

# Acceleration of smallholder plantation development through the development of farmers economic institutions in North Sulawesi

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**Abstract.** The agricultural sector in North Sulawesi is about 50-60% of smallholder plantation areas with an area of 413,000 ha, and approximately 97% of its managers are farmers located in one area. There are nine plantation crops that are generally managed by independent farmers with an average land ownership of 1.2 ha/family farmers. Farm management of each commodity is more dominant conventionally and monoculture. The financial value per unit of farming of various commodities is still low due to several factors, such as sales transactions and the acquisition of production equipment is still carried out individually. Based on the above background, an analysis of the acceleration of smallholder plantation development is carried out through the development of farmer economic institutions in North Sulawesi. This paper aims to see the importance of building a developed and independent farmer economic institution for the acceleration of smallholder plantation development. The data used is secondary data and the results of the research were analyzed descriptively qualitatively. The result of this study show that a developed and independent farmer economic institution in each village will greatly help farmers to guarantee the development of commercial farming and farmers income more adequately.

## 1 Introduction

Plantation potential in North Sulawesi still dominates the agricultural sector. The total area of plantation crops in 2020 reached 430,000 ha, about 50-60% of the total area of the agricultural sector of this area and more than 97% in the form of smallholder plantations [1]. This causes plantation commodities are still the leading commodities of the region and become a major contributor to the economic growth of the agricultural sector in this area. There are 13 main commodities of plantation sub sector, namely coconut, clove, nutmeg, coffee, cocoa, Vanilla, Cashew, cassiavera, pepper, pecan, Palm, jatropha, and abaca banana. The economic value of plantation commodities in North Sulawesi is still relatively low, until now the economic value of various plantation commodities still rely on primary products. The economic value of plantation products is still likely to be increased by about 2-3 times when various preparations of primary products are made.

In general, agricultural business covers the world has undergone changes, not only emphasizes the aspects of productivity, quality and economic benefits, but also includes

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aspects of quality assurance of consumer safety (food safety), the welfare of field workers (worker's welfare and safety), the right to economic justice for the community (economic equity), and the environment, and the sustainability of production systems [14].

In general, plantation commodity farming in North Sulawesi still face problems such as productivity, product quality and low economic benefits because the management of farming is still dominant conventionally. The contribution of plantation commodities to the regional economic growth of North Sulawesi does not seem directly proportional to the welfare of plantation farmers. Large plantation commodity areas should be the main capital of the people's economy that can be collected in one area. Based on the plantation area in the village should be built industry by relying on commodities such as coconut, cloves, nutmeg, vanilla, coffee, cocoa and palm. However, this great economic power is only driven by individual farmers so it has not become a single economic power zone.

The condition of the economic arrangement of plantations such as this causes only little economic added value enjoyed by farmers. This phenomenon makes smallholder plantation farmers in North Sulawesi trapped in poverty from generation to generation. The main problem in rural agricultural development is how to suppress the poverty that continues to plague life in the village. Almost found in all areas there are still many farming communities living conditions are still poor and only earn income less than IDR 15,000,000/KK/year [13]. [10] Research (2014) in North Sulawesi showed that 16.67% of coconut farmers' households are included in the criteria of lack of food, 30.67% food vulnerable and 8.67% food insecure. This indicates that the income from coconut farming has not been able to support the food needs of farmers and the standard of living of farmers and the welfare of coconut farmers.

Various efforts to strengthen the economy of plantation commodity farmers have been carried out through various programs, some of which produce results in the short term but there are still many whose results are not sustainable and even more helpless farmers. The economic development of plantation commodity farmers through the farmer group approach seems to have not yielded results because of its coercive approach (institutionally imposed). It should empower farmers as a whole and still refer to traditional institutions that have been established and have the potential to support the development of formal economic institutions in each region. The plantation sector development approach is still dominant and focuses on technical aspects only, tend to ignore the institutional arrangement of farmers through farmer groups, combined farmer groups, and other groups.

