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## **Farmer's Participation to Increase the Dynamics of Lowland Rice Farmer Group in Maluku Province, Indonesia**

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### **Abstract**

This research aims to analyze farmer participation in improving the dynamics of farmer groups, especially lowland rice farmer groups in Maluku. This is considered important because there are still many farmer groups in Maluku that are not dynamic or tend to stagnate, for that it difficult to develop farmers. Waimital Village was chosen because it is the main center for lowland rice production in Maluku and all farmers are members of farmer groups. The research respondents were determined to be five people representing each group consisting of the group leader and four members. Thus, the number of respondents was 95 farmers as member group representing 19 existing farmer groups. Primary and secondary data were collected to form the basis of qualitative descriptive analysis. The research results showed that the dynamics of farmer groups in Waimital Village were in the good category dominantly. Based on the elements of group dynamics, it can be seen that the elements of group goals were in the very good category; elements of group structure, task function, group development and maintenance, group cohesiveness and group atmosphere were in the good category; and the elements of group pressure and group effectiveness were still in the medium category. Farmers assess that farmer groups have functioned good, it was proven that 81.7% of farmers feel that farmer group has functioned well as a vehicle for learning and 90.2% feel that farmer group was a good vehicle for cooperation.

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Farmer participation was in the medium to high category, which means it can still be increase. To increase the participation of group members, support for facilities and infrastructures is needed from all relevant agencies and assistance for farmer groups in implementing group plans. Increasing the participation of group members will increase the dynamics of farmer groups which will then increase the productivity of farmer groups.

**Keywords:** Participation; farmer group; group dynamics; lowland rice.

## **1. Introduction**

The agricultural sector is still the main livelihood for the majority of Indonesia's population, which is an agricultural country. Therefore, developing the agricultural sector is an opportunity to eradicate poverty. Realizing this, the Indonesian Government continues to encourage the development of the agricultural sector, targeting all commodities cultivated by farmers. One of the commodities that is the main focus of agricultural development in Indonesia is lowland rice because the majority of the Indonesian consumes rice as a staple food. In almost every province in Indonesia you can find rice farmers, both lowland rice and field rice, including in Maluku Province.

Maluku Province is one of the provinces in the eastern part of Indonesia which was previously known for sago as the staple food of its population. As time went by and changes in population distribution occurred resulted in a change the main type of food for the Maluku people from sago to rice. Currently, the need for rice in Maluku has increased significantly and is slowly making sago as an inferior food. This requires a guaranteed supply of rice, including that produced in Maluku.

The rice harvest area in Maluku in 2022 was 23,991 ha (0.22% of the rice harvest area throughout Indonesia) with an average productivity of 3.86 tonnes/ha, far below the national average of 5.25 tonnes/ha [1]. Therefore, the opportunity to increase the productivity of rice fields in Maluku is still quite large. There are two rice production centres, especially lowland rice in Maluku, namely Seram Island and Buru Island. As lowland rice production centres, these two areas are the focus of government development to produce rice according to expectations, one of which is through developing farmer groups.

Farmer groups are social organizations at the farmer level which play an important role in supporting farmers to do their farming businesses. In general, a growing farmer group is farmer's dream because it brings benefits to the development of farming businesses through increasing productivity and farming income. In turn, it can support the government in alleviating poverty and meeting people's food needs.

In general, it can be said that farmer groups have two main functions, namely as a vehicle for learning and as a vehicle for collaboration. These two functions reflect the dynamics of the farmer group, meaning that if the two functions of the farmer group are carried out properly, it will increase the dynamics of the farmer group which will increase the productivity of the farmer group.

Group dynamics can generally be interpreted as a group atmosphere which is the result of interaction and interdependence between group members and the group as a whole. In other words, group dynamics reflect the

interpersonal relationships between members. In general, group dynamics will change according to the conditions faced by the group. A dynamic group is a group that is always moving/activating to face situations inside and outside the group. The existence of activities in groups will change the group [2]. The more dynamic a group is, the more opportunities the group will develop.

In general, the benefits of farmer groups are facilitating access to production facilities, production processes and sales of farming products, as a means for learning, and reducing costs for extension activities [3]. For lowland rice farmers, farmer groups play an important role in running farming businesses, for example in arranging planting schedules, management of irrigation water, preparing definitive group plans, definitive plans for group needs, and so on. Thus, group dynamics are determined by farmer participation as members of farmer groups.

One of the villages on Seram Island, precisely in West Seram Regency, which is the largest rice production centre in Maluku is Waimital Village. There are 19 groups of farmers in this village which were formed according to the location of the rice fields. Most of the people in this village work as farmers with their own land ownership which is passed down from generation to generation. The development of lowland rice farming in this village is good and be a barometer for the development of lowland rice farming in Maluku. On the other hand, most farmers prefer to work alone. This raises the question of whether farmers' ability to develop lowland rice farming is supported by the existence of farmer groups and how does farmer participation as members of farmer groups increase the dynamics of their farmer groups?

