Transformative Analysis and Institutional Models in Overcoming Reliability Resistance in Seaweed Cultivation Production Systems in South Sulawesi Province

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This study aims to analyse the transformative and institutional processes of farmers and the forms of dependence on seaweed farming production systems in South Sulawesi. The main level of this research is finding new relationships that have been found many times based on structural analysis that cannot reach the position of actors in the process of economic transactions, namely transactions in the seaweed farming production system. Thus, recommendations for implementing welfare improvement for marginal coastal communities remain ignored. The method used is a qualitative method by taking research sites in two districts in South Sulawesi, namely Barru and Bantaeng. Each informant was taken from 4 seaweed farmers, one trader. The results showed that in general seaweed farmers in South Sulawesi Province still experience limited capital and technology accessibility as well as transaction ability. As a result, farmers are not able to get out of the traders' confinement, so the strength of the transaction becomes a necessity for traders. Theoretically, the imbalance of resources between farmers and traders can be concluded as a form of social exchange that results in a new dependency. But the nuances of the tendency to shift from dependency patterns to hegemonisation created by traders, and traders become an obstacle for farmers to break away from the bind of traders or in economic transactions called middlemen.

Key words: Farmers, institutional, dependency, social exchange.
Introduction

Nationally the support of the growth of the Indonesian agriculture sector until 2016 was around 3.25% with a labour distribution of 31.90%. This means that the dominance of the agricultural workforce still colours the employment sector. Likewise, when viewed from the disparity of poverty levels between cities and villages is still quite high, namely between 7.73 (cities) and 13.96 (villages). This means that the seaweed farming sector which is one of the national flagship has not been able to solve poverty in rural communities including coastal communities. There are structural constraints that make farmers in rural areas trapped in the institutional system of production. This makes the interests of traders more accommodated than those of farmers. In the end, the system of farmers' dependence on traders cannot be avoided.

Almost all coastal areas in South Sulawesi Province have long been developing seaweed. In general, fishermen who turn into seaweed farmers, even though they still carry out their work as fishermen. Therefore, as a coastal community it is a necessity where fishermen's work and seaweed farming activities cannot be separated. Ironically, since the first appearance of seaweed farming activities up to now, for most of their lives, especially groups of farmers have not been able to improve their standard of living. In other words, the farmers' community is only used as an object of development, not as the main subject of development (Sulistyaningsih, 2008: 126).

Such was the condition that occurred in the study area, namely in Barru Regency and Bantaeng Regency, South Sulawesi Province. Every season is always faced with various problems of limited capital, technology, and marketing. Most of the farmers find it difficult to get out of these limitations, except that if they want to continue their production it is only possible if they make loans or owe the owners of capital. The owner of the capital also acts as a trader. There are also other sources of capital such as banking, but the farmers find it difficult to reach with administrative reasons.

According to Nasrul (2012), a fundamental problem for the majority of Indonesian farmers is the powerlessness in negotiating the prices of their products. The bargaining position of farmers at this time is generally weak; this is one of the obstacles in efforts to increase farmers' incomes. While Branson and Douglas (1983) say that the weak bargaining position of farmers is generally caused by farmers lacking market access, inadequate market information and capital.

Thus it is assumed that there is an unequal exchange relationship between farmers and traders so that it leads to farmers' dependence on traders. From this phenomenon, as a general
problem this research is "What is the form of farmer institutions and the relationship of dependence on the seaweed production system from the perspective of social exchange"

Research Objectives

1. Analysing the form of transformation of farmers in the seaweed cultivation production system in South Sulawesi Province.
2. Analysing institutional forms in seaweed production systems in South Sulawesi Province

Literature Review

Transformation

The concept of transformation intended in this study is a transformation concept that has been developed so far in Indonesia and has coloured many studies oriented to the agricultural sector with diverse study results. Then, the studies were shifted to the fishing community. One of the main emphases of the study is generally to see the extent of its contact with the local institutions of the farming community and the fishing community, for example local institutions which are assumed to be one of the obstacles to the progress of the community.

