

Local Wisdom and the Existence of Family Functioning Strengthening in Traditional Fisher Village of Tambak Cemandi, Indonesia

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Abstract

Local wisdom of coastal communities is one of the potential in supporting their survival amid limited capital and equipment for fishing. The tradition of *petik laut* and knowledge of the fish season is the wisdom of the local fishermen of Tambak Cemandi Village used to maximize seafood productivity. The similarity of socio-cultural background has formed the attitude of mutual cooperation and kinship among fishermen. External factors also encourage the strengthening of family functioning as an effort of dual-earner strategy. One of the ways done is by adaptation, in which local wisdom is utilized to increase the fishing productivity and to turn the seafood into processed products for better economy of the community. This system also supported by other functions so it is able to survive, including goals, integration, and maintenance patterns that take place in the system (latency). The research method used is qualitative descriptive employing the analysis tool from Miles and Haberman that is data reduction, data display, and conclusion drawing or verification. Then Structural Functional Theory (AGIL) of Talcolt Parson is used as an analysis tool in this study. Data collection techniques are observations, interviews, and field documentation.

Keywords: local wisdom, adaptation, goals, integration, latency, functional structural

1. Introduction

Traditional fishermen are one of the social groups whose daily activities are the sea. Moreover, traditional fishermen are often confronted by limited capital, skill, and equipment. Similarly, uncertain weather conditions also affect the fishing productivity since they depend much on natural conditions; this is the cause of poverty difficult to overcome, as the data suggested.

In addition, the unsupporting market mechanisms further worsen the economic conditions of traditional fishermen. There has been uncertain market price mechanism, created by middlemen, making the money earned by the fishermen from selling the fish they caught not enough to support their family needs; the amount even is less than the cost they have to pay to fish. Similarly, the working system between fishermen and middlemen unwittingly also harm one of the parties, as there is an imbalance in term of capital. In addition, the working relationship between skipper and fishermen, known as the patron-client system [1], also seems to harm the fishermen.

The fishermen play the role as the client—those in a weaker position. The skippers act as the patron. This system has made the dependency of the client to the patron. Although the system is disadvantageous for one of the parties, it is difficult to eliminate, as it has been part of the fishermen community for long.

The situation also happens in Tambak Cemandi Village, especially between the middlemen, as financiers, and the fishermen. The fishermen as a client always find it hard to fulfill their daily needs. The uncertain income they get and the low price of the fish they catch have made them to owe money to middlemen. Some middlemen have made the situation even worse as they cunningly make use of the situation for their own benefit. The middlemen set up such agreement that force the fishermen to sell the fish only to them even if the price is too low. This condition leads to fishermen trapped in poverty.

The similar condition also happens in the working relationship between skipper and fishermen. The skipper will need a crew to help operate the ship while fishing or leasing the vessel to the fisherman. The leased vessels has a large capacity of about 5GT and above so it has enough equipment to maximize the fishing process. This working relationship is also a patron-client system because they need each other but of imbalance benefits. This condition is rarely found in the fishing communities of Tambak Cemandi Village because most fishermen have their own boats although the size of boats ranging from 2GT - 4GT.

In addition to the limited capital, the low income to fulfill the needs of the family also force the fishermen to owe money to a loan shark. The high interest of the money the fishermen owe has even made the situation worse. This practice is very detrimental and does not provide a solution for fishermen; thus, serious efforts to break the chain of loan shark practices are needed. The consumptive lifestyle of these fishermen have made situation even worse for them as their income is spent on tertiary goods [2].

The low level of education is also a factor leading to poverty, as education provides an opportunity to develop mastery of knowledge and skills, which in the end increase productivity and expand employment

opportunities [3]. Fishermen have little knowledge on water productivity and market mechanisms as most of them only graduated elementary school or have no formal education. In addition, they have very limited network as they spend most of their time at the sea.

Likewise, the limitations of information on the development of technology also affect the productivity. Simple fishing equipment affects ineffective catch. Besides, the weak supervision of the law enforcers toward foreign fishermen is also a factor decreasing the productivity of the traditional fishermen, as these foreign fishermen use better equipment and have better fishing technology.

From the afore mentioned background, then the researcher wants to examine the efforts undertaken by traditional fishermen in various areas to face the social dynamics, one of them through local wisdom, especially in the Tambak Cemandi Village of Sidoarjo. The researcher feels the need to analyze the strength of fishing communities externally from socio-cultural perspectives maintained to date.