Building an economic institution of plantation commodity farmers is actually not too difficult because specifically in each village or several villages have long been built independent social ties between them. Plantation areas are generally located in one village area, located in one village Government Area in which there are already farmer groups and combined farmer groups. The problem faced is that the economic institutions of farmers have not been built and sustainable, while some social institutions have long existed. This institution should be the basis for the establishment of a peasant economic institution, run, and become common property in each village. This paper aims to see the importance of building an advanced and independent farmer economic institution for the acceleration of smallholder plantation development. The data used are secondary data and research results and analyzed in deskwork / descriptive qualitative.

## **2 Methods**

The data used in this paper is secondary data and analyzed as a whole using a simple descriptive analysis. The writing material is carried out through the review of relevant data and information from various study results published in various publications, such as books, journals presentation materials from various webinars, virtual conferences, proceedings, and other publications.

## 3 Results and discussions

### 3.1 Conception of plantation crop area development

Sustainable agriculture aims to manage agricultural resources to meet human needs both now and in the future through the maintenance and improvement of Environmental Quality while protecting natural resources [2]. The perspective of regional development through the development of centres of economic growth, basically aimed at maintaining the balance of development between urban areas and rural areas towards increasing the productivity of community economic enterprises. The growth centre will encourage the economic productivity of the community and increase living standards [23]. The policy of sustainable agricultural business development, among others, is contained in Permentan No. 50/Permentan/OT.140/8/2012 on guidelines for the development of agricultural areas where it is stated that agricultural areas are a combination of agricultural centers that are functionally related to natural resources, socio-cultural, and infrastructure and can meet the minimum area limits of economic scale business and the effectiveness of Regional Development Management. In this guideline, it is explained that the agricultural area according to the Management Administration consists of: (1) National Agricultural Area; (2) provincial agricultural areas; and (3) District/City agricultural areas [15]. The conception of the development of agricultural areas above is oriented to the development of advanced and modern agriculture where farming units have been assembled into economic-scale business ventures. In the planning and implementation of supporting the development of plantation, the need for empowerment and improvement of various related institutions, such as: human resources, cultivation technology to processing, internet access and digitization, market access and marketing (domestic, global), infrastructure (production input-output, infrastructure), as well as adequate, impartial and professional policies and regulations, to develop efficient and effective processed products to increase income, create jobs and business opportunities for related actors [8]. The conquest in the number of low financials farmers is one indicators of the success in the plantation agricultural development policy program [8]. Agricultural and plantation development is a sub-sector development that is always in the process of obtaining income and welfare from its products and productivity through the use of natural resources, capital, competency development, human resource skills and innovative technology, by maintaining sustainability (SDGs), and is the best contributing sub-sector in Indonesia's economic development as stated in [5,7,9].

The conception of the development of agricultural areas above is oriented to the development of advanced and modern agriculture where farming units have been assembled into economic-scale business ventures. [4] sees that the development of modern agriculture is related to how farmers use new technologies to sustain the increase in agricultural business productivity and how agricultural activities are managed as a successful business. Efforts to develop the plantation sub-sector through a very strategic area development approach in creating a smooth circulation system of information flows, production facilities, distribution of results, training, consulting business systems to be developed, various business opportunities both off farm and non farm as well as other activities that can strengthen the position of farmers. Through this approach, it is expected that there will be an acceleration of farm development that can provide guaranteed income per unit of farm units that are more feasible to meet the various needs of farm households in a sustainable manner.

The existence of collective economic institutions managed by the farmer community in addition to strengthening the bargaining position of farmers, as well as for other major actors established communication with the farmer community. In the end, the main actors in the agribusiness system of plantation commodities will create relationships that require each other so that the added value of plantation commodity products will be distributed

proportionally to the producers of the main actors. The government as a supporting element just facilitate and make regulations for the smooth development of agribusiness of each plantation commodity.

Realizing the development of plantation areas in North Sulawesi, it is necessary two conditions that affect the choice of farmers, namely the main requirements and facilitation requirements that can be used by the government to implement the plantation area program. The main requirement (Absolute) is the requirement that must exist so that agricultural development of plantation commodity areas can grow, develop and sustainably, which consists of: master plan for plantation commodity areas, markets for production, advanced technology, and the availability of local production facilities. The requirements for accelerators are factors that can accelerate the occurrence of plantation commodity areas, consisting of: Farmer Group institutions (institutions that coordinate and integrate production, processing, and marketing subsystems), economic institutions, production credits, and assistance by local governments.

