

The Marind Tribe's Social Capital in Developing Cultivation of Paddyfield Rice in Merauke Regency, Papua, Indonesia

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Abstract

The focus of this study was to study the social capital possessed by the Marind Tribe in conducting a social relationship with facilitators as the source of information about paddyfield rice cultivation. This is to develop paddyfield rice based on the social capitals possessed by the Marind Tribe. This study was done in Merauke Regency which is a paddyfield rice production center in Papua Province. The respondents in this study were 120 Marind Tribe farmers who cultivate paddyfield rice in six districts in Merauke Regency. The data were collected through surveys and observations and were then analyzed using descriptive and inferential statistical analyses. The results of the study showed that the social relationship built between the Marind Tribe and the facilitators as the source of information about paddyfield rice cultivation has not yet been able to maximize the potential in the social capital possessed by the Marind Tribe. The social relationship built was not fully based on mutual trust and the network of social interaction between the Marind Tribe and the facilitators even though the sago norm provided an opportunity for the Marind Tribe to learn about paddyfield rice. The output of the social relationship between the Marind Tribe and the facilitators as a source of information about paddyfield rice cultivation has not yet been able to create an improvement in knowledge, to make the attitude approving, to increase group ability in implementing cultivation components, and to increase paddyfield rice production in the Marind Tribe.

Keywords: Social capital, trust, social network, social norms.

1.Introduction

Community development is focused on the effort to fulfil needs by, from, and for the community itself. This means that the community's involvement in donating the resources they have is much needed so that through the utilization of those resources, the community development will be founded on the community's strength. Community development which utilizes resource potentials would create an independent community which always strives to fulfill all its needs and solve its problems on its own without depending on the those in power. Community independence will create a strong foundation for the sustainability of various community development programs.

Community resources are reflected by its values, norms, rules, and socio-cultural regulations deeply embedded in the community life. Community social resources are created through harmonious social relationships, behavior which is based on strong norms, and social interaction. Community social resources are a number of potentials and strengths found in a community, and if these are well-utilized, they will bring about positive contributions to development (Kartasasminta 1997). Community social resources are the community's social capital which can be used in the effort to empower the community both socially and economically (Badaruddin 2006). This statement is supported by Soetomo (2012) who declared internal utilization of social capital could build and strengthen social cohesion and social solidarity, while external utilization could build wider social networks so that the community's welfare could improve. Therefore, unearthing and utilizing social capital as potential community social resources are paramount in community development.

The Marind Tribe is the owner of tribal rights over areas in Merauke Regency, Papua Province, Indonesia. The Marind Tribe's livelihood strongly depends on natural resources, gathering and making use of the available natural resources without cultivating. Boelaars (1986) stated that the Marind Tribe is a "gathering people" who gather forest resources such as sago, cassowary, deer, and wild boar and river resources such as various species of fish and shrimp and have a strong bond with natural resources.

Since 1914, when the *Nederlands Nieuw Guinea* ruled Papua, Javanese people have been sent to Merauke to become farmers to cultivate paddyfield rice. The Marind Tribe, as the indigenous inhabitants of Papua, was then introduced to paddyfield rice. In 1985, some of the members of the Marind Tribe tried their hands in paddyfield rice cultivation, but they failed and then gave up. Then, from 2007 until the present day, the Marind Tribe has shown its renewed interest in cultivating paddyfield rice due to the regional government's attention through the Merauke Intergrated Food Estate (MIFE) program.

Pertaining to paddyfield rice cultivation, the Marind Tribe has developed a social relationship with many facilitators as the source of information about paddyfield rice both inside and out of the the Marind Tribe community. This social relationship is hoped to be reciprocal, building trust and forming a bond within a strong social network for paddyfield rice cultivation supervision activities. The strength of the social relationship is

interrelated to the social capital utilized in realizing the social relationship, enabling the individuals involved in the interaction to create new values (Coleman 1988). In addition, social capital in the form of Papua's local wisdom is a grassroots which need to be identified and studied to become the motor for development in Papua (Mansoben 2010).

Starting from social capital as a power which could realize social relationships in creating new values and the main power coming from the the community itself in bring about development, it becomes imperative to discover the social capitals possessed by the Marind Tribe in relation to paddyfield rice cultivation and whether the social capitals have any effect on the development of paddyfield rice. Therefore, the study aims are (1) to describe the Marind Tribe's social capitals in relation to paddyfield rice cultivation and (2) to analyze the effect of the Marind Tribe's social capital on knowledge, attitude, behavior, and paddyfield rice production.