Local wisdom can be a potential for people to continue to live. The local wisdom that is commonly done by the people in Tambak Cemandi Village in an effort to increase the productivity of marine products is the ritual of *petik laut* commonly called “*nyadran*” held in “*Ruwah*” month. Local people believe humans’ activities will always coexist with the nature that has provided abundant resources to be utilized for the fulfillment of life needs.

For fishermen, nature has a great influence on their lives, especially from water resources such as the availability of fish, seaweed, and other ecosystems that can be utilized for daily needs. It is necessary to express the gratitude to God for the seafood given. In addition to the ritual, the community also believes the knowledge on the adaptation of the natural environment in the form of knowledge of fish season. This knowledge is gained by heredity based on sensitivity including prediction of wind direction and fish season so fisherman can know certain months when fish is abundant. The community calls it “*kalender musim ikan*” because it is organized into a seasonal calendar.

In addition, there is a form of local wisdom in the form of mutual assistance and kinship among fishermen due to similarities of socio-cultural background such as livelihood, family lineage, and religion so that they are able to live in harmony. The mutual assistance is given both morally and materially.

The three forms of local wisdom of the community of Tambak Cemandi Village could be a potential support for the survival of the family of local fishermen. Amid the limitations, external factors, including local wisdom, can be a carrying capacity to optimize the strengthening of family functioning. In addition, the survival of the fishermen also cannot be separated from the internal factor, the family system. The running of the family system needs good cooperation especially between husband and wife working in the production sector. One of the systems run is the dual-earner.

The dual-earner strategy carried out by most of the fisherman families of Tambak Cemandi Village aims to overcome the economic limitations in meeting family needs as well as to improve the welfare, children’s education, and family health. Thus, the dual-earner aims to strengthen the family functioning. Some elements support this system including adaptation, goals, integration, and latency. The elements are known as AGIL in the structural functional theory of Talcott Parson [4].

The Adaptation element is the result of a process of adaptation (adjustment) externally including local wisdom believed to be a reference for action. Similarly, Goals (achievement of goals) through dual-earner aim at improving welfare, including economic, children’s education, and family health. Then, Integration (continuity between components in the system) is an effort to align the roles and responsibilities of each member of the family, i.e. the husband and wife, and in the production sector. Finally, Latency (maintenance pattern) in the form of action to maintain roles and responsibilities of the husband and wife in the production sector to meet the needs of the family so it remains patterned and maintained from time to time.

This research attempts to answer the following questions:

- (1) How is the local wisdom of the community of traditional fishermen in Tambak Cemandi Village?
- (2) How is the strengthening of the family functioning in the effort to fulfill the daily needs through the dual-earner strategy in Tambak Cemandi Village?

2. Literature Review: Theory of Symbolic Interactionism

The method used is qualitative because this study focuses on field observation that is understanding of social phenomenon with the reason of social action done. Then the data obtained is submitted using the theoretical analysis process [5]. This type of qualitative research can provide an overview of social phenomena in depth with the results of research in the form of data, documentation and interview records presented clearly and systematically, so a meaning can be gained [5]. By using qualitative research methods, the researcher tried to explain in detail about the local wisdom of fisherman community of Tambak Cemandi Village related to social culture that has become the hereditary of the local community.

The form of local wisdom is the tradition of *petik laut*, “*kalender musim ikan*” or the fish season calendar, and the kinship and mutual cooperation between fishermen. The study will reveal the socio-cultural life of the

fishing community as a form of identity of a region. Furthermore, qualitative methods will also explain in detail the strengthening of the family functioning of through the dual-earner strategy in an effort to survive.

This study uses a descriptive case study where the research results are in the form of descriptive data written or oral data from informants and behavior that can be observed [6]. The concept of descriptive case study is a single case study that covers only a social environment and within a certain period of time that describes a rare sub-culture [6].

Method of Data Collection

Data collection technique is a strategic step in a study, because the purpose of a study is to obtain data. This study uses some data collection techniques, i.e. observations, interviews, and documentation.

First, the collection of data by observation is the collection of data through observation and sensing directly to an object, condition, situation, and social behavior [7]. An observational aspect can be categorized as an aspect of research data collection if it has been properly planned so that it has basic research objectives. The results of the observations are recorded systematically and checked and controlled through the validity of the data.

Secondly, the interview with informants in this study is a structured interview, that is interview using interview guide to informants chosen previously. Structured interviews have guidance so the data obtained remain in line with the focus of the problem [7]. The interview is done informally so that the data obtained is completely natural in accordance with daily activities.

