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EFFORTS TO REJUVENATE THE PEOPLE'S COCOA IN THE EAST KOLAKA DISTRICT OF INDONESIA

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ABSTRACT

The high demand for the world market for cocoa has made the government and people of East Kolaka Regency rejuvenate the cocoa plants that have been managed so far. Plants that are very old and very low in productivity naturally have been rejuvenated into new plants. Since 2017 and 2018, 550 hectares of rejuvenation have been started by involving five Community Economic Institutions (LEM) in Aere and Lambandia Districts. This effort is expected to restore the glory of cocoa in this area with more technology-based management. The establishment of Corporate Agriculture, which has been promoted by the government, could lead this area to become a pilot project in the future. Based on the findings in this study, it can be concluded that the cocoa farmers participating in the program are very enthusiastic about following directions from the government as program implementers. Even though the operational cost assistance is very limited to the farmers participating in the program, this program has been implemented very well. This proves that the plant can grow well and at the age of three years the plant has started producing about 10 trees per tree and it is hoped that in the next five years, cocoa productivity can reach 1500-3000 kg per hectare per year. For the sustainable implementation of this program, it is hoped that there will be other programs that can direct farmers to create added value. In addition to planting, they can also handle post-harvest properly so that the quality produced matches the needs of industry and the world market. Thus, the price obtained is higher than the price received so far.

KEY WORDS

Cocoa, sustainability, quality, rejuvenation, productivity, value added.

The development of world cocoa (*Theobroma cacao* L.) production currently has reached around 4.79 million tons, mostly supplied by Pantai Gading (43%), Ghana (20%), Indonesia and Ecuador simultaneously accounted for (6%), the rest by other relatively small producing countries. Improving Indonesia's position in line with the two highest producing countries in the world requires hard work in various ways in increasing the product and productivity of cocoa beans such as rehabilitation, rejuvenation, extensification, and intensification.

Cocoa bean productivity in Indonesia is the leading commodity of plantations from 16 other leading commodities such as oil palm, rubber, cashew nuts, coconut/copra, tobacco, tea, coffee, pepper, and honey which have a strategic economic role. Based on plantation statistical data in 2021, it shows that the national cocoa area reaches 1,678,000 ha with production reaching 593.83 tons, while the average national cocoa productivity is 737 kg/ha.



This increase in recent years has experienced a decrease in productivity due to plants that are already quite old and the emergence of various pests/diseases as well as the inability of the community in terms of technology development in the cocoa sector and business management which until now have not been able to be handled properly (Yunindanova et al., 2021; Ginting et al., 2021).

The central government's policy on cocoa rejuvenation, as is the case with the Southeast Sulawesi Provincial Government, places cocoa as one of the mainstay commodities which of course plays an important role in the economy of Southeast Sulawesi, in addition to cloves, cashew nuts, and seaweed. At the national level, Southeast Sulawesi is the largest cocoa producer along with South Sulawesi, Central Sulawesi, Lampung, and Bali. Considering that cocoa is a social commodity, in the sense that almost 97% of the cocoa plantation business is managed by smallholder plantations, which involve around 1.7 million households. The sustainability of cocoa farming must be maintained because it has a quite prospective performance from the agribusiness aspect. After all, world consumption growth tends to increase significantly (Tussadia et al., 2021; Sari & Ahyuni, 2021; Ramadhani et al., 2021). For example, in European countries, consumption levels reach eight kg/capita/year (Trimo et al., 2020; Ginting et al., 2021).

The cocoa development program certainly encounters obstacles or problems such as the impact of climate change, the condition of old and unproductive plants, and others, but the central government in collaboration with local governments continues to work to resolve these problems. The government through the Directorate General of Plantations has made various efforts, including Gernas Kakao (the year 2009 – 2013) and sustainable cocoa development which until 2021 has reached more than 477 thousand ha through the main activities of expansion, rejuvenation, rehabilitation, and intensification. In 2021 7,730 ha of cocoa development activities have been allocated through rejuvenation and expansion activities supported by substation operations and a cocoa fertigation pilot project. In addition, it has also been launched Kredit Usaha Rakyat (KUR) specifically for plantations that can be utilized by all farmers in Indonesia.