2. Study Method

The study was conducted in Merauke Regency, Papua, Indonesia which consists of six sub-districts, i.e. Merauke, Semangga, Kurik, Animha, Malind, and Noukenjerai. The subjects of this study were farmers from the Marind Tribe who cultivate paddyfield rice. There were 120 respondents. Samples were taken using the accidental sampling method. This method was chosen because (1) the population of the Marind Tribe who cultivates rice is not known for sure, (2) the mobility of the respondents in the Marind Tribe makes them difficult to find, and (3) the attitude of the respondents in the Marind Tribe is they are easily upset by outsiders.

The data collection methods employed were survey and observation. The data collected were in the form of exogenous latent variables and endogenous latent variables. The exogenous latent variables were components of social capital which consist of trust, social network, and social norms. The endogenous latent variables consist of knowledge, attitude, behavior, and paddyfield rice production. The measurement of variables was done using a gradual scale scored as 1, 2, 3, 4, and 5 whereas the production variables were stated in absolute values.

The data were analyzed using descriptive and inferential statistical analyses. The descriptive statistical method was used to answer the question of what social capital the Marind Tribe possesses, while the inferential method using SEM (*Structural Equation Model*) was used to answer the question of the effect social capital has on knowledge, attitude, behavior, and paddyfield rice production.

3. Results and Discussion

3.1 The Marind Tribe's Social Capital

The Marind Tribe has built social relationships with ten facilitators for paddyfield rice i.e. family members, neighbors, Agricultural Field Elucidators (*Penyuluh Pertanian Lapangan* -PPL), Java-Merauke farmers (Jamer farmers), national transmigration farmers, parochial pastors, farmers' group board members, the Kasih Mulia Foundation (YKM), members of the farmers' group, and the Foodcrop Agricultural Agency of Merauke. Judging from the structure of the social relationships, the Marind Tribe have built social relationship structures at the micro and meso levels. At the micro level, social relationship structure comes from family members, neighbors, Jamer farmers, national transmigration farmers, farmers' group board members, the PPL, the parochial pastors, and farmers' group members. At this level, the Marind Tribe has individual social capital strength. On the other hand, at the meso level, the social relationship structure comes from the Kasih Mulia Foundation (YKM) and Foodcrop Agricultural Agency of Merauke. This means that the Marind Tribe has group social capital strength. In addition, the Marind Tribe is able to build social network interactions not only around the family, which is the micro level, but also with institutions, which is the meso level. This is underlined by Hjollund & Svendsen (2000) who state that the micro level is the relationship structure found around the family, while the meso level is directed toward relationship structures with institutions.

The social relationship structure built between the Marind Tribe and facilitators have created several things, i.e. (1) the formation of both individual and group social networks, (2) the creation of a flow of information about agriculture and paddyfield rice equipment technology, (3) the availability of facilitators who provide information about paddy cultivation, (4) the introduction of new values related to paddyfield rice cultivation to the Marind Tribe's socio-cultural system, and (5) the creation of cultivated paddy fields and the production of paddyfield rice. The social relationship structures which are built are manifestations of social capitals. Flassy et al. (2009) stated that social capital as a resource which arose as a result of social relationships in a community, both between individuals and institutions which create emotional bonds in the form of trust, reciprocal relationships, social networks, values and norms. The social relationship manifestations in the form of trust, social networks, and social norms which were created in the social relationship structures between the Marind Tribe and the facilitators are presented below in detail.

3.1.1 Trust

The results of the SEM test show that from the ten facilitators who have social relationships with the Marind Tribe, there are only four facilitators who strongly characterize trust variables. The four facilitators are the

farmers' group board members, farmers' group members, the PPLs, and Java-Merauke farmers. The the Marind Tribe trust score for these four facilitators are within the not really trusted category.