Policy on the development and development of plantation agro-industry that creates added value for processed products combined with comprehensive rural development, encourages the creation of a balanced and developing economic structure, simultaneously with absorption and productivity of labor and targeted markets, through development and empowerment of essential communities, optimizing synergies in their implementation at the local level; help advance towards industrialization; and make it easier for farmers to develop industrial systems [6,19,20], accompanied by clear and impartial policy regulations. The extraordinary potential of plantations can be utilized as widely as possible to realize national independence, sovereignty, food and energy prosperity through appropriate and consistent implementation policies by the government, sustainable and always prioritizing the preservation of the environment and natural resources.

### **3.2 Institutional development of specific plantation farmers**

Agricultural business activities are activities designed to reduce external inputs and external impacts on land agronomic conditions [16]. Regenerative agriculture business is a sector activity that combines all sectors involved, integrated and able to increase the productivity and production of the agricultural sector [22].

The beginning of economic institutional development of agricultural communities in plantation commodity areas should always refer to existing and developing local institutions. It is hoped that through institutions that have stood firmly, will be an inspiration for the further development of economic institutions. This needs to be initiated by one or several people who have the character of entrepreneurship in order to realize progress together. The bond of cooperation and familiarity in an institution in rural areas becomes Social Capital (social capital) for the development of community economic institutions in rural areas that are more productive and independent.

Development of plantation commodity area should be done in stages, where in the early stages of implementing a simple management system or not much different from the existing institutional management system. Follow - up development of plantation commodity areas through the empowerment of farmers on a large expanse scale (a combination of several villages and even sub-districts) that will be built together in harmony with the dynamics of existing community farm management systems, then will gradually implement a better management system and specific recommendation technology. [17] stated that community empowerment is synonymous with institutional strengthening of mutual cooperation in Indigenous peoples in Indonesia. Mutual cooperation means working hand in hand, holding hands, or carrying the burden together as part of collective self-empowerment to solve or overcome a problem, and at the same time to achieve certain goals that are noble (virtue).

In line with Pranadji, institutional and social wisdom that has long developed in North Sulawesi, namely Mapalus tradition (mutual cooperation, helping each other) has been able to create relationships that need each other and support each other. It is fundamentally the local spirit and local wisdom of Minahasa people. Mapalus is based on kinship, religion, and unity for example agriculture mapalus, mapalus relief of suffering and mapalus community [25]. Mapalus is a model of joint work of several families, working groups formed within a region. In the beginning, mapalus was carried out specifically on activities related to agriculture, ranging from land clearing, farm road repair and harvesting.

Mapalus social institutions such as this have been built, managed and belong to specific village communities in North Sulawesi. To realize the mapalus institutional towards the ideal economic development is not easy, but it must be implemented gradually and can be pursued by the local community and conditioned by the local government through mentoring with a touch of information needed. Each village has specific differences that demand a different pattern or program in the implementation of its development program [13].

Plantation commodity areas to be built must be specific and based on local resources. The activities to be carried out must be in harmony with the diverse activities of farmers and gradually there will be a transfer of technology supported by the provision of various facilities and infrastructure needed by farmers. This should be of particular concern to avoid inefficiencies in the management and empowerment of available resources. For example, for the development of coconut, clove and nutmeg agriculture, a very crucial problem to date is fluctuating price conditions and unnatural prices. Through the approach of the development of plantation commodity areas will be able to organize a collective product marketing system so that the bargaining position of farmers against commodity prices can be fought. Furthermore, it is necessary to transform farmers' institutions into farmers' economic institutions in order to increase the scale of business / economy and business efficiency as well as the bargaining position of farmers, so that they become professional, strong and independent farmers' economic institutions. Capacity building institutional economic farmers directed to form cooperatives, cooperatives with BUMN / BUMD, Bumdes or farmers' corporations by cooperating with the private sector as a strategic partner of farmers. Institutional economic farmers built with the aim of providing services to members of the farmers, lobbying the government in terms of the interests of agricultural business development. Through agricultural institutions, it is expected to create communication, strategy and implementation of plantation commodity product development in one area. With economic institutions formed, farmers can enter the supply chain of plantation commodities through partnerships. Farmers are consolidated in farmer groups, combined farmer groups and corporations to obtain facilities and infrastructure, alsintan and others. Institutional farmers carry out cultivation with the help of governments and partner companies.