In 2018-2021 the East Kolaka Regency government in collaboration with the central government allocates 12 billion rupiahs to finance the rejuvenation of the people's cocoa covering an area of 550 ha. The allocation of a large amount of money is certainly expected to achieve the desired goals together. The severely decreased productivity can be recovered in a short time and can produce 500-700 kg/ha. Thus, in knowing the success of the program, it is necessary to conduct research related to the implementation of this rejuvenation program. The problems and questions in the research are, (1) How is the government's contribution to the implementation of this community cocoa rejuvenation program, (2) How is the effectiveness, efficiency, sustainability, and responsiveness of farmers participating in the community cocoa rejuvenation program, and (3) What factors influence the success of the people's cocoa rejuvenation program in East Kolaka Regency.

LITERATURE REVIEW

Cocoa is superior in terms of land area which is larger than pepper, that it can be harvested every week but the prevailing price at the farmer level is still low (Rozalina & Nurdila, 2018). The advantage of pepper lies in the high market price compared to cocoa and the harvesting period is faster than cocoa, but the production is still low because the land area is still narrow (Aisah, 2015; Samsuddin, 2018). Indonesia has made efforts to develop community cocoa plantations and is starting to experience an increase, but it must be supported by regional agro-climatic conditions that are following the requirements for growing plantation crops (Mukminin et al., 2017; Suriadi, 2018). Apart from being a provider of jobs, a source of income for farmers, and foreign exchange, cocoa exports are also able to increase regional development and the development of agribusiness and agro-industry in Indonesia (Rosita et al., 2017; Zulfikar et al., 2018).

Regional Development in the cocoa plantation sector can be seen by increasing the area of cocoa plantations in Indonesia. In the context of developing people's cocoa farming,



the government has implemented the National Cocoa Productivity and Quality Improvement Movement known as the National Movement (GERNAS) cocoa (Akhirul et al., 2018). However, the quality of cocoa beans exported by Indonesia is known to be very low (in grades 3 and 4) due to the traditional management of cocoa products or around 85% of the national production of cocoa beans is not fermented (Harya, 2018).

Cocoa plantation as an integral part of the agricultural sector is a sub-sector that has an important and strategic role in national development (Purnami et al., 2018). Its role is evident in the country's foreign exchange earnings through exports, providing employment, fulfilling domestic consumption needs, raw materials for various domestic industries, obtaining added value and competitiveness as well as optimizing the management of natural resources in a sustainable manner (Herdhiansyah, 2018).

METHODS OF RESEARCH

The research is located in Wonuambuteo Village, Lambandia District, East Kolaka Regency. The basis of consideration for choosing this area is because it is one of the villages selected as participants in cocoa rejuvenation. The total population is 112 farmers participating in the cocoa rejuvenation program spread over five farmer groups "Lembaga Ekonomi Masyarakat (LEM) Sejahtera" I, II, III, IV and V. Determination of the number of samples is calculated using the Slovin Formula $n = \frac{N}{1 + Ne^2}$ so that the number of samples obtained is 31. The sample selection is done at simple random with the reason that the population tends to be homogeneous.

The data was collected in the form of primary data obtained from selected sample farmers in the form of land area data, the number of plants that grow, assistance received from program implementers from both the district (regional) and central government (Ministry of Agriculture, Directorate of Plantations). Secondary data include annual reports on cocoa in Southeast Sulawesi, particularly in East Kolaka Regency. The quantitative and qualitative data collected were analyzed descriptively.