Third, the collection of data with documentation obtained through important documents in the field. Documentation data in the form of diaries and photos of informants' activities. In addition, data collected through documentation techniques tends to be secondary data [7].

Then the analysis of the data employes Miles and Hubberman model. According to Miles and Hubberman, the analysis of qualitative data is conducted interactively and continuously until the data is saturated, including data reduction, display data, and conclusion drawing or verification [8].

3. Research Method

3.1. The Local Wisdom of the Traditional Fishermen in Tambak Cemandi Village

3.1.1. *Petik Laut* Tradition

Fishermen rely on the sea as a source of livelihoods from marine products. The community has its own way to express gratitude to nature, one of them is by performing rituals. The usual form of rituals performed by the community of Tambak Cemandi Village is *petik laut* or *nyadran*. *Nyadran* ceremony is the customary activity of the community by bringing a *tumpang* and slaughtering a goat then the sermon is brought to the sea. This is a form of gratitude to God for the sea products given and a hope to get a better catch.

Besides offerings, several other offerings are eaten together by the people who follow the ritual. This ritual is held from morning until noon. Besides as a form of gratitude, this ritual also aims to avoid any kind of disasters. The ritual is done once a year every *Ruwah* month according to the Javanese calendar. After the *nyadran* ceremony is completed, at night the people of Tambak Cemandi Village also carry out *istighosah* and eat together. This *istighosah* activity is followed by men anlded by respected religious leaders in the village.

3.1.2. Knowledge on Fish Seasons

The fishing activities finally bring up local knowledge about fish season. This knowledge is derived from changes in the weather such as wind direction, which is always changing according to local conditions. The direction of the wind leads to differences in each month so fish availability is also diverse. Local knowledge is used to predict the type of fish to catch. The knowledge of is useful to improve the catch. The knowledge that the community believes to be local wisdom is nurtured in an unwritten manner but embedded in naturally and hereditarily.

Table 1. The Seasonal Calendar of the Tambak Cemandi Villagers

NO	SEASON	MONTH	PREDICTED FISH CAUGHT	EQUIPMENT USED
1	North wind	October	<i>Gulamah</i> , mullets, small shrimp in low amount	Single gill net and trammel net
2	East wind	April – September	<i>Gulamah</i> , mullets, large shrimp, small shrimp, snapper, white pomfret, and crab	Single gill net and trammel net
3	South wind	November	<i>Gulamah</i> , mullet, milkfish, shellfish and shrimp in low amount	Single gill net and trammel net
4	West wind	December – March	<i>Gulamah</i> , big shrimp, small shrimp, milkfish, saclops, and crab	Single gill net and trammel net
5	<i>Musim Teduh</i> : A shady wind that changes between east, north, and south winds)	Happens each month in a short period of two to three days	<i>Gulamah</i> , mullets in low amount	Single gill net and trammel net

Source: Interviews with informants in 2017

Based on the information shared by the research informants, fishermen predict that in October they will catch *gulamah*, mullets, small shrimp in low amount using a single gill net and trammel net. In April to September, they will catch *gulamah*, mullets, large shrimp, small shrimp, snapper, white pomfret, and crab using a single gill net and trammel net. In November, they will catch *gulamah*, mullet, milkfish, shellfish and shrimp in low amount using a single gill net and trammel net. In December to March, they will catch *gulamah*, big shrimp, small shrimp, milkfish, saclops, and crab using a single gill net and trammel net. There is what they call as *musim teduh* each month, which happens two to three days; they predict to catch *gulamah* and mullets in low amount using a single gill net and trammel net.

3.1.3. The Kinship and Mutual Assistance of Tambak Cemandi Villagers

The community of Desa Tambak Cemadi, which is mostly fishermen, is attached to mutual cooperation. The attitude is based on the similarity of background and culture that affects social interaction among local people. The people's kinship attitudes shown in daily activities are *selamatan*, *musyawarah*, and *gotong-royong* to Maintain the road, to build a place of worship, and to help the neighbors build the house. This attitude comes naturally between people so it becomes a habit for them.