Through the process of transformation, the existence of local institutions (patron-client) will experience erosion. Furthermore, the farming community will experience development and lead to a more prosperous living conditions. These assumptions seem to be seen by some researchers as not always happening, but rather the tendency of the farming community to be increasingly marginalised. One of the latest studies that saw this was a study of three coastal communities in Bulukumba Regency, namely a boat-making community, a fishing community, and a tourism community (Salman, 2006).

Furthermore, the final result of a social change / transformation is social differentiation, namely the process of rationalisation as a result of the transformation. The rationalisation process will push the separation of local activities based on family and kinship towards more specific or specialised organisations. In other words, the separation of production and division of labour that is more specialised or based on special functions will naturally give way to the development of new institutions and rational social relations. Furthermore, it will shift the existence of local traditional institutions.

An important aspect of the application of the concept of social differentiation is that when fishermen experience shifts to become seaweed farmers as the main livelihood, actually there is a dualism of life culture; this is on the other hand, that the service culture tends to persist, confronted with the culture of farmers (seaweed) even though viewed from the aspect
production systems, investment characteristics, technology, and management, they are very different. In the meantime, the extent to which these differences experience contact with the culture of coastal communities is more common.

**The Institutional Concept**

The institutional concept as applied in understanding village communities, especially in research by Tjondronegoro (1990) comes from the word "institution" which is formed from within the village community itself which plays its role in development, especially in stimulating community participation. Furthermore it is said that the institution meets the needs of community members directly, Saptana et al (2003) provide a sociological understanding of the institution, which is like the organs in the human body that run the society. Every function in the community must be carried out by one (or more) institutions. For the necessities of life, in terms of production and distribution, are run by economic institutions.

Agricultural institutions are norms or habits that are structured, patterned and practised continuously to meet the needs of community members who are closely related to livelihoods from agriculture in the countryside. In the life of the farmer community, the position and function of farmer institutions are part of social institutions that facilitate social interaction or social interplay within a community (Suradisastra, 2008).

Institutions in rural areas were born to meet the social needs of their communities. It is not linear, but tends to be the individual needs of its members, in the form of: physical needs, security needs, social relations needs, recognition, and recognition development. The main benefit of the institution is to accommodate the needs of one side of the social life of the community, and as social control, so that everyone can regulate their behaviour according to the wishes of the community (Roosgandha and Darwis, 2003).

According to Dimyati (2007), problems that are still inherent in the figure of farmers and farmer institutions in Indonesia are:

a. The lack of insight and knowledge of farmers on issues of production management and marketing networks.

b. Farmers are not fully involved in agribusiness activities. Farmers' activities are still focused on production activities (on the farm).

c. The role and function of farmer institutions as a container for farmer organisations has not run optimally.

Institutional concepts / theories in this research are mainly to analyse the process of
differentiation through the ability of capital, technology, and marketing space. There is an inability of capital, technology and marketing results in the low value of farmer exchanges that can be offered to traders.

**Social Exchange Theory**

The proposition of social exchange theory states that a person's actions are born based more on the consideration of rewards and costs (or punishment). Prizes are determined by their ability to strengthen behaviour, while costs reduce the likelihood of behaviour (Ritzer & Goodman 2003). This is similar to the rational choice theory with an emphasis on actors. Actors are seen as human beings who have both objectives and choices (or values, needs). The actor's actions are always oriented to the desire to achieve the goals according to the level of his/her choice; every effort made by the actor to achieve the desired goal will be faced with two coercive actions: First is the limited resources, the actor has different sources or access to the resources that he wants. etc. For actors who have large resources, achieving their goals may be relatively easy, but for actors with limited resources, achieving their goals may be difficult or even impossible. The second coercive source for individual actor actions is social institutions. positive sanctions and negative sanctions that help encourage actors to take action and avoid other actions (Friedman and Hechter in Suryanto and Amal, 2010).

Theories of social exchange are also influenced by economic flows, namely the principle of elementary economic transactions. People provide goods or services and in return expect to obtain the desired goods or services. That social interaction is similar to economic transactions. However, social exchange theorists argue that social exchange cannot always be measured by the value of money, because in various social transactions real things and not real things are exchanged. What is clear is that in a social exchange the reciprocal model is forever present as long as people give, receive and expect to receive goods or services in return (Poloma, 2003).