Social relationship between the Marind Tribe as farmers' group members and farmers' group board members show a not really trusting relationship. The reason why the Marind Tribe does not really trust the facilitators from the farmer group board members is because the board members do not really care about the needs and the problems faced by the members of the farmer group who are from the Marind Tribe in cultivating paddy-field rice. The Marind Tribe's needs and problems which have been disregarded are, among others, leading the discussions about harvest failure, finding solutions to planting equipment maintenance, and arranging the mechanism for planting equipment usage. Farmer group board members only function as leadership symbols to fulfill administrative requirements in order to qualify for production facility grants and funds from the government allocated for the Marind Tribe in developing paddy-field rice. The leaders' willingness to sacrifice their own needs in order to fulfill the Marind Tribes needs and solve their problems is their expectation for leaders and the requirements to their trust. This means that a leader's willingness to sacrifice is the character of a leader who could be trusted by the Marind Tribe in developing paddy-field rice.

The Marind Tribe members who are members of the farmer group do not really trust the other members. The distrust stems from the fact that the members of the farmer group come from various clans in the Marind Tribe and also other tribes outside of the Marind Tribe with a multitude of cultural backgrounds. The Marind Tribe can feel comfortable with other people and not feel suspicious if they are in a group based on one "totem" and "dema" strength. *Totems* are symbols of Marind sub-tribes which are divided into clans, and each clan has a tie to a symbol of nature which is believed to be the symbol of the clan birth. Each totem has a power called *dema*. The Marind Tribe believes that the *dema* are pre-historic creatures which have existed together other creatures in the world and have the power to create the universe: plants, animals, objects, and everything that now forms the universe and the society (Boelaars 1986). That is why the *dema* strength is symbolized with a totem for each of the sub-groups in the Marind Tribe.

The Marind Tribe is divided into seven clans, i.e. the *Gebze* clan with the coconut (*Cocos nucifera*) totem, the *Basik-basik* clan with the pig (*Sus scrofa*) totem, the *Mahuze* clan with the sago tree (*Metroxylum* sp.) totem, the *Balagaize* clan with the crocodile (*Crocodylus* sp.) totem, the *Ndiken* clan with the long-legged brown crane/*ndik* bird totem, the *Samkakai* clan with the kangaroo (*Macropus agilis*) totem and the *Kaize* with the cassowary (*Casuarium casuarium* sp.) totem. Clans with totem values of similar *dema* strengths would create ties between families which within clan groups. The ties are characterized by care, respect, deference, security, and the absence of suspicion. Similar totem values and demas create trust between families within clans which create hope in collaborating in developing paddyfield rice cultivation. Wonmut (2006) stated that individuals who are linked based on similar totems and *dema* strengths have more moral responsibility to their groups compared to themselves. Therefore, the totem cultural values with *dema* strengths are a Marind Tribe cultural value which needs to be taken in account when accepting group members in the development of paddyfield rice.

Agricultural Extension Field Officers (PPL) are professional facilitators who come from outside the Marind Tribe and build social relationships with them in providing extension in paddyfield rice cultivation. The Marind Tribe does not really trust the PPLs to provide guidance because the PPLs are believed to lack concern and do not feel any responsibility in providing guidance. The Marind Tribe wishes the PPLs to have concern and to be responsible in providing guidance in the form of real actions whose benefits could be seen and felt by the Marind Tribe. Boelaars (1986) said that anything novel would be judged by the Marind Tribe based on immediate advantages and disadvantages which are "apparent" to them and they do not need "greetings" but they want "proof". The real actions the Marind Tribe expect here are proofs of the PPLs' work as partners for the Marind Tribe in learning how to cultivate paddy-field rice. Therefore, the social requirements expected by the Marind Tribe in order to trust professional facilitators who do not come from their own community is that they can provide proof for their extension in the form of real actions.

The Marind Tribe's socialization with other communities happens through their social contact with Java Merauke (Jamer) farmers who have Javanese roots. The Jamer farmers were the people who first introduced paddy-field rice to the Marind Tribe, and have lived with the Marind Tribe for a long time. The social relationship between the Jamer farmers and the Marind Tribe show that they do not completely trust each other. This is because the Jamer farmers have yet to prove that they are really willing to help the Marind Tribe in overcoming their issues in providing working capital. In addition, the Marind Tribe expects the Jamer farmers to be their personal friends who care about and help overcome their problems. The personal friendship social value is a strong motivation in the Marind Tribe in building social relationships with other parties (Boelaars 1986). According to Kushandajani (2006) and Flassy *et al.* (2009), the trust factor could improve if the social relationship is built upon friendship, mutual sympathy, respect, giving, and acceptance. Therefore, the social requirement from the Marind Tribe to be able to trust people from outside of their community is a social relationship based on personal friendship.

