

Local Wisdom and Food Resilience in Selaru Island Community of Maluku Province

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Abstract — Human works overtimes to fulfill their need for food in any sorts of ways. Selaru Island community has performed what so called Tnyafar for long ago. The Tnyafar is an expression of local wisdom in meeting food necessity. Research is aimed to analyze the relationship between local wisdom and household food resilience within the Tnyafar context in Selaru Island. Research uses a qualitative approach with two strategies, deep interview, and Focused Group Discussion. Informants are selected with a snowball technique involving guidance from Land-Lord as key informant. The selected informants include chief and former chief of Tnyafar, village chief, and Tnyafar member, either men or women. The result of research indicates that every household, through Tnyafar, could meet food necessity and other needs from environment nature. Important values inherited as local wisdom from this activity are that rules have been made on how to meet the necessities through planting certain commodities and that strategy have been set to utilize marine resources in a sustainable way. The implementation of Sasi, the utilization of commodity during food crisis, and the strategy of food processing, are efforts to sustain food availability in the longer term.

Keywords — *local wisdom; food resilience; Tnyafar; Small Island; sustainability.*

I. INTRODUCTION

A. BACKGROUND

Human and food are inseparable. Human has worked overtimes to fulfill their food necessity in any sorts of ways. Both man and woman search and process actively many sources of food for household consumption. This activity brings human to touch with environment nature. The sources of food, mostly remain in nature and thus, for meeting food necessity, human must utilize nature. However, environment nature is not infinite to cover human's food necessity, and as a result, rules are made to produce good relationship between human and environment nature. These rules are signified as local knowledge or local wisdom of community, and it is inherited through generations.

Mardyaningsih, Tony, & Dharmawan (2010) conceded that local organization plays an important role to control and maintain local wisdom professed by the elders. According to Yulianto (2013), local wisdom contains with social norms and social values ordering what human must do to keep the balance between supporting capacity of environment nature and human's life style and necessity.

Selaru Island community relies their livelihood on general farming activity (including animal husbandry and fishery). Atsea (2011) explained that edible tubers, nuts, corns, vegetables, and dry-land corns, are an important commodity to cultivate. Crop-planting and fishery sectors constitute communal activities in Tnyafar. However, gardening is more dominant in Tnyafar, including short-term or long-term gardening.

Land opening method for garden or non-irrigated land uses *slash-burn system* involving traditional or local technique and technology, which is generally still influenced by immediate custom that regulates the relationship between human and land. The opening of new garden in a few villages still performs customary procedures despite a few changes in some parts (Atsea, 2011).

The heritage of crop-planting values has been conserved through Tnyafar. These inherited values are applied on Tnyafar through what so called *shifting cultivation system*. This system starts with opening forest (*alas/alis*) for farmland. After planting crops on this land for more or less three years, the land would be rested (or left fallow) for 10-20 years. In first-year garden (*let beberi*), the dominant plant is edible tuber (*Dioscorea lata*). Second-year garden (*let lolobar*) is dominated by kumbili (*Dioscorea esculenta*), whereas third-year garden (*let wasi*) is dominantly planted with cassava (*Manihot esculenta*). After use, *let wasi* is rested as fallow garden. When fallow period is over, garden would be re-opened as *let beberi*. If first-year garden is planted with long-term crop, such as coconut (with planting interval more or less than 8-10 meters as the sign of land occupation, not land ownership), then in third year, land is used for long-term garden (*ampat werain*) (Pattiselanno, et.al., 2015).

Based on a study conducted by Cabuy et.al., (2012) in Papua and Ratnawati et.al., (2014) in Yogyakarta, local wisdom is used by the community as an important lesson, especially when they must utilize available crops and environmental condition in farming activity. The values contained in Tnyafar are emphasized on the relationship between human and environment in the process of fulfilling household necessities. Through “Tnyafar”, household necessity is met in a sustainable way. Tnyafar also directs the manner of how to utilize environment nature through a responsible process in order to produce household food resilience in a sustainable way. This reality is definitely reflecting relationship between local wisdom and food resilience. Therefore, formulated problem in this research is: “How is Tnyafar expressing relationship between local wisdom and household food resilience in Selaru Island?”