The main concern in the social exchange theory is how the structure of power in the transaction process arises from an unbalanced exchange. According to Blau (Johnson, 2008) the overall balance in transactions between exchange partners helps maintain conditions of equality between them. However, in many cases, differences in the needs and / or resources of exchange partners produce a clear imbalance. Someone who provides benefits that cannot be returned by others is in a position to expect (or ask for) some form of compliance with the effect of his/her efforts in exchange. In other words, power differences arise from unbalanced exchanges. The relationship between power and dependence is clearly revealed in relationships where people start on an unequal basis, because of the real differences in the resources they have.
Furthermore according to Blau, one strategy to try to get power is to provide extraordinary benefits to others that they cannot reply to. Although expensive for benefactors, such strategies ultimately lead to differences in status and power among people who initially appear to be in roughly equal positions. Practical understanding of the relationship between unbalanced exchanges and the emergence of power structures can also lead people to develop strategies to avoid subordinates or debt in their social relationships. Individuals can easily refuse to accept goods or services that cannot be properly returned (Johnson, 2008).

Result and Discussion

Transformation Analysis: Investment Formation, Technology, and Management in Seaweed Production Systems

In seaweed management, various components must be prepared to support the sustainability of seaweed production. Some things that are considered by farmers to support the production activities include capital sources and management. Starting farming is not something that is easy to manage, meeting the needs of capital and sources of capital is very influential to the fulfillment of maximum results. Initially it is best to open seaweed farming land freely obtained so that it does not require capital to open land. Who is the first to open then he is the owner. However, in its development, land has become increasingly difficult, and land buying and selling transactions have taken place. The transaction value depends on the agreement but what generally happens is the value of the land can be up to 5 million for one location. What is interesting is the emergence of unscrupulous local officials namely the local village head to control and claim the seaweed planting in coastal areas. So farmers who are interested in opening seaweed cultivation land need higher capital.

The capital used in starting as a seaweed farmer generally consists of two types, namely money capital (funds) and seed capital and equipment such as, plastic rope, white buoys, aqua bottles, carts, boats and drying halls. Usually beginners are only able to plant as many as 200 stretches with a size of 20-30 meters per rope stretch. For capital there are two main sources, namely from banks (mostly BRI) and large traders who act as capital lenders. The amount of loan funds varies between 2 million to 5 million rupiah.