The existence of an institution is determined by its ability to serve the social demands of the local community. It is not uncommon for an institution to suddenly disappear, or be replaced by a new institution that is better able to serve the needs of local stakeholders. An institution or organization is able to survive in the dynamics of society if it still has the functions needed by the community [22].

### 3.3 Economic institutional performance of plantation farming communities

Efforts to succeed the development of Agriculture, the Ministry of Agriculture has built and developed many agricultural institutions. Some institutions that have been developed so far include farmer groups, KTNA, Association farmer groups (usually called *gapoktan*), village unit Cooperatives (KUD), water user Farmers Association (P3A), water user Farmers Association (HIPPA), P4S, and various other institutions. Of the many institutions that have been established, the facts on the ground are few (estimated to be <5%) sustainable. Failure of institutional development tends to occur because local government leaders do not understand that this institution is the main driver of economic empowerment of the people, especially in the economic empowerment of agricultural communities into commercial businesses.

Facts on the ground show most of these various institutions are underdeveloped to be productive. For example, in almost all agricultural sector-based villages there are farmer groups and combined farmer groups but the growth of farmer groups to a higher level is rare. The higher growth of level farmer groups shows that farmer groups are increasingly independent in business development both collectively and individually. The fact that almost all farmer groups have not moved the higher level, because the higher the level of farmer groups, the amount of assistance to farmer groups will be increasingly limited. There are even those who have grown to the middle level to the main level, but in the end they return to the level of beginner farmer groups or are no longer active.

[3] reported that there are many research results and field observations that show that the existence of farmer groups in general is only characterized by the presence of group leaders and managers. It is also mentioned that the lack of function of existing agricultural institutions is caused, among other things, because the establishment of institutions is not done in a participatory manner, where farmers as beneficiaries are placed as actors who run the institution. The institutions formed do not accommodate the potential and interests of farmers, which should be the capital to carry out collective action.

[13] states that the activities of rural communities in general are under the auspices of several institutions with diverse roles. Specialized institutions of farmer communities are a place for local introduction and distribution of various agricultural technology information from various sources. Both formal and non-formal institutions serve to regulate the behavior and actions of its members. Realizing the success of sustainable plantation development, all relevant agencies must always be able to build the character of human resources that can support the development of plantation areas.

The performance of farmer groups including *gapoktan* is expected to be the main base in supporting the development of plantation business oriented to the development of economies of scale. Therefore, farmer groups and joint farmer groups need to be revitalized and become local government programs to be implemented in each village.

The development of the above farmer groups has been structured which shows that there is actually no reason in each region if the farmer groups do not progress and succeed. People in every region even nationally the agricultural sector has been considered as one of the safety valves of the Indonesian economy, proven during the economic crisis in 1998 and facing the covid 19 storm in 2020 nationally the National Economic Growth became negative but the growth of the agricultural sector grew positive. The 2020 statistics of the agricultural sector grew positively. In quarter one grew 2.2 percent, quarter two 2.16 percent, quarter three 2.59 percent, and early quarter four 2.95 percent [11].

### 3.4 Implementation of plantation area development

The successful development of plantation commodity areas depends on the development of related institutions. According to [24] If this institution has passed the transition stage or has begun to enter the norm formation stage, then the institutional conditions of farmers such as farmer groups and farmer groups combine the development stage only until the formation stage and the transition stage. [13] states that the transition stage is the most critical condition for the development of an institution that is built to progress and continue, because this is where the possibility of internal conflict and in this condition there is no one or several people who become the following pattern, so that fellow members of the farmer group will explode. Stages of development of an organization or institution as stated there are still many who do not understand it. The material must adapt to the conditions of the stages of institutional development of farmers, especially at the stage of critical conditions, that is, at the transitional stage of development of economic institutions. [18] states that sustainable agriculture is not an activity that rejects or abandons conventional practices and technologies, but rather the integration (mixture) of new innovations produced by agricultural experts and scientists, or by the farmers themselves, or by all parties involved.