3.1.2 Social network

The results of the SEM test show that from the ten facilitators who conduct social relationships with the Marind Tribe, only three facilitators gave off strong characteristics as social network variables. The three facilitators were the farmer group board members, the PPLs, and among farmer group members. The social network variable score between the Marind Tribe and the three facilitators are in the very low category. This means that the interaction between the Marind Tribe and the facilitators is very low in relaying information about paddyfield rice.

The interactions between the farmers' group board members and the Marind Tribe are very weak because the farmers' group board members are positioned merely as symbolic leaders who do not understand their role and responsibility as leaders. In addition, the election of farmers' group board members is not conducted according to the Marind Tribe's cultural values which require group board members to be selected from clan leaders. Weak social network interactions are the reason for the lack of collaboration and togetherness between board members and Marind Tribe members in running the farmers' group.

In order to weave a strong social network, the farmer group board members should be proactive in mobilizing the farmer group members in paddyfield rice cultivation activities. One of the roles that could be played by the farmer group board members is becoming a mediator between the professional facilitators who come from outside the Marind Tribe community and the Marind Tribe. Proactive actions from the board members would create a spirit of togetherness in group activities in developing paddy-field rice cultivation. In addition, the board members should have a similar socio-cultural background as the Marind Tribe, i.e. coming from a clan, so that a comfortable social relationship could be created without any suspicion between board members and the Marind Tribe members.

The social network woven between the PPLs and the Marind Tribe is built upon various activities such as discussing paddy-field rice cultivation issues, exchanging information about paddy-field rice, planning work programs, and physical labor in the fields. The social network between PPLs and the Marind Tribe has not created a condition where they help each other, exchange information, work together, or correct each other. Coleman (1988) stated that a strong social network is characterized by coordination and collaboration which enables the achievement of a common goal. One of the reasons is because the PPL have not been actively functioning as supervising facilitators in guiding and teaching paddyfield rice cultivation techniques to the Marind Tribe. As a result, the Marind Tribe merely rely on their past experiences in paddyfield rice cultivation obtained from the previous generation.

In order to improve social network interaction between the PPLs and the Marind Tribe, the PPLs, as professionals who have the knowledge, should be more proactive in providing guidance to the Marind Tribe by initiating the live-in approach and actively participating in various paddy-field rice cultivation activities. Through these two approaches, the PPLs would be more familiar and understand the Marind Tribe's socio-cultural system budaya and its needs. Rahman (2013) stated that closeness is a driving factor for the construction of interpersonal attraction and social relationships. Closeness will improve ease interaction, create similarities in views, and increase interaction frequency, creating a strong social network.

Another thing that PPLs could do is to demonstrate a good work ethic in providing guidance for the Marind Tribe. The work ethic that is expected from them is the service work ethic which is the demonstrating caring, humbleness, and the willingness to sacrifice in providing paddyfield rice cultivation guidance to the Marind Tribe. The service work ethic is very much in line with the personal friendship social values treasured by the the Marind Tribe when building a relationship with other parties. Therefore, through the service work ethic, PPLs would understand and identify with the Marind Tribe's socio-cultural condition, creating a strong social network interaction.

The interrelation pattern among the Marind Tribe people as farmer group members do not show a bond among them. This is because the Marind Tribe people in their daily lives are self-reliant and do not depend on the assistance of others. The Marind Tribe's individualistic life was created because the people do not have many social activities in working groups. Boelaars (1986) stated that the Marind Tribe from the southern coast near Merauke are people who are closed off to themselves, satisfied in themselves, and are actually people who find it difficult to approach other people. The Marind Tribe people are accustomed to hunting on their own, only accompanied by hunting dogs, and gathering forest bounty in the form of sago, bananas, and coconuts in small groups of three to five people.

The Marind Tribe people are only able to interact with others if they have blood ties and come from the same clan. Similarities in socio-cultural values due to blood ties and similar clans would strengthen the bond and re-establish the relationship between individuals and create unity in the group. The strength and re-establishment would create a drive to collaborate, build togetherness and solidarity and take collective actions to reach a common goal. Siisiäinen (2000) said that strong social capital is formed if there is strength and re-establishment among the members of the group members in a social network. Consequently, the social network would be strong if the Marind Tribe people are group in their clans.