B. OBJECTIVE

The objective of research is to analyze the relationship between local wisdom and household food resilience in Selaru Island, West Southeast Maluku Regency (MTB).

II. METHOD OF RESEARCH

A. QUALITATIVE APPROACH

Research uses qualitative approach. This approach makes the author perceiving as necessary to use case study as a research strategy. It is consistent with Yin (1996), Stake (1995), Bogdan, R.C. & Biklen, S.K., (1982), and Creswell (1994). Case study is suitable to articulate the existence of Tnyafar, which is still persistently practiced by Selaru Island community. Case study strategy allows the occurrence of dialog between researcher and respondent, and also helps creating interaction among researchers or respondents, or between them. It aligns with what explained by Yin (1996) and Stake (1995).

B. RESEARCH LOCATION, POPULATION, AND INFORMANT

Selaru Island is an administrative region in Selaru Island District, West Southeast Maluku Regency (MTB). Selaru Island is occupied by Tanimbar Ethnic as indigenous citizen. West Southeast Maluku Regency (MTB) itself consists of five villages. However, population of research only includes Selaru Island community. Research informant involves man and woman who work at Tnyafar, and also those who become chief, former-chief, and member of Tnyafar. Total of informant reaches for 25 persons. Leadership structure in Tnyafar comprises of Chair, Secretary, and Treasurer. Meanwhile, Custom Chief is appointed as a key informant due to the possession of good understanding of local wisdom expression in Tnyafar.

C. CASE DETERMINATION, DEPTH INTERVIEW, AND PARTICIPATIVE OBSERVATION

Early stage of this research is to collect information. The author gives several questions to key informant, Custom Chief of Adaut Village, who is also the respected figure in Selaru Island where Tnyafar is regularly conducted. Snowball technique, suggested by Moleong (1989), is used to obtain other informant. Depth interview is conducted to compile

relevant information, and Focused Group Discussion is performed to verify the existing information.

D. DATA ANALYSIS

Miles & Huberman (1992; 15-21) suggested three stages of qualitative data analysis. First is data reduction. It involves selecting data, concentrating attention to several items of selected data, abstracting attended items, and transforming these items into more useful forms. Second stage is data presentation. When information about Tnyafar is presented in proper way, it develops good understanding which would facilitate conclusion and action. Therefore, conclusion is becoming third stage of analysis. In this stage, the author also verifies whether Tnyafar is local wisdom inherited by community.

III. RESULT AND DISCUSSION

Referring to Keraf (2010), Marfai (2012), and Juniarta (2013), Tnyafar was called as food resilience strategy inherited by community through generations. Therefore, it is not surprising if Tnyafar is considered as community local wisdom. Food resilience represents the core of the process of fulfilling household necessity. Household livelihood strategy in rural area is aimed to prepare sustainable food. Therefore, livelihood strategy built by every household would be a method to fulfill their food necessity.

As explained by some informants, Tnyafar exists as the expression of household food resilience. As described by Mrs L, the occupant of Tnyafar Kora, community is still able to afford consumable alternatives, especially during scarcity period.

There is a diversity of alternatives. A wheat species called *garmanetan* (*itchy corn*) was used to be consumed. It must be fried, pounded, and sieved before consuming. *Hotong* was also available but not anymore. It used to grow in Adaut Village, but it was gone. Corn is also consumed after processing it through drying, frying, pounding, and turning them on rotate stone. Fried corn is pounded into small grain, which is then pulverized under rotate stone into cereal. This material is finally consumed after mixing with water. After harvesting gembili, the ex-gembili plot is planted with other species of edibe

tuber. In dry season, corn is stored until gembili is ready for harvest. Corn is usually consumed after gembili harvest. Other alternative, called *wewere*, is quite like sweet potato but the size is smaller. To consume this food, it is scraped and sieved to obtain the powder. It is then prepared in a similar way to *roasted sago* (*sinole*). But now, most of them are hardly found.