The assessment of each indicator in the research area is as follows: (a) The total maximum average score is 155, obtained by multiplying the largest weight (5) by the number of respondents (31). (b) The minimum average score is 31, obtained by multiplying the smallest weight (1) by the number of respondents (31). (c) Number of classes = 5 and (d). Interval = $(155-31)/5 = 24.8$ (e) The achievement level and score categories can be classified as follows:

Table 1 – Program achievements for each indicator, 2021

| Number | Achievement of Each Program Indicator | Score |
|--------|---------------------------------------|-------------|
| 1. | Not successful | 31-55,7 |
| 2. | Less successful | 54,8 - 79,8 |
| 3. | quite successful | 79,9 - 94,6 |
| 4. | Works well | 94,7 -119,4 |
| 5. | Very successful | 119,5 -155 |

Source: Primary Data Analysis, 2021.

Table 2 – Achievements of the people's cocoa rejuvenation program in 2021

| Number | Achievement of Each Program Indicator | Score |
|--------|---------------------------------------|-------------|
| 1. | Not successful | 16 – 28,7 |
| 2. | Less successful | 28,8 – 41,5 |
| 3. | quite successful | 41,6 – 54,3 |
| 4. | Works well | 54,4 – 67,1 |
| 5. | Very successful | 67,2 - 80 |

Source: Primary Data Analysis, 2021.

The assessment of the achievement of the cocoa rejuvenation program in the research area is as follows: (a) The maximum total score of 80 is obtained by multiplying the largest weight (5) by the number of indicators (16). (b) The minimum average score is 16, obtained



by multiplying the smallest weight (1) by the number of indicators (16). (c) Number of classes = $1 + 3.3 \log 16 = 1 + 3.9 = 4.9 \sim 5$, (d) Interval = $(80 - 16) / 5 = 12.8$ (e) Category level of achievement and score can be classified as presented in Table 2.

RESULTS AND DISCUSSION

The Cocoa People rejuvenation program implemented by the government in East Kolaka Regency is a program that has been planned for a long time. Decreased productivity due to old plants and the number of pests/diseases that cannot be handled properly. The existing people's cocoa plantation area reaches 41.3% of the total cocoa area of Southeast Sulawesi. The large area of smallholder cocoa farming in this area can affect the national cocoa production quota. Thus, the government's attention is very great to return to making cocoa an icon of East Kolaka and to make a pilot for the development of national cocoa as well as a pilot as a corporate farm with the reason being to build a cocoa agribusiness based on a collective company.

Government policies related to the dynamics of food security include (a) subsidizing agricultural production inputs, (b) Determining input prices and providing agricultural credit, (c) improving the extension system and agricultural R&D, (d) Infrastructure development, (e) industrial development and land use in urban areas. Based on this opinion, there are still many found in agricultural communities that have not been managed properly, so the implementation of agricultural development programs that have been carried out so far is not as sustainable as expected. Table 3 below shows the area of farming per person. The determination of this area is based on the size of the farm owned by the farmer and is considered reasonable for rejuvenation. The range covered by the program ranges from 0.5 to 2 ha.

Table 3 – Area of smallholder cocoa plantations participating in the rejuvenation program, 2021

| Number | Land area (ha) | Number of Farmers (people) | Percentage (%) |
|--------|----------------|----------------------------|----------------|
| 1. | 0,5 | 10 | 32,2 |
| 2. | 1,0 | 17 | 54,8 |
| 3. | 1,5 | - | 0,0 |
| 4. | 2,0 | 4 | 13,9 |
| Total | | 31 | 100 |

In Table 3 above, it can be seen that the area of smallholder cocoa farms participating in the rejuvenation program is mostly 1.0 hectares, followed by an area of 0.5 hectares and 2.0 hectares. The size of the area that is included depends on the wishes of the farmers and prioritizes farms that are considered old and experiencing pest and disease attacks that are difficult to overcome. This generally occurs because as annual crop farmers, cocoa farming households apply a double income strategy depending on the season, the labor market, and the daily free time that members of the farming family have to meet their daily needs (Rahman & Hariyati, 2019).