3.1.3 Social Norms

The strong characteristic for social norms is the sago norm in the not really compliant category. This means that the rules in harvesting sago as a staple food which have strong cultural value for the Marind Tribe cannot be applied to paddyfield rice cultivation activities as an introduced crop.

The Marind Tribe has recognized sago as a natural resource since 110 centuries B.C., while paddyfield rice cultivation was introduced in the 14th century (Boelaar 1986). Sago is believed to be a gift from their ancestors to the Marind Tribe which must be guarded and maintained to ensure its sustainability; therefore, the Marind Tribe practices tribal rules in the form of prohibition and penalty for sago harvesting. In contrast, the Marind Tribe believes that rice belongs to the Javanese, therefore the Javanese culture dictates paddyfield rice cultivation activities. Nevertheless, when the Marind Tribe was introduced to paddyfield rice, the Marind Tribe was motivated to learn about paddyfield rice. This is because the Marind Tribe believe that there are no Marind tribal norms that forbid them from cultivating paddyfield rice.

3.2 The Effect of Social Capital on Knowledge, Attitude, Actions, and Paddyfield Rice Production

The test results for the effects social capital on knowledge, attitude, actions, and production are presented in Figure 1.

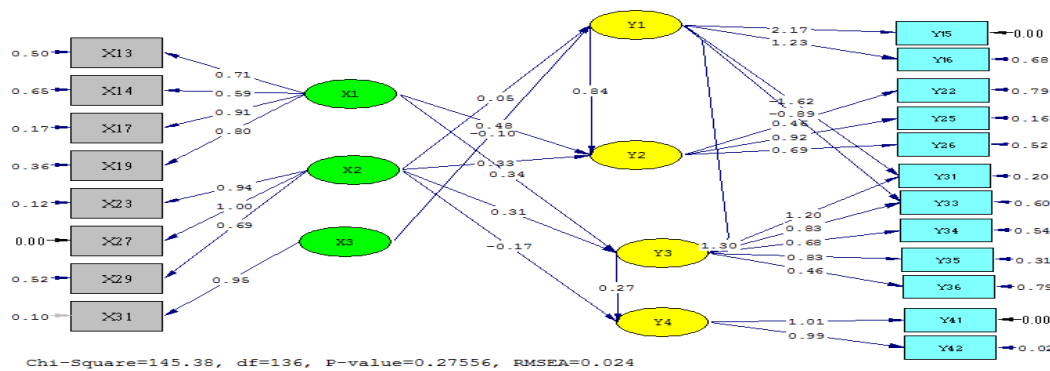


Figure 1. The Test Results of the Effects of Social Capital on the Development of Paddy-field rice

Notes: X₁ : Trust X₂ : Social network X₃ : Social norms
 Y₁ : Knowledge Y₂ : Attitude Y₃ : Actions
 Y₄ : Production X₁₃/X₂₃ : PPL X₁₄ : Java Merauke
 X₁₇/X₂₇ : Farmer Group Board Members X₁₉/X₂₉ : Farmer Group Members

The results of the SEM test in Figure 1 show that social network (x₂) and social norms (x₃) have an effect on knowledge (Y₁). Trust (x₁), social network (x₂), and knowledge (Y₁) each have an effect on the farmers' attitude (Y₂) and behavior (Y₃). Social network (x₂) and farmers' behavior (Y₃) have an effect on production (Y₄). Discussion about the effects of social capital components, i.e. trust, social network and social norms, are presented below.

3.2.1 The Marind Tribe's Knowledge of Paddyfield Rice Cultivation

The results of the SEM test show that social norms and social network have an effect on the Marind Tribe's knowledge of paddyfield rice cultivation. In detail, it can be shown that social norms have a direct negative effect, whereas social network has a direct positive effect on the Marind Tribe's knowledge of paddyfield rice cultivation. This indicates that the less rigid the Marind Tribe in enforcing the sago norm as a guideline for paddyfield rice cultivation, the more knowledge of paddyfield rice cultivation the Marind Tribe has. On the other hand, the weaker the social network built between the Marind Tribe and the facilitators in relaying information about paddyfield rice, the less the knowledge about paddyfield rice cultivation the Marind Tribe has. The relationship between the effects can be explained as the sago norm is embedded in the Marind Tribe's culture and it controls the Marind Tribe's behavior in exploring sago, but the sago norm is not the guideline in the Marind Tribe's behavior in paddyfield rice cultivation. In addition, the sago norm penalty is not applicable in paddyfield rice cultivation activities. Therefore, when the Marind Tribe was introduced to paddyfield rice, the Marind Tribe was interested in studying paddyfield rice cultivation. The fruits of their learning were the knowledge the Marind Tribe obtained.