Development of plantation areas in North Sulawesi, an example of the case of coconut commodity development in coconut plantation centers. The stages include: rejuvenation of smallholder oil palm plantations through the provision of superior seeds, improvement of farming patterns, provision of production facilities and Infrastructure, Capital, product diversification and product marketing. The pattern of coconut cultivation monoculture is less profitable which is characterized by farmers tend to be passive in managing their business so that coconut plantations are less maintained which results in low productivity. The development of Polycultural patterns through the diversification of crops and livestock among coconuts will increase coconut productivity while increasing the efficiency of Labor use and agricultural inputs. The overall productivity of polyculture agriculture will have a synergistic effect on crops so that growth and production will be higher.

The development of coconut products can be done through product diversification which can be started with the development of integrated processing units at the village level through partnerships with investors or large industries and local governments. Diversification of processed coconut products include desiccated coconut (DC), coconut milk/cream (cm/CC), coconut charcoal (CCL), Activated Carbon (AC), brown sugar (BS), nata De coco (ND) and coconut coir (CF) and virgin coconut oil (VCO).

For example, the calculation of the economic potential of coconut plantation commodity areas with Polyculture agricultural patterns (coconut + cow) and diversification of coconut processed products (VCO, vinegar acid, shell charcoal, coconut coir, and coconut pulp) as shown in Table 1.

In Table 1, it is seen that for the present condition the value of the product in the coconut farming system in the form of copra and livestock business (2 parent / ha) has not reached IDR 1 billion/village/year. Meanwhile, through the institutional management of farmers ' economy with the introduction of integrated agricultural system technology and processing of coconut products obtained a production value of IDR 1.5 billion in integrated coconut processing, while the integration of coconut + cow business covering 50% of the existing area then on the scale of small, medium, and large enterprises, respectively, obtained a production value of IDR 1.3 billion, IDR 3.6 billion, and IDR 9 billion. Thus the total value of production as a whole in 3 scale forms above are IDR 2.9 billion, IDR 5.1 billion, and IDR 10.5 billion, respectively. As in North Sulawesi with a coconut plantation area of 265,000 ha if half of the coconut area in North Sulawesi can be cultivated like this then at each scale of this business will be obtained production value of IDR 2.6 trillion, IDR 4.6 trillion, and IDR 9.6 trillion, will be greater contribution to North Sulawesi GRDP.

The pattern of farm empowerment through processing activities and integration of coconut livestock farming provides optimism and certainty in farming. Furthermore, the future of farmers under the auspices of the economic institutions of the peasant community will be realized at least: 1) the existence of old age guarantees, 2) the existence of education guarantees and 3) the existence of health guarantees. Many people give a pessimistic response to achieve this condition for various reasons, especially stating that as a farmer this condition is not possible. From the various potentials that have been proposed before, it is possible to achieve this if it starts to be pursued now from one village to be replicated in another village in North Sulawesi with the spirit of Mapalus.

**Table 1.** Estimation of added value of coconut farming through product processing and integration of coconut with livestock business through empowerment of economic institutions in coconut center villages<sup>1)</sup>.

Description	Number of	Production value / year / IDR	
		Existing conditions	Through economic institutions
A. Coconut Farming Current Conditions			
• Copra	300 ton	600,000,000	-
• Cow <sup>2)</sup>	120 tail	360,000,000	-
Number of	-	960,000,000	-
B. Technology Introduction			
1. Coconut Products			337,500,000
• Copra <sup>3)</sup>	150 ton	-	
• Integrated coconut processed products <sup>4)</sup>			
• VCO	32,000 liter	-	640,000,000
• Vinegar acid	86,000 liter	-	345,000,000
• Charcoal	26,470 kg	-	39,705,000
• Coconut Coir	120,000 kg	-	129,000,000
• Coconut pulp	42,000 kg	-	63,000,000
Number of			1,554,205,000
2. Other products of integrated coconut farming <sup>5)</sup>			
• Coconut Integration +Cow			
	450 tail	-	1,350,000,000
	1,200 tail	-	3,600,000,000
	3,000 tail	-	9,000,000,000

Description.

