers evenly, local governments provide markets or establish cooperation with foreign companies, rehabilitating old plants, and using fertilizer regularly according to dosage and function.

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