3.2. The Strengthening of Family Functioning through the Dual-earner Strategy of the Traditional Fishermen in the Perspective of AGIL

3.2.1. The Adaptation Function in the Dual-earner Strategy

The fishing communities of Tambak Cemandi Village mostly depend on the marine ecosystem. The village is a fish producing region in Sidoarjo, which is known as coastal area. Seeing the potential of nature with all available resources, then the community naturally adapts to the environment so that it can be utilized to meet the needs of life. Adaptation is an act of conformity with the environment to sustain important sources in the social system. Adaptation according to the Parsons context is a system that is influenced by external situations in an effort to address urgent needs. Then the system must be able to adapt to the environment [4]. The adaptation function in this study is done through two aspects that is adaptation with natural environment and adaptation of socio-economic relationship of fishermen.

The results of adaptation to the natural environment is by utilizing marine resources such as shrimp and mullet processed to have more economic values. The sea products are processed by fishermen because some of which cannot be sold to middlemen, so they take the initiative to change them into processed products that can be consumed alone or sold. Processing of marine products is mostly done by the wives by way of sun dried, like shrimp, and then mashed with traditional tools called *lumpang* or mortars. After that, the shrimp is dried again before the packaging process. This results is shrimp paste or *terasi*. In addition, other processed products such as mullets are also dried to become salted fish. The home-based process can be an additional income, especially for wives who also work in the production sector. This is one of the efforts of the families of fishermen to do a dual-earner strategy by optimizing the seafood as a source of additional income.

Besides utilized for production activities, fishermen are also able to adapt to environmental conditions through the knowledge of sea water characters that indicates types of fish in the water. If the color is blue, there are many types of fish; if the color is greenish, there is no fish. Then other local knowledge about wind direction and weather is also beneficial. The wind direction and the weather affect the condition of the water. This

knowledge is acquired naturally. Sometimes, due to natural conditions, the fishermen cannot have high catch capacity. Unpredictable weather conditions greatly affect the productivity of fish catches and fishing activities.

Waters is a source of livelihood for fishermen. They need optimal marine commodities in order to meet the needs of families. This way, they also ask for help from God through *petik laut* rituals as a form of gratitude. These activities are performed every *Ruwah* month according to Javanese calendar. For the community, this activity needs to be done because it is able to improve the family economy.

In addition, the socio-cultural conditions of the surrounding community also affect the family's choice to be a fisherman. The same background, including occupations, family lineages, religions, and similar residential areas, makes the community develop a mutual cooperation and kinship, especially between families to help each other.

The working relationship of the patron-client between the middlemen and the fishermen gives the effect of low income earned by the fisherman so they have to earn income in other production sectors. This is mostly done by the fishermen's wives who seek additional income in the production sector such as trading and selling seafood products around the house; this is the dual-earner strategy for every fisherman family of Tambak Cemandi.

3.2.2. The Goal Function in the Dual-earner Strategy

The second function of Parsons' structural functionalism theory is Goal-Attainment which means the function of achieving goals. Parsons explains that this function can be achieved if the system prioritizes goals and mobilizes the resources within the system to achieve its objectives [4]. The dual-earner strategy undertaken by the fishermen families actually aim to meet the needs of families ranging from basic needs such as food needs, boards, health, to the education of children. When family needs can be fulfilled then family members can live a better life. In addition, specifically the main purpose of the dual-earner strategy is on achieving the welfare of family members, especially in coastal communities.

Achieving the objectives of the dual-earner strategy undertaken as a follow-up to the previous adaptation process. So the achievement of this goal is expected to maintain the survival of fishermen.

3.2.3. The Integration Function in the Dual-earner Strategy

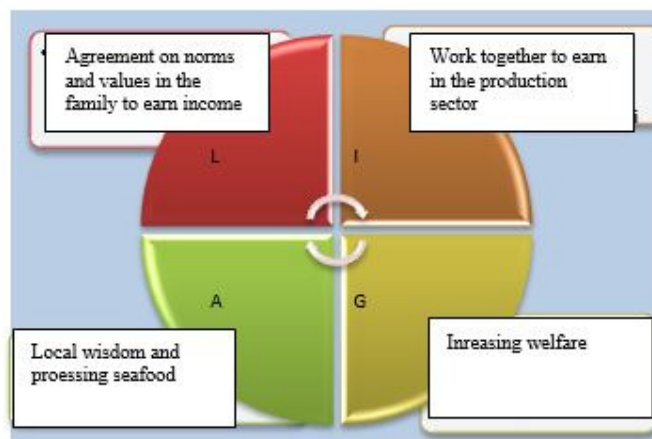
The dual-earner strategy implemented by the fisherman family indicates a system that supports each other. This leads to equilibrium conditions between components in order to achieve family welfare. Integration function in the dual-earner strategy undertaken by the fisherman family of Tambak Cemandi Village is a process that occurs internally within the family which in practice governs the relationship between family members to function optimally. Thus, there is solidarity and willingness to work together developed and maintained according to the position and role of each family member [9]. This is seen from the position of the husband—as the head of the family earning the main income to meet the needs of the family. Similarly, the wife acts as the manager of family needs in the domestic area and child care, as well as contribute to additional income to meet the needs of the family.