All of the cacao plants that were rehabilitated were cut down in the designated area. Deforestation is carried out to clear the new planting area so that weeds and old plant residues can be properly removed. This is done so that the income of cocoa farming is not attacked by cocoa fruit disease (Budiman et al., 2019). This effort was carried out by farmers with assistance from the East Kolaka Regency Plantation Service in the form of excavators and fuel. This tool can lift the roots of the cocoa plant so that it can remove everything that can interfere with the rejuvenating plant. Other contributions from the central and local governments in the implementation of community cocoa rejuvenation varied, ranging from cash transferred directly to the participants' accounts, as well as assistance in the form of goods such as NPK fertilizer, organic fertilizer, and pesticides.

The implementation of cocoa rejuvenation in the East Kolaka Regency has the full support of the Ministry of Agriculture, in this case, the Directorate General of Plantations. This is because what is being done is expected to become a pilot project for national cocoa



development, including creating a corporate business from individual cocoa farming. Support in the form of assistance provided by the government to cocoa farming communities is presented in Table 4.

Table 4 – Types and amounts of government assistance to farmers participating in the cocoa rejuvenation program, 2021

| Number | Help Type | Quantity | Source |
|--------|-----------------------|---------------|--------------------|
| 1. | Cash transfer | IDR.1.000.000 | Central government |
| 2. | Seeds | 1,000 tree/ha | Central government |
| 3. | NPK Fertilizer | 200 kg/ha | Central government |
| 4. | Organic fertilizer | 300 kg/ha | Central government |
| 5. | Herbicide | 1 litter/ha | Central government |
| 6. | Fungicide | 1 litter/ha | Central government |
| 7. | Excavators (borrowed) | 1 unit/ha | Local government |

The results of the study of respondents as shown in Table 4 show that the implementation of the community cocoa rejuvenation program in Lambandia District, East Kolaka Regency is mostly carried out with the support of the central and regional governments. This is emphasized that the policy will be more evident in the development of cocoa agribusiness if it is carried out through the formulation of policies that are harmonious and synergistic between aspects of cacao cultivation (upstream sector) and cocoa processing industry (downstream sector). Farmers as business actors can use and manage the assistance provided to rejuvenate their cocoa (Trimo et al., 2020; Ginting et al., 2021). This activity is expected to be able to restore cocoa plantations that have been less productive to become productive cocoa plantations.

Direct cash transfers to farmers are expected to reach the farmers in the amount of IDR. 1.000,000 is intended for the cost of felling and excavating the remains of old cocoa trees, cleaning, and making planting holes until the land is ready for planting with the help of excavators provided by the local government to facilitate felling and extracting cocoa plants. The number of ready-to-plant seeds given out for free by the central government is 1,000 trees/ha. NPK fertilizers and organic fertilizers, pesticides, and herbicides are also provided free of charge, to motivate participating farmers to realize this rejuvenation program. But behind all that, there is the main problem, namely the provision of seeds that are not good by the local government and the provincial government. So that farmers hope for the next seed assistance program, the farmers should grow their seeds LEM-SEJAHTERA (Lembaga Ekonomi Masyarakat-Sejahtera) local. It is hoped that the failures that have been experienced will not be repeated because, in addition to requiring large funds, it also takes a relatively long time.

The results of the community cocoa rejuvenation program in the research location showed that at the planning stage, direct and indirect socialization was carried out by the government by seeing that most of the plants were not productive which directly affected farmers' income. The decline in productivity and income of farmers forced farmers to switch jobs to mining workers. This has an impact on the productivity of cocoa plants which do not produce at all.

The implementation of this cocoa rejuvenation is expected to be carried out seriously, considering the increasing demand in the world market (Mulyo & Hariyati, 2020; Ramadhani et al., 2021). The market for cocoa commodities is very wide open, it's just a matter of how farmers are directed to produce cocoa beans or processed them according to the requirements needed (Senna, 2020; Suharyon & Busra, 2020). The condition of the rejuvenating plants is expected until the 3rd year to bear fruit and the pests/diseases that may arise can be handled properly. However, there are several obstacles, namely high rainfall and poor drainage conditions resulting in inundation for a long time.