(Depth interview with Mr and Mrs L in Tnyafar Kora, 17 June 2017)

In Focused Group Discussion, informants explain their food resilience strategy. Food alternatives are made available by keeping them in the storage, especially for durables. Such stockholding activity is usual in the post-harvest management. It is explained as following.

Taking corn for example. It must be dried before storage. Dried corn is only consumable after processing. It is usually mixed with hot water. Or, it can be fried, pounded and milled into small grain called *ute*. Nowadays, harvested corn can be directly consumed, or be kept in the storage while waiting for gembili harvest. Community does not only perform crop rotation, but also food rotation. Corn is consumed until it is ready for harvesting gembili, and gembili is eaten until edible tuber is ready for harvest. It continues regardless food materials existed. Although harvest is not large but it is considered as adequate when it is successfully preventing hunger. During dry season, we must collect *rumbia* and *lontar*, which both are palm species other than sago. *Lontar* leaf can be plaited to each other to form a basket. A falthom (more or less than 1 meter) from the edge can even produce a basket with a capacity of an usual jute bag, respectively 50 kg. Meanwhile, palm log is scraped for the core. Just like sago, the core is pressed to obtain flour. *Rumbia's* dregs is softer than sago's, and therefore, the pressing is quicker. Its consumption method is almost similar to *papeda*, and *rumbia* flour can also be ossified into a stiff plate, just like sago plate. *Lontar's papeda* is red and delicious, but *rumbia's* is mushy and not red. *Rumbia's* log is lighter than *lontar* or sago. We are not tired

to carry *rumbia* although all palms have quite similar core. Other alternative resembles to sweet potato but smaller, namely *wewere*. It is scraped and sieved before consumption. The flour is delicious but now it is very difficult to find. It grows in any seasons and every place. *Wewere*'s tuber can be large or small. It must be washed, scraped and sieved to obtain flour but not dregs. We submerge the wet flour into water, and usually, it is whiter than *rumbia*. The way to consume *wewere* is also same with *papeda*, or can be prepared like *sinole* or even be toasted like sago. *Wewere* plate is also possible. There is also *enau*, which is quite similar to *wewere*. *Enau* tree has also core like sago, but the flour is white, like *wewere*.

**(Focused Group Discussion in
Tnyafar Kora, 13 April 2017)**

Every family is quite selective in applying food resilience strategy because they must ensure that family member would be health and sufficiently satiated, thus preventing them from going outside Tnyafar for buying something. Mr and Mrs L describe this condition as following.

In a week, we use only 2 kg of rice because we mostly eat boiled harvest. In the morning, we have porridge (at least 1 bowl). At noon, we just boil the harvest. Sometimes, we eat rice for lunch but it take us 3 kg of rice for a week. We make cooking oil from coconut. We pick it, scrap, and retain the rasp into a big drum. We do not knead by hand, but drum is fixed on beneath. The rasp is washed by sea water, and we step on it until it produces coconut milk. We tap the milk into a large tray and allow it for two days to extract the oil. Taste of the oil is not salty anyway because the milk is on the upper side, while sea water stays below. We easily subtract the milk from the mixture because we need this milk for cooking. A pail gives us 10 liters full of coconut milk. This method is used because our hand is now difficult to knead coconuts, especially if we have many coconuts to peel. We are used to peel coconut by *suang* (sharp wood embedded to the ground) to remove the fiber. We chop the shell with blade and remove lumps. We grate coconut flesh after that. If there is fish, it

runs out for less than a week. When there is no fish, we eat vegetables, but it serves us for a week. Shallot is available for flavor without buying. But, we do some purchases for garlic and 1 or 2 pieces of pre-made cooking flavor, *Masako*, to be used for a week. Our menu mostly involves vegetables because we have a lot here. Other supplements are available in the garden, including cassava leaves, eggplant, papaya flower, and banana heart.