The capital needed is also the wage of labour for work to tie a stretch rope. The wage value is usually for the work of 200 stretch ropes with a value of around Rp. 800,000, and even that excludes the cost of food and drink by farmers, which amounts to Rp. 50,000, - / day. The cost of binding wages is very dependent also on the market price of seaweed. The source of capital obtained by a seaweed farming farmer is seen to consist of two main sources, namely through banking and through large traders (patrons).
Besides capital, the use of technology in seaweed cultivation is the main thing. The results show that there are several aspects of technology found in the tradition of grass cultivation in South Sulawesi. First, in general, farmers in using some technology are still traditional in nature, but some are developing through years of experience. The seaweed farming community always tries locations; if it is not suitable in one place, they move again and among its knowledge is that, usually fresh water is not suitable, so is saltwater. So it must be at the two meetings; it cannot be too far from the shoreline and it cannot be too close, because it affects the success or failure of production. Second, knowledge in determining seed. Some of the treatments taken by seaweed farmers in caring for seedlings before planting are, the seeds must know the nature and source. When the seeds that have been prepared have arrived, they should not be left in contact with rain water, they must first be saved in an open place or some sort of expanse where the seaweed has been harvested. The type of overlay they use is, called halls (Bugis = From). with materials made from bamboo. Then if the seedlings are not ready to be tied up, then they either do not cover the tarpaulin or cover the tarpaulin, because the seeds can experience high heat so that they usually fail to grow. In terms of binding technology according to farmers, if you want to tie, try not to always wash your hands, because they do not fit with fresh water. Well here usually beginners or children always wash their hands because they might have itchy hands. Therefore, the seaweed should be tied up until they are finished, then the hands must be cleaned. Third, technology or binding method. There are several things that need to be known. like the bond distance affects the growth; usually the distance is about 5 fingers or about 10 cm, so that seaweed can grow well. Likewise, after the seedlings are tied, then they must be directly under the sea to be planted, because they are afraid of rot / damage and then the seaweed does not work. So if there is something that has been finished, for example 20-30 stretches / rope, then go directly to the sea, if the afternoon is finished with a considerable amount directly below, and if the afternoon, directly below in the afternoon too. So it does not mean having to wait for everything to finish. The experience of farmers of how to plant will also determine the quality of seaweed growth. Of all the examples that have been tried starting from the closest to some distance from the beach, it is not good, according to him/her that the distance of 200 meters is most suitable for the water content to grow well with this seaweed. In addition, the temperature of hot or cold water. Usually according to farmers, the surface of hot water (daytime) seaweed is lowered 50 cm from sea level. But if the water is cold / normal (morning / evening before night) seaweed is usually raised 1 inch from the surface. This means that farmers must only play the depth of the rope. Because these seeds are not happy too if the surface conditions are hot water, and it cannot be too cold. In addition it can also be salt or fresh water levels. Fourth, related to the depth of the sea. According to farmers, seedlings should not be too deep. Because the seeds will develop well if hit by the waves. If it's too deep the seaweed growth isn't good. For example if in the morning, the surface of the sea water is cold, for that a good depth is one inch down from the surface of the water, but if the weather is hot for example in the afternoon, the seedlings should be around 50 cm from...
the surface of the sea water. Therefore, during the daytime, farmers lower up to 50 cm, then in the afternoon because the sea level begins to cool, the farmers raise the rope again to one inch from the sea level. Fifth, if the seeds have been tied to a rope, then taken to the sea, then the rope must be stretched immediately. Underneath must be given a ballast like an anchor, or a sack filled with sand, so that the rope does not go anywhere. Including the distance between the straps that stretch from one to the other must be one meter, because if it is close together it is usually wrapped around the rope next to it. According to farmers that no more than 30 days planted, it can be harvested. If past that, for example 40 days, seaweed production will certainly be damaged. Another knowledge from farmers is that, if the weather conditions are not good, for example, successive rain every day, and the seaweed has been in 30 days, then farmers must wait for a time to stop raining. Because even if forced to take it, certainly the seaweed production is also not good. Sixth, knowledge of drying techniques. Once removed from the stretch rope, then stored in the place of drying seaweed (Bugis = Arrokkengeng). Here the weather is very important to note. When hot weather conditions are not possible, farmers usually store it first in a container that is in the halls (Bugis = From'). It is common that when the sun is good enough, it only takes three days of drying. Whereas the good quality of seaweed drought contains about 36 and 37 water levels. The experience of farmers in their knowledge of techniques or how to find out the water content is only by using feeling alone. It means to use the hands; if seaweed is grasped and not sticky at hand, it means that the quality of the drought is very good or estimated to be 36 or 37. Conversely, if the seaweed is held and still sticky in the hand, it means the levels are still wet or around 38 or 39.

**Analysis of Institutional Forms in the Seaweed Production System**

**a. Farmer-Worker Relations**

Seaweed production systems are institutionalised through the pre-planting, planting and post-planting processes. Pre-planting includes preparation of seedlings and binding of seedlings, and planting. The planting period includes placement of plants, control of plants and harvest. Whereas post-planting includes picking results, drying and selling. The whole mechanism or process of the production system involves capital, technology, and human resources.

In September - May or the rainy season is the planting season while June - August or the dry season is the planting break. While the best growing season is between March to May. So between September and May all farmers together prepare crops such as the preparation of stretch ropes, seeds and binding force. As it is known that the same planting season requires sufficient mobilisation of labour, while not all farmers are able to do it by involving household members such as wives and children. Means farmers must involve wage labour. The process of tying the seeds begins with preparing a rope of approximately 20 - 30 meters for one stretch. Each stretch is tied up with seaweed seedlings with a distance of 20-25 cm at a price of Rp. 4,000 - Rp. 5,000. - with working time usually starting at 08.00 until the
afternoon. It can be seen that the relationship between farmers and workers is an economic transaction.

The process of tying seaweed seeds requires speed and accuracy, so more skilled workers are needed. This means that farmers prefer women and children. According to them, women's hands are more agile and fast and they know how to bind, and even children are considered even faster. This means that the faster the binding is completed the more efficiently is the time used. Therefore, besides farmers providing work wages, farmers also prepare food and drink needs for workers. Provision of food and drink to workers is outside the transaction agreement but it is more like a reward so that after binding, it can be immediately brought to the beach to be stretched (planted). So preparing the drink to the worker resembles a transaction or social exchange.