Family members support each other for the sake of welfare and to create a balance of family system. The balance is seen from the role between husband and wife in managing relationships between parts of the family system.

3.2.4. The Latency Function in the Dual-earner Strategy

The latency function in Parsons' structural functionalism theory is a process when the system maintains motivation and social agreement by using social control. With such commitment between husband and wife, they must remain intact so the system in the family can be controlled and sustainable in accordance with expectations. The commitment between husband and wife in the division of roles is bound by family norms. They mutually support each other through coordination and interpersonal communication. Such communication is a medium of social control to maintain sustainability in order to keep the family grow and develop in accordance with the aim of improving the standard of living better. In this case, communication between the husband and wife is about mutual agreement on the dual-earner strategy. The communication medium in the family is strongly influenced by roles, where the pattern of relationship is arranged in the system. The husband and wife control and coordinate each other to make the roles run well.

Figure 1. The Mechanism of Structural Functionalism (AGIL) in the Dual-Earner Strategy of Fishermen



3.3. Local Wisdom to Support the Strengthening of Family Functioning in Tambak Cemandi Village

Based on the above explanation, the local wisdom and the strengthening the family functioning through the dual-earner strategy cannot be separated in the live of fishermen in Tambak Cemandi Village. Both social components are interrelated in supporting the survival of fishermen. In the social system, external factors in the environment will also affect one's actions, especially from the internal side of the family. A family with limited economies and resources cannot survive if there is neither environmental support nor internal support within family members. It can be said as a social system in the life of coastal communities.

4. Conclusion

Based on the findings, the local social wisdom of the fishermann community in Tambak Cemandi Village includes the tradition of *petik laut*, fish season calendar, and kinship and mutual cooperation; they reserent the social reality of coastal communities retained until now. Local wisdom becomes one of the natural background that also supports the continuity of community activity. The ritual of *petik laut* is performed in *Ruwah* month of the Javanese calendar as a form of gratitude to the Creator who has provided nature as a source of livelihood. The local people believe that the rituals are to bless their fishing activity as the fishing results are used in meeting their daily needs. Similarly, local knowledge of the fish season is a form of knowledge believed to be a guide when the fish season arrives.

Then local wisdom in terms of kinship and mutual cooperation are still maintained so local people can survive in the face of various social conditions. It is based on the same profession, culture, and social-cultural life in which they live. It also affects the family life of local fishermen that is able to achieve stability in their survival effort.

The three forms of local wisdom of the community of Tambak Cemandi Village could be a potential support for the survival of the family of local fishermen. From the limited conditions experienced by the fishermen's family there, external factors include local wisdom can be a carrying capacity to optimize the strengthening of the family functioning in an effort to maintain life. In addition, the survival of the fishermen also cannot be separated from the internal factor that is on the family system.

The researcher concludes that when a society is able to integrate well, the strengthening of the family functioning is also running well through the dual-earner strategy as a way to optimize fulfillment of needs by working equally to earn money. The strategy has been proven strong in facing various economic problems. The supporting elements of this family system are seen from the structural functional mechanisms of the Tacolt Parson including Adaptation, i.e. able to adapt to external conditions including the natural and social conditions in which they live, and Goal-attainment in order to improve the economic welfare of the family. The existence of continuity (integration) and responsibility between the husband and wife both in fulfillment of family roles and in production sector. The last is maintaining the pattern (latency), through values and norms in order to continue a sustainable live from time to time.

Acknowledgement

The researcher would like to thank the supervisors, Mr. Dr. Ir. Edi Susilo, MS and Prof. Sanggar Kanto, MS and the board of examiners who have provided guidance, direction, and constructive suggestions on this study, as well as criticism to enrich the researcher's knowledge in completing the thesis work.

The researcher would like to thank all parties in Tambak Cemandi Village, Sidoarjo Regency for the opportunity to do this study. The researcher also thanks to the informants, especially fishermen and community

leaders who have helped to provide information.

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