**(Depth interview with Mr and Mrs L
in Tnyafar Kora, 13 April 2017)**

Another strategy used by family to fulfill food necessity is by applying crop pattern. This crop pattern allows farmers to perform crop rotation based on climate. By arranging the crop pattern, farmers can optimize the stock during abundant harvest, and it also give them adequate time to prepare for possible scarcity at certain season. Result of Focused Group Discussion can be elaborated in such following:

When corn starts to grow, we plant edible tubers and others around the corn. On March when we harvest the corn, we are still taking care of the others. On September, we have tubers ready for harvest, and gembili is planted on ex-tuber plot. But new garden is still mainly allocated for edible tubers. Certain farmers are determined to work on gembili at *let lolobar* (second-year garden), but on January, they must return to corn. Crop pattern must change in alternate way. We never suffer from hunger. We have *gayang* if we really run out for food, although it is impossible. We have also *wewere* which is the flour very useful in cooking *papeda*. *Wewere*'s tuber is removed from the ground, washed, grated and sieved with sea water. The flour must be washed until a complete clean. Rinsing off few times with fresh water and submerging into it are needed to eliminate bitter taste. This processing system is similar to that done by *Saparua* people in sago preparation. If there is no *wewere*, we still have *lontar* (or *gemutu*). We just cut *lontar* tree, clean the log, and scrape it. The root is also excavated to be processed into starch. In case of *gayang*, we boil it until soft before consuming it. Old coconut also becomes food on certain

circumstances, but it depends on condition. If new garden is set up for edible tubers, it means that we have food available because there would be *gayang*, *tanggur*, *wewere*, *gemutu* and others, if any, which are ready for us to consume. In both second-year garden (*let lolobar*) and third-year garden (*let wasi*), coconuts may be have grown already. Even, it grows resiliently although the garden is already planted with other crops. Banana cannot die easily and the hump can be replanted. It is not disturbing at all. For instance, our garden is bordered by bananas from land owned by vice-chief. If food crisis should happen, we do not suffer from hunger because there is a plenty of bananas. On February, we eat bananas because it grows in any seasons but we keep nutrient in balance by doing fishing. It seems bored to have bananas everyday but we must take it to alive. Some coconuts can be consumed but it must be accompanied with *gayang*. Somehow, coconut is only used as admixture. For example, *gemutu* flour is mixed with coconut grate before it is fried. Or, *sinole* from *lontar* is mixed with coconut grate before frying. *Rumbia* can only be processed into *sinole* or *papeda*. Previous harvest is stored for replanting, just like eggplant, corn, gembili, and edible tubers.

**(Focused Group Discussion in
Tnyafar Nifmas, 22 June 2017)**

Sea products are processed into durable commodities, and this is good alternative in food resilience strategy for the family. Indeed, families in Tnyafar Nifmas do complex strategy, by processing crops or even sea products to become durable commodities. They have done it for long time. It proves that local wisdom helps them to secure the fulfillment of household food necessity. The summary of Focused Group Discussion is elaborated as follows:

If we get many fishes on the net or after shooting with arrow, the husbands would sell it directly to the market. If they do not come home on Saturday, they may have sudden jobs, such as guarding someone's garden or watching for cranberries. Cranberries' harvest