The Marind Tribe interest in learning about paddyfield rice cultivation was not followed by the presence of a strong social network. Social networks as a set of harmonious relationships between individuals are formed because they encourage each one another, exchange information, help each other, collaborate, support each other and work together to reach a common goal. The social networks built between the Marind Tribe and

the facilitators are not characterized by a spirit of togetherness, solidarity, collaboration, and information exchange, causing the flow of information about paddyfield rice cultivation to be hindered. The obstruction of the flow of information about paddyfield rice cultivation from the facilitators to the Marind Tribe caused the Marind Tribe's knowledge about paddyfield rice cultivation to be meager.

Seen from the Confirmatory Factor Analysis (CFA) value of the social network variable, the CFA value which has a chance of weakening social network lies in the construction of the interaction between the Marind Tribe and the farmers' group board members (1.00) and the interaction between the Marind Tribe and PPL (0.94). Farmers' group board members are not yet able to fulfill their function as leaders who organize the Marind Tribe to learn about paddy-field rice in the farmer group. This hinders the learning process and affects the Marind Tribe's learning capacity in accumulating information about paddyfield rice. As a result, the Marind Tribe's knowledge of paddyfield rice cultivation is limited.

Another factor that is important is the involvement of the PPLs. Interview results have yielded information that the Marind Tribe judge the PPLs to be unable to function as "personal friends to the Marind Tribe" and "have not yet been able to show proof of the benefits of their guidance". The two factors are the social prerequisites demanded by the Marind Tribe of the external facilitators in order to trust them to provide guidance. Additionally, there is a divergence of views pertaining to guidance which causes the social network built between the PPLs and the Marind Tribe to fail to reinforce and strengthen the social relationship process. The weakness of the social relationship can be seen from the learning process which is not followed by reinforcement and rewards for the Marind Tribe as the target of the learning process. Based on the interview results, it was discovered that all activities concerning paddyfield rice cultivation are performed by the Marind Tribe without any guidance from the PPLs. The Marind Tribe rely more on experiences about paddyfield rice cultivation from the learning process in the past and have a habit of leaving the paddyfield rice grow on its own without any maintenance. This condition indicates that the Marind Tribe does not receive any reinforcement for any actions taken, does not receive any corrections for any mistakes made and does not receive encouragement for the successes obtained through the guidance provided by the PPLs. Learning responses that are not accompanied by reinforcement and rewards will weaken learning capacity or learning ability (Sorenson 1954). Weak learning capacity will then lead to learning results which are limited knowledge. Mardikanto (1993) stated that an individual's learning capacity is influenced by his/her physical and psychological condition and by the community's socio-cultural environment. The community's socio-cultural environment is related to whether or not there is guidance and whether it is suitable to the target of the learning process.

3.2.2 *The Marind Tribe's Attitude to Paddyfield Rice Cultivation*

The SEM test results showed that trust and social network have a direct positive effect the Marind Tribe attitude towards paddyfield rice cultivation. This indicates that the less the Marind Tribe trusts the facilitators and the weaker the social network between the Marind Tribe and the facilitators, the more disapproving the Marind Tribe's attitude towards paddyfield rice cultivation.