Based on these research questions, this research aims to analyse farmer participation in improving the dynamics of lowland rice farmer groups. These findings will be useful as lessons learned for the development of other lowland rice farmer groups or farmer groups in general in Maluku or outside Maluku. This is reasonable because in 2023 there are 8,395 farmer groups in Maluku, but there no farmer groups is in the Main class, which is the highest class according to the farmer group's assessment. The majority (53.17%) are in the beginner class, which is the lowest class in the farmer group assessment [4].

## **2. Methods**

This research was conducted in August-October 2023, in Waimital Village, Kairatu District, West Seram Regency. The reason for choosing this location was the consideration of this village as one of the rice production centres in Maluku and all farmers are members of farmer groups. The research population is all farmer groups in Waimital Village (19 farmer groups). The sample in the study was determined as 5 people representing each group, namely the chairman and four group members so that the total sample was 95 people. The selection of group members as respondents was carried out at simple random using a random list.

The data collected consists of primary and secondary data. Primary data is data obtained from respondents which includes data on the individual characteristics and the respondent's participation in group activities. Primary data was collected through direct interviews with respondents using prepared questionnaires. Secondary data was collected from village offices, BPS documents and other library sources. Secondary data collected includes the number of farmer groups, farmer group class, and others.

Data analysis was carried out using simple tabulation to determine the participation of farmer group members in group activities that improve farmer group dynamics. Next, descriptive analysis was carried out to answer the research objectives.

### **3. Result and Discussion**

#### ***3.1. Characteristics of Farmer Group Members in Waimital Village***

As previously explained, lowland rice farming in Waimital Village has been going on for generations, starting from inheritance of rice fields, farming methods, and membership in farmer groups. It is often found that parents and their children are members of the same farming group. Thus, the age of members of farmer groups varies, namely in the interval 35 – 70 years old and an average of 45 years old with the general education level being elementary school [5]. The age interval and average of age is the productive age, although 2% are more than 65 years old who have passed the productive age limit, but are still active in farming and in farmer group activities. It means that need to start thinking about farmer regeneration to prevent a significant reduction in the number of farmers that has begun [6,7].

An individual characteristic that also supports farmers is farming experience. Farming experience ranges from 10 – 50 years. Farming experience is a good and valuable experience for farmers as practical experience obtained personally and inherited from parents. Farming experience can cover farmers' formal education which is dominated by elementary school level and the existence of agricultural extension who can support farmers through non-formal education.

The rice fields owned by farmers in Waimital Village ranging from 1 – 2.5 ha but there are those who own 4 ha. It is relatively larger compared to other farmers in Indonesia which are generally less than 0.5 ha. This gives farmers the opportunity to develop their rice farming with new innovations or develop other commodities to fill the time between the harvest season and the next planting season. Ownership of rice fields is increasingly narrow due to inheritance from parents to their children, the conversion of rice fields into residential buildings, and the sale of rice fields due to the need for money that cannot be met in other ways.

Based on the characteristics of farmers, the development of farmers in this area has a good opportunity. The relationship between farmers (especially older farmers) and lowland rice farming is so strong and become a way of life that is passed down from generation to generation. Although it cannot be denied that there is a tendency for the younger generation who have a relatively high level of formal education (Bachelor's Degree) in that area looking for work outside of agriculture, but until now most farming families have a child to manage the family's rice farming business.

#### ***3.2. Farmer Participation in Improving Farmer Group Dynamics***

The farmer group in Waimital Village is not a newly formed group, therefore this farmer group has succeeded in going through various challenges and still exists today. Judging from the elements of group dynamics, all of them are in the poor and very good categories (Table 1).

**Table 1:** Dynamics of Farmer Groups in Waimital Village

Elements of Group Dynamics	Category
1. Group goals	Very good
2. Group structure	Good
3. Job function	Good
4. Group development and maintenance	Good
5. Group cohesion	Good
6. Group atmosphere	Good
7. Group pressure	Not good
8. Group effectiveness	Not good

Based on the indicators of farmer groups dynamics in general, the dynamics of farmer groups in Waimital Village are in the good category. This means that there is still an opportunity to increase the dynamics of this farmer group to be very good. There are two indicators that are still in the poor category, namely group pressure and group effectiveness and only one indicator that is classified as very good, namely group goals.

The group goal is in the very good category because it is a combination of the individual goals of the group members. This causes the group's goals to receive recognition from all group members and group members feel that their reasons for becoming group members have been accommodated in the group's goals. This can be seen in the preparation for the planting season where farmers through farmer groups prepare plans for the group's needs so that the planting season can run well.

Group structure, task function, group development and maintenance, group cohesiveness and group atmosphere are in the good category. The group structure is still the same as when it was formed and has not accommodated changes that occur outside the group and in society. Farmer groups should adapt their group structure to changes occurring in society, including those related to agricultural development. One example is group needed for person who can handle technology and information and innovations in the agricultural sector to meet farmers' needs for agricultural information and other related matters. As the group structure has not changed, the function of the tasks in the group is still the same and carried out well by all those who are responsible for the tasks in the group.