Each farmer group leader strives to monitor these obstacles and problems so that up to 70% of the 1,000 trees/hectare can survive. If this cannot be overcome, the seeds will be damaged. However, to overcome this, dead cocoa plants can be replanted. To ensure the sustainability of cocoa plantation development, support and consistency of government



policies and banking commitments are needed to support the plantation revitalization program (Rosita et al., 2019; Tussadia et al., 2021).

The decline in cocoa productivity at the study site was influenced by many factors as previously stated. The cocoa rejuvenation program is expected to provide hope for cocoa rehabilitation. In the future, high productivity must be accompanied by product quality, which can help increase world market demand. In line with the opinion that national cocoa exports are increasing. The success of increasing cocoa productivity should be an added value for farmers so that they can enjoy a reasonable price (Hartuti et al., 2020; Hadinata & Marianti, 2020). Farmers can be motivated to improve the quality of their cocoa beans if they are priced at a fair price (Mustafa & Andriyani, 2020). The same price set by collectors so far does not differentiate between fermented and unfermented cocoa beans, making farmers directly sell their cocoa beans in wet or dry form without fermentation.

The development of the plantation sector is inseparable from the productivity of a business and must be maintained as cocoa productivity must be maintained for a long time (approximately 15-20 years) according to the biological nature of the cocoa plant. The development of the cocoa plantation sector must also be supported by supporting facilities such as drainage because drainage is an important factor for cocoa plants not to be submerged in water for a long time. After all, it has an impact on root disturbances which results in the death of cocoa plants.

To achieve the goal of rejuvenating community cocoa in the research location, it is necessary to analyze the effectiveness, efficiency, and sustainability. Table 5 it can be seen the results of the intended analysis.

Table 5 – Achievements of the people's cocoa rejuvenation program in East Kolaka Regency, 2021

| Indicator | Score | Achievement Indicator |
|-------------------------------|-------|-----------------------|
| Planning effectiveness | 112 | Works well |
| Planning efficiency | 107 | Works well |
| Sustainability planning | 80,5 | Quite successful |
| Planning responsiveness | 82 | Quite successful |
| Implementation effectiveness | 115,2 | Works well |
| Execution efficiency | 120 | Works well |
| Sustainability implementation | 117,3 | Works well |
| Planning responsiveness | 89 | Quite successful |
| Monitoring effectiveness | 115 | Works well |
| Monitoring efficiency | 104,2 | Works well |
| Sustainability monitoring | 79,5 | Quite successful |
| Planning responsiveness | 105 | Works well |
| Evaluation effectiveness | 108 | Works well |
| Evaluation efficiency | 104 | Works well |
| Sustainability evaluation | 82,4 | Works well |
| Evaluation responsiveness | 110 | Works well |
| Program Achievements | 60,3 | (Works well) |

It can be seen in Table 5 that the achievement of the community cocoa rejuvenation program in East Kolaka Regency was successful, but there were still five that were categorized as quite successful such as sustainability planning, planning responsiveness, efficiency monitoring, and evaluation of sustainability.

Some of the things that become an assessment of effectiveness, efficiency, and sustainability are the achievement of cocoa rejuvenation goals and targets, the amount of effort required to achieve the cocoa rejuvenation goal, consideration of economic, social, environmental, and institutional aspects in cocoa rejuvenation, and community satisfaction with the cocoa rejuvenation program.

CONCLUSION

The implementation of community cocoa rejuvenation is strongly supported by the government, both local and central governments, although financially it is still limited to effectiveness, efficiency, sustainability, and responsiveness. So that the implementation of



cocoa rejuvenation is successful and the people's cocoa rejuvenation program can continue. However, the problems were immediately resolved so that public complaints could be resolved, especially the availability of drainage infrastructure to deal with flooding so that the quality of the seeds can be guaranteed properly.

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