The effect can be explained as trust is a psychological variable that refers to the values of honesty, concern, openness, generosity, and justice in order to be able to put hope on other people. Study results show that the PPLs are not yet able to show their concern and sense of responsibility in providing guidance to the Marind Tribe in paddyfield rice cultivation. The same can be said about the Jamer farmers as the community that introduced paddyfield rice to the Marind Tribe; they too are not yet able to fulfill the expectations to help and be generous enough to assist the Marind Tribe. Similarly, the farmers' group board members have not yet been able to play their role as caring and generous leaders who are attentive to the needs and difficulties faced by the farmers' group members. The farmers' group is not an institution that is suitable to the Marind Tribe's needs. The realities faced by the Marind Tribe due to the presence of facilitators as councillors for paddyfield rice cultivation is inevitably a direct experience. Experience with facilitators who provide guidance for paddyfield rice cultivation is an object of stimulus which is unconvincing for the Marind Tribe to trust (a cognitive response). Therefore, the reaction from the Marind Tribe is disapproval. Sears et al. (1992) stated that attitude is formed through both direct and indirect experience.

Social interaction relationships between the Marind Tribe and the facilitators, i.e. the PPLs, farmers' group board members, and among farmers' group members, do not really show collaboration, togetherness, solidarity, mutual encouragement, or information exchange. This causes the learning process in regards to guidance from the facilitators to be obstructed, thus the Marind Tribe does not receive the reinforcements and support it needs. The weak reinforcements and support in the learning process will weaken the Marind Tribe's learning behavior and will create a tendency towards disapproval. Rahman (2013) underlined that attitude is a result of a learning process which has rewards and punishments. Behavior which is rewarded will create a strong attitude and punishments will result in the opposite.

The results of the SEM test also indicate that social network and social norms have an indirect positive effect through knowledge to the Marind Tribe's attitude to paddyfield rice cultivation. This indicates that the weaker the social network built, the less compliant the Marind Tribe is in upholding the sago norm as guidelines

for paddyfield rice cultivation, resulting in a more disapproving attitude the Marind Tribe has to paddyfield rice cultivation. The sago norm is not the standard for the Marind Tribe's behavior in paddyfield rice cultivation and this provides an opportunity for the Marind Tribe to learn about paddyfield rice. The opportunity to learn about paddyfield rice is not supported by the existence of a strong social network, making the learning process about paddyfield rice gone through by the Marind Tribe to face obstructions. Obstruction of the learning process will weaken the Marind Tribe's receptive and cognitive abilities in learning about paddyfield rice. The weekend receptive and cognitive abilities will have an effect on the complexities of the Marind Tribe's cognitive ability to evaluate the stimulus object, paddyfield rice, causing the reactions to the stimulus to lean towards disapproval.

3.2.3 The Marind Tribe's Behavior in Paddyfield Rice Cultivation

The results of the SEM test showed that trust and social network have a direct positive effect on the Marind Tribe's behavior in paddyfield rice cultivation. This indicates that the less the Marind Tribe trusts the facilitators and the weaker the social network between the Marind Tribe and the facilitators, the less comprehensive the Marind Tribe's behavior in paddyfield rice cultivation.

In detail, it could be explained that trust is a personality variable which reflects an individual's hope of another individual's behavior. The study results show that the Marind Tribe's trust in facilitators is within the not really trusting category. This means that the Marind Tribe do not really trust that the facilitators will care about the tribe's needs and difficulties in cultivating rice (normative belief) and that the facilitators are willing to provide guidance in cultivating rice (subjective norm) in order to increase production. The weakness of the belief of the Marind Tribe in the facilitators and the support from the facilitators to the Marind Tribe will weaken the Marind Tribe's resolve and reduce the Marind Tribe's behavior in applying paddyfield rice cultivation components comprehensively.

Correspondingly, the same thing occurs with social network which is defined as a set relationship between individuals in order to access information easily. The study results showed that the social network built between the Marind Tribe and the facilitators is in the low category. This means that social interaction process is not harmonious enough and there is a lack of collaboration, causing the Marind Tribe to believe that the facilitators do not particularly care about relaying information about paddyfield rice cultivation (normative belief) and that the facilitators are not able to provide reinforcement and support in the interaction process (subjective norm). The weakness in the belief and support from the facilitators to the Marind Tribe will weaken the Marind Tribe's resolve and reduce the Marind Tribe's behavior in applying paddyfield rice cultivation components comprehensively.