How did the social exchange process occur? Farmers create jobs for housewives and children. Especially for housewives who do not have a job and for children who need additional school needs. They were originally from poor fishermen households who had crashed or lost their jobs as capture fishermen. Their life is only from catching crabs along the coast which has limited time. Likewise for their children who become a symbol of happiness if their children bring pocket money to school and can buy school supplies such as shoes. On the other hand, for workers or rumhtangga mothers and fishermen's children have skills that can be offered to farmers as reliable labourers to bind seedlings quickly so farmers can be more efficient in terms of time. The farmer's relationship with the worker in the form of social exchange is then institutionalised in a process of seaweed production in South Sulawesi, especially in the study area.

b. Farmer – Trader Relations

Seaweed cultivation has a planting cycle of approximately four months or three times a year. Within one year only certain seasons can flourish. In a period of good harvest production, farmers should be able to benefit more than usual. These conditions can be utilised for sale according to prices in the market. The problem is that farmers have limited access to market prices. Achieving greater profits is only always a wishful thinking. Penetration of traders on farmers is unavoidable. As we know that, the seaweed marketing cycle is started from farmers and then local traders, wholesalers to exporters.

The relationship between farmers and traders starts from the preparation of planting until the transaction process. Every planting season, farmers prepare all the necessary materials and tools needed. Each farmer has between 200 to 500 stretches, while the price of seeds is 5
thousand rupiah per kilogram, or capital needs are between 5 million and 20 million rupiah. For farmers, the capital is big and heavy enough to be self-financed. While the seeds are obtained through two sources, namely from fellow farmers and through traders. But, in general farmers prefer to buy seeds from traders, because they can be purchased by way of debt. Among farmers there is always a lack of capital every time facing the growing season, because the results of sales every time the production is only able to finance the lives of family members.

Therefore, this is why farmers cannot buy from fellow farmers because they must be paid in cash. How does the exchange process occur between farmers and traders? There are various reasons among farmers. Some say we just don’t feel good when selling to others, he also never said, but we appreciate him who lent capital. Some say that, thankfully, there are also those who want to provide capital, because in the past they did not have any capital so it was very helpful.

The relationship between farmers and traders in the seed transaction actually has an exchange relationship. Traders here are actually more like capital providers (middlemen). There are also traders acting as farmers; they were previously seaweed farmers and then increased to traders. Every farmer who borrows seeds to traders is obliged to sell their produce to them.

Then what is the exchange value between farmers and traders? Collecting resources have substantial capital to conduct loan transactions with farmers at any time. Not only is this related to seaweed capital but beyond that also is a personal loan to farmers when there is an urgent need. Urgent needs of farmers such as basic needs, loans when experiencing illness, loans for party needs and so on. Both loans for farm capital and personal loans are not bound by a formal agreement, they are not subject to a repayment period and the amount of the return, and are also not subject to interest including loan guarantees. Besides traders, they control the price information and the network of wholesalers. What about farmers? The main limitations of farmers are the selling price value and market price information. Farmers do not know the level / price fluctuations that occur on the market because there is a guarantee from traders that the price set to farmers is not too much different from the market price. One of the traders who had been a partner required farmers to sell to him with a price difference of between Rp1,000 - Rp2,000 per kg compared to other traders. According to farmers, in fact, multiplied by 2/3 tons is quite large.

But behind the limitations possessed by farmers, there is also a kind of reward obtained from traders. They don’t need to think about marketing issues anymore; for them, preparing seaweed harvests for sale by big traders in the city takes time and energy in addition to unexpected risks. An event experienced by farmers by bringing their own seaweed to exporters in Makassar (South Sulawesi Province city) turned out to be rejected. The rejection
varies from non-standard dry content, dirty mixed with sand, and types that are not suitable for the market. All become their experience to no longer want to bring the seaweed directly to exporters.