1). Coconut production potential 300 tons / year covering an area of 300 ha

2). 1 ha coconut area 2 cows about 20% of the existing area (60 ha)

3). Through economic institutions prices can increase by IDR 250 / kg copra

4). from [12]

Institutional farmers through the specific economic institutions of farmers will give birth to a reliable economic and social institutions in each village in the form of village enterprises or farmers ' corporations in the development and growth always have to rely on the power of the farmers themselves. Realizing this institutional system in rural areas based on the agricultural sector is very possible because through such institutions all agricultural resources can be empowered and generate financial added value reaching billions of rupiah per village per year. The empowerment of the plantation area is optimally expected to realize the dream of the community and each member will be motivated to grow and develop independently



The initial stage of building an economic institution, there is no need for all kinds of complicated administrative requirements, the management of the administration should be simple the main thing is to list all the incoming and outgoing records of money and goods. Changing the behavior of farmers in farmer groups into a business like this needs to be a process through the introduction and training in managing administration in a simple manner. One example is the PUAP program through funding of IDR 100,000,000 /*gapoktan* and has been presented with administrative requirements of 12 books. The results of the evaluation in 2015/2016 from more than 1,000 *gapoktan* who received funding assistance not up to ten *gapoktan* who managed to manage *gapoktan* into economic institutions

Building farmer groups into economic institutions depends on the dynamics and development of farmer groups. The main factor is the presence or absence of 1 – 2 members who are willing, called and strongly intend to manage economic institutions with the main objective of achieving common prosperity. Therefore, in the early stages of formation it is recommended that the organizational structure of economic institutions that are built is arranged simply and gradually continue to be developed towards a more advanced following the development of the organization towards the business management system by implementing a more advanced management system.

In the end, the development of this economic institution will lead to the regeneration of community leadership related in the economic, political, social, and cultural fields in the future. The management of economic institutions that succeeded in improving the economy of peasant communities and rural areas is expected to become a cadre of leaders in the future such as village heads, representing the Legislature, KTNA, HIPMI and others starting from the village, Sub-District, Regency/city and province levels, even becoming regional leaders later. The behavior of the leaders so far seems to have deviated from the expected because it is not motivated by previous activities and performance. Successful management of economic institutions is no doubt its ability to manage the economy of society for the better and sustainable.

## 4 Conclusion

The development of plantation commodity areas is a reference in building the regional economy in the plantation sector production centers. So far, the resources available in the Central Region of plantation crop production in North Sulawesi are still neglected. The added value that should be part of the farming community in this sector is only part of certain parties individually. This condition causes plantation commodity agriculture to provide less certainly of income for farmers in a sustainable manner.

The ability of farmers to realize the management of plantation agriculture into a commercial business is increasingly limited because the management of agricultural systems in the framework of the agribusiness system is more dominant individually. If agricultural activities are carried out individually, it will be very inefficient in the utilization of resources. Agricultural Management and collective production efforts have long been launched through a combination of farmer groups and farmer groups. However, until now the farmer group institution is less functional as expected, namely the institution that coordinates and integrates the production, processing, and marketing subsystems of the results.

A strategic step in realizing the successful development of Plantation Areas is to build economic institutions of peasant communities in each village. Farmer groups and combined farmer groups will function optimally if the farmers' economic institutions are built and in the development of plantation crop areas need to be designed so that in the 2nd and 3rd year economic institutions begin to be built and are expected in the 4th and 5th years to begin to show the development of commercial business. Then in the following year (>5 years) began to build an economic institutional system of agricultural communities that are increasingly

established and independent. The institution of a developed and independent farmer economy in each village will greatly help farmers to ensure the development of commercial agriculture and farmers' incomes are more adequate.

Farmer society as the main actors in the order of the agribusiness system, its role will be more proportional if it has built an independent and competitive farmer economic institution. The main basis of economic institutional development for independent farming communities depends on the performance of farmer groups and *gapoktan* in empowering all potential resources. Therefore, the role of government and local government determines the progress of farmer groups and *gapoktan* in creating a climate for the development of farmers' initiatives and initiatives, providing ease of assistance and facilities and appropriate information services and the provision of legal protection.

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