The results of the SEM test also show that social network and social norms have an indirect positive effect through knowledge on the Marind Tribe's behavior in paddyfield rice cultivation. This indicates that the weaker the social network and the less compliant the Marind Tribe is in upholding the sago norm as a guideline in paddyfield rice cultivation, the less comprehensive the Marind Tribe's behavior in applying all the components in paddyfield rice cultivation. The sago norm is not the standard for behavior which motivates and controls the Marind Tribe in cultivating rice and the sago norm penalty cannot be applied to paddyfield rice cultivation activities. Therefore, an intent to learn about paddyfield rice grew in the Marind Tribe. The urge to learn about paddyfield rice was not supported by a strong social network, causing the learning process to become obstructed and had an impact on the Marind Tribe's knowledge of paddyfield rice cultivation. The lack of knowledge will reduce the behavior of the Marind Tribe in applying all the components of paddyfield rice cultivation comprehensively.

3.2.4 Paddyfield Rice Development

The results of the SEM showed that the social network built between the Marind Tribe and the facilitators have a direct negative effect on the development of paddyfield rice. This indicates that the weaker the social network built between the Marind Tribe and the facilitators in creating a flow of information about paddyfield rice cultivation, the better the development of paddyfield rice could be achieved. This could be explained because the indicator paddyfield rice development the production which strongly relies on the availability production input, and the availability of input and the ease in utilizing it will increase production. The problem faced by the Marind Tribe is the limited production input, especially ploughs and threshers. The limited production inputs possessed by the Marind Tribe causes social interaction network to be limited to family members and the people of the tribe prefer to cultivate on relatively small plots of land with limited production input. In these conditions, production tends to be high.

A complete opposite would happen if the Marind Tribe built a wider social interaction network through supervision under the many facilitators who provide production input. In this situation, the Marind Tribe would receive assistance in opening larger paddyfields, but not balanced with access to production input and instruction how to use the input. This situation would lead to the production of empty hulls, causing production to decline. The study results showed that the Marind Tribe members who had a plot of 0.25 hectares would produce an average of 546 kg unhulled rice, whereas those who have a plot of 1 hectare could only produce an average of 1,259 kg unhulled rice. This means that 1 hectare of paddyfield is not yet able to produce four times

the rice produced by a plot of 0.25 hectares.

The results of the SEM test also showed that social network and trust have an indirect positive effect through behavior to paddyfield rice development. This indicates that the weaker the social network between the Marind Tribe and the facilitators in providing information about paddyfield rice and the less the Marind Tribe trusts the facilitators, the less the development of paddyfield rice can be obtained. The indicator for rice development is production as a result of the production process. The production process relies on people's ability to arrange and manage production factors (Soeharyo & Patong 1977), whereas people's ability is strongly related to the learning process (Sorenson 1954). The study results show that the Marind Tribe do not really trust the facilitators and do not interact much with the facilitators as the providers of guidance in cultivation activities, resulting in a slow learning process and learning capacity. The low learning capacity will also reduce the farmers' behavior in applying the cultivation components comprehensively and will result in low production.

4. Conclusion and Recommendation

4.1 Conclusion

The results of the study conclude that the social relationship built between the Marind Tribe and the facilitators as the source of information about paddyfield rice cultivation has not yet been able to maximize the social capital possessed by the Marind Tribe. The social relationship built was not based on mutual trust and mutual social interaction network between the Marind Tribe and the facilitators even though the sago norm gave the Marind Tribe an opportunity to learn about paddyfield rice.

The output of the social relationship between the Marind Tribe and facilitators as the source of information about paddyfield rice cultivation has not yet been able to create an increase in knowledge, a more approving behavioral response, an improved skill in applying cultivation components and an increase in paddyfield rice production by the Marind Tribe.

4.2 Recommendation

In order to develop paddyfield rice cultivated by the Marind Tribe, there should be efforts to maximize the social capital strengths possessed by the Marind Tribe in existing social relationship structures. The social capital strengths possessed by the Marind Tribe are: (a) the farmers' group board members willingness to sacrifice, (b) the totem cultural value with the strength from *dema* as a basis for farmers' group member acceptance, (c) social prerequisites for professional facilitators are that they show real contributions in supervisory activities, (d) the prerequisite for social relationships with outsiders is it should be based on personal friendship, (e) farmers' group board members should be proactive as mediators between professional facilitator professionals and the Marind Tribe, (f) social prerequisites for professional facilitators in conducting supervision is the live-in approach, direct participation, and the service work ethic, (g) the formation of farmers' groups based on clans, (h) taking advantage of the sago tribal rules that do not prohibit the Marind tribe from participating in paddyfield rice cultivation.

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