Group coaching and development is in the good category. In this case, the group leader and agricultural extension have an important role to make farmer's group solid and works as it should be. In fact, group development has not occurred significantly, but there is still progress, especially in planning to develop other businesses owned by group members.

There are still obstacles to do the plans that have been made, especially in the technical aspects of implementing the plan, how to start it. In this case, the presence of external parties as agents of change is important to assist farmers in implementing the group plans that have been prepared.

Cohesion and atmosphere of group are well maintained, but need to be improved to prevent members leaving the group because the rapid changes in society. The number of farmer groups that have disbanded in other areas is

proof that group cohesion and atmosphere need to be maintained so that group members feel at home in the group. One way is to accommodate the goals of group members into group goals and try to achieve the goals.

The dynamics of farmer groups is a measure of the level of participation of farmer group members and vice versa. The research results showed that the participation of farmer group members is not entirely high. Clearly the participation of farmer group members in improving farmer group dynamics is presented in Table 2.

**Table 2:** Participation of Farmer Group Members in Each Element of Group Dynamics

Elements of Group Dynamics	Category
1. Group goals	High
2. Group structure	Medium
3. Job function	Medium
4. Group development and maintenance	Medium
5. Group cohesion	High
6. Group atmosphere	High
7. Group pressure	Medium
8. Group effectiveness	Medium

The dynamic conditions of farmer groups in Waimital Village are created because of farmers participation as members. Considering that the existence of farmer groups is not something new for farmers in Waimital Village, farmer participation in various group activities is also not difficult to obtain. Various factors underlying farmer participation in group activities are presented in the following table:

**Table 3:** Factors Driving Farmer Participation in Farmer Groups

No.	Push Factors	Farmer Assessment (%)		
		Good	Fair	Bad
1.	Group as a place for learning	81,7	12,2	6,1
2.	Group as a place to work together	90,2	9,8	0,0

Source: Adapted from [5].

Group as a learning vehicle allows farmers to exchange experiences and information about lowland rice farming, from pre-production to harvest and post-harvest. It is true that the decision to receive information and experiences from other farmers is completely in the hands of each farmer, but provide opportunities to exchange experiences and information is a good thing in a group to avoid knowledge gap between farmers in group.

Groups as a vehicle for cooperation are an inseparable part of lowland rice farmers because most lowland rice farming activities require cooperation between farmers, such as planting simultaneously to reduce pest attacks. Simultaneous planting will lead to simultaneous harvest, and there is short period before next planting season to break the pest life cycle. Cooperation among farmers to carry out simultaneous planting is important. Recently,

the simultaneous planting schedule has a problem due to the lack of labour to help farmers plant rice seeds, while the number of rice transplanting machines is still very limited, so farmer have to queue to rent the machines. This had an impact of high levels of pest and disease attacks and usually farmers have responded to by increasing the use of pest and disease control drugs. Of course, this is not a good thing and therefore efforts are needed to deal with it, for example by increasing the number of rice planting machines so that they can meet farmers' needs at the right time. Implementing the role of farmer groups as should be can increase farmer participation as members and vice versa. By participating in farmer groups, it is possible for farmers to adopt new innovations in the agricultural sector, including sustainable agricultural practices [8], enables wood value chain upgrading [9], and increase agricultural productivity [10]. Beside as a vehicle for learning and working together, farmer groups are also as production units that influence income of lowland rice farmers [11]. Increasing farmer participation is important at this time in order to improve the dynamics of farmer groups. Returning to the reason why farmers become members of farmer groups, the main thing is hopefully farmer groups can help farmers achieve their personal goals, namely increasing the productivity of farming (rice fields). For that, each farmer group can increase group meetings to discuss obstacles or problems faced by the group in achieving group goals and find solutions. Support to meet group needs is one factor in increasing group participation. Currently, farmers group felt need is the availability of production facilities on time and in the right quantity and availability of agricultural tools and machinery. As previously explained, the presence of agricultural extension worker is important in dynamizing farmer groups. Agricultural extension worker through their three main roles, namely as motivators, facilitators and catalysts, can increase farmer participation in farmer groups. Agricultural extension workers can mobilize farmers to learn from each other and collaborate through farmer groups. In other words, the function of farmer groups as a vehicle for learning and working together will increase.

#### **4. Conclusion**

Farmer groups in Waimital Village are classified in the good category and can still be improved to the excellent category by increasing farmer participation as members. Increasing farmer participation can be done through fulfilling farmers' personal goals which have become group goals by increasing the role of farmer groups as a vehicle for learning and cooperation. Farmer groups in Waimital Village are active groups, however, in the future development of farmer groups still needs support from external parties, including from related agencies in relation to meeting all groups needed such as agricultural tools and machinery as well as guaranteeing the availability of agricultural production facilities. Assistance is also needed for farmer groups in realizing group plans.

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