The above description shows that between farmers and pengepil there tends to be an unequal exchange relationship. The resource capabilities of traders are not balanced with the resources of farmers. The consequence, he continued, was that traders always made purchases from farmers, which tended to be detrimental to farmers. According to farmers, traders sometimes play with the weighing values of scales, ranging from non-standard dosing equipment to deliberately reducing about 10 kilograms for every 1 ton purchase, on the grounds that exporters also apply this to traders. In addition, traders also want to determine the level of dryness in a non-technical way, which is enough to hold it in the palm of the hand and then declare sufficient dry levels, or less.

Technically, according to the farmer, if the quality of the seaweed is 36-37 (water content), the drought is very good, and if the 38 or 39 levels are still moist. But so far it is generally only using a feeling that is by using hands; when seaweed is not sticky in the hands, it means that it is very good and dry at 36 or 37. But if the seaweed held it is still sticky, it means the levels are still wet or 38 or 39. To achieve a good level of drought it usually only takes 3 days with very bright sun.

The advantage of traders also offered to farmers is the ability to maintain a balanced relationship through a capital loan (money) strategy. A farmer does not have to settle his debt when he gets the sale. Farmers can pay instalments according to their ability and willingness; even farmers can add more loans according to their needs. One farmer said that each harvest must be paid Rp. 200,000, if the yield of seaweed is good, but if it is not good, Rp. 100,000, or Rp. 50,000, - traders also never target, how much should be deposited. But on the other hand this type of loan relationship model binds farmers to sell their seaweed to traders. As long as the loan has not been settled, the buying and selling relationship between farmers and traders continues. As one farmer stated that he has never marketed his seaweed to other traders at a much higher price, because we are already bound by traders, so we cannot go anywhere. Unless he (the trader) says he does not buy because he is sick or busy, farmers can sell to other traders.

Another advantage possessed by traders is the price information that occurs in the market. Traders feel responsible for immediately informing farmers of any price changes. This responsibility is a resource that must be maintained to farmers - a commitment in maintaining the sustainability of the transaction. The difference in purchase price between one thousand to two thousand rupiahs is lower than other traders and goes into a form of trust as one of the
exchange rates. Thus the value of social exchange between farmers and traders shifts dependency to hegemony.

c. **Trader – Wholesaler Relations**

Traders and wholesalers have market areas (purchases) to farmers, but only traders can access purchases to farmers, while the wholesaler functions to buy from traders. The exporters are only located in the provincial capital. Farmers and traders cannot know the ins and outs of the exporter's position regarding the seaweed trade, except for large traders who have network access. A trader can reach the purchasing area in several districts. Barru Regency traders have purchasing areas in the Pangkajene Kepulauan Regency, Parepare to Luwu. Bantaeng traders can have coverage areas from Jeneponto to Bulukumba.

Traders control the farmers directly in some areas, while large traders can only deal with traders and not directly to farmers. A region such as Barru and Bantaeng Districts may consist of several competing traders. The strength of competition among traders does not lie in high offers but trust is the main resource. The intended belief is that each loan is not economically binding. The closeness of the area of the source of production is one of the strengths of the traders compared to the big traders, in addition to the other social relations that the traders have. A trader is not only interested in maintaining the transaction process of goods but also social relationships must be developed. Ceremonial activities such as parties and deaths are the responsibility of traders who must be guarded against farmers. In contrast to exporters who are far from farmers, direct interaction with farmers is limited.

But for big traders, they have excess resources which become bargaining power for traders. Large traders can lend capital to traders in the event of a large-scale production. This is in order to maintain a balanced relationship between traders and farmers. If production is abundant and traders are overwhelmed by limited capital, farmers can move to other traders. This can also be an obstacle for the sustainability of the business of large traders. While capital traders' capital loans to large traders are similar to the relationship between farmers and traders. This means that wholesalers give loans to traders without collateral bonds such as the value of returns, interest and repayment period.

**Conclusion**

The results of the study as described above, show that in general seaweed farmers in South Sulawesi Province still experience limited access to capital and technology as well as the ability to transact. As a result, farmers are unable to get out of the traders' confinement. The strength of the transaction becomes a necessity for traders. Theoretically, the imbalance of resources between farmers and traders can be concluded as a form of social exchange that
results in a new dependency. But the nuances of the tendency to shift from dependency patterns to hegemonisation created by traders, and traders become an obstacle for farmers to break away from the bind of traders or in economic transactions called middlemen.
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