starts after 40 days of planting, and the harvest is directly sold to Chinese traders at nearby village after carrying them in two bags with *ketinting* (wagon). Traders may sell a big bag of cranberries at IDR 110,000 from capital price of IDR 5,000. We cannot wait traders to come to our village because we have a lot of things to serve. The point is that we get money to buy soaps, rices and other things. In a certain village, monthly livelihood would need 25 kg of rices. Food supplement is taken from garden. Besides, we must drive out birds and draw grasses diligently because rice land requires weeding at least three times before it gives us good result. We do not use pesticide, and thus, our rice is very healthy because we are not using any chemicals. Similar treatment is also applied at edible tubers, cassava and others, located quite far from rice plot. There is a clear job division, which the husbands guard the land while the wives drive out birds. Now, there are two gardens for us to keep. One is rice and other is edible tuber. If the husbands have watched over birds and done weeding on rice land in the morning, they are not doing it on edible tuber land. Grass on edible tuber land is allowed to propagate because the priority is on rice land. If we are diligent enough, grass can be drawn twice for edible tuber, but rice land needs three times drawing before harvest. Better growth can be possibly gotten if grass is cleanly weeded, but less intensive weeding is more than enough for edible tuber. Rice is already harvested now, and the remaining is edible tuber and cassava. Corn is planted on January and would be harvested on March. If corn has blossomed already, we plant edible tuber and cassava on same land. People usually plant corn during rain season, but we do not that. After harvesting corn on March, we still take care of edible tuber and cassava for harvesting on September and October. We plant gembili in *let beberi*, or second-year garden, and edible tuber is cultivated in *let wasi*, or third-year garden. After this edible tuber is drawn, gembili occupies the ex-plot at *let wasi*. Edible tuber is then moved to *let lolobar*, or first-year garden. After three years of planting, all

gardens are fallowed. It may take 3 or 10 years until natural trees on the land grow high. The abandoned land cannot be used by others because long-term plants, such as coconut, banana, and teakwood, are already there as the symbol of land occupation, but not land ownership.

Our house is like a stage. We tie sea grass on rope downstairs. We also keep our harvest of edible tuber, gembili, banana and corn beneath the floor. Barn is arranged under the house to store foods or hold them durable. It is also fastened with tight lock to prevent stealing. Small harvest would be directly consumed, but large harvest provides us with seeds. For example, dry season may slow the harvest, but we can still eat cassava and banana. If we are bored, we do fishing to be sold and the money is used to buy the rice. We also consume fried or toasted corn, with dry banana leaves (*larak*) as the burner. Corn is toasted on dry bamboo, and so is coconut. Corn is heated with sand, pulverized with rotate stone, and sieved with coconut filter. Crude grain is pounded into delicate to produce corn meal (*ute*).

**(Focused Group Discussion in
Tnyafar Nifmas, 23 June 2017)**

Results of interviews and elaborations above describe a fact that communities have considered food resilience as important issue. Efforts and strategies have been used to conserve food resilience, such as: adapting crop with climate, processing crop harvest into durables, looking for alternative for consumption during food scarcity, and reworking sea products into durables. Jiri, Mafongoya, Mubaya, & Mafongoya (2016) found a clash between scientific method and custom forecast. The latter has been used without challenges and mostly guides community in selecting adaptive strategy. Similar finding was given by Chanamuto & Hall (2015) who cited that certain families perform only one food resilience strategy, while others make combination. Certain families even make a trial of all strategies. These strategies are inherited through generations. Kardooni et.al., (2014) supported this finding by stating that age and knowledge are related, and the older age always has higher traditional knowledge than the younger. Swarnam et.al., (2015) also mentioned that people are acknowledged already about how to process post-

harvest coconuts and making this activity to support their livelihood. Such knowledge is transferred to the next generations to facilitate them in meeting livelihood. Some of their knowledge are still relevant until now.

IV. CONCLUSION

Tnyafar is the expression of local wisdom professed by Selaru Island community. In Tnyafar, the household fulfills food necessity and other needs by exploiting environment nature. Values related with food necessity fulfillment are mostly ancestral heritage, and these are transferred into next generations through Tnyafar existence. Important values inherited as local wisdom are that rules have been made on how to fulfill necessities by planting certain commodities and that strategies have been selected to utilize marine resources in sustainable way.

Fulfilling necessities through Tnyafar has urged community to keep food resilience in several ways. Implementation of *Sasi* is one point, while another is by growing alternative crops to be reserved to ensure that food is still available during food crisis. People tend to have various strategies of food processing aimed to sustain food availability for longer term. All of these are the expression of local wisdom with close relation with household food resilience.

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