

Learning Food Security from Original Tribe in Borneo

Muhammad Azmi^a, Siti Marfuah^a, Heri Susanto^b

^aSebelas Maret University, Ir. Sutami Street 36 A, Surakarta, Indonesia

^bLambung Mangkurat University, Brigjend H. Hasan Basry Street, Banjarmasin, Indonesia

Corresponding e-mail: azmi@student.uns.ac.id

Abstract: Food security is a very important factor in the development of humankind from antiquity to modern times. Along with the increasing world population, the need for food is increasing. Insufficient food can have a positive impact in various sectors, particularly the political, economic and health of a country. Increasing the number of residents not accompanied by the addition of agricultural land will certainly have an impact on the lack of world food supplies. Lack of food raw materials will affect the increase in the number of hungry. Famine will have an impact on the political and economic stability of a country. Not to mention other hazards that could arise because of hunger, such as rising crime and declining levels of public education. This paper discusses the overview of local knowledge from the Dayak Tribe in Kalimantan to fostering food security.

Keywords: food security, Dayak tribe, Borneo

1 INTRODUCTION

Food security is a concept that first appeared on the World Food Conference was held in 1974 (Winarno, 2011:187). In 1975, the United Nations (UN) defines food security as "the availability of sufficient world food in all the time to maintain the sustainability of food consumption, and balance the fluctuations in production and prices." In 1992, the Food and Agricultural Organization (FAO) issued a definition of food security, which is "a situation in which all the people in all the time have the adequacy amounts to food that is safe and nutritious for the sake of a healthy and active life".

The Government of Indonesia in Law Number 7 of 1996 defines food security as "a condition in which the adequacy of food occurs for households that measured from

the adequacy of the food in a quantity and quality and also there is a guarantee for the Security (safety), equitable distribution, and ability to purchase". The legislation was later reaffirmed in the Government Regulation Number 68 in 2002 defines food security as "food to satisfy the conditions of the household that are reflected from the availability of sufficient food, a good of number and quality, safe, equitable and affordable".

Food security in the past began with hunting and gathering (hunting and gathering era). Human life at that time certain sedentary places due to following the availability of food, especially following the direction of the animal migration game and conformity against the season. Puspongoro and Notosusanto in Indonesia National History I (1990: 20) explains that the hunting life, a natural

division of labour according to the kind of possibilities already exist. The men on duty to hunt down large animals to be used as a food source, while the women stayed on the base which consists of several caves with children and parents. Women who stay get a task to collect meals in close quarters, such as small animals, fruits, grains, tubers, and foliage.

Necessities of life that is increasingly difficult, especially influenced by food availability and changes the natural environment makes people start thinking about how to preserve the availability of food. Life during the Pleistocene took place with climate change happening many times. This makes humans thought to try mastering and maintaining natural resources quickly. According to Puspongoro and Notosusanto (1990:167) in this period, humans began entering farming (food producing era).

During human farming, collecting a wide range of vegetation to cultivate. According to Herimanto (2012:85), they also collect various types of animals to be kept and tamed, like a dog that's used as a friend to hunt. At this time they also began to utilize the forest thicket to the fields as a place to farm. The opening of the land was done by way of cutting down trees and burning scrub. The agricultural output from fields that meet the needs of a human vegetable protein, while animal protein derived from the activities of hunting and catching fish that continue to do. Production activities such as there are in Europe, Africa, India, East Asia and Southeast Asia, including Indonesia, although the commencement of the activity is different in each place.

Around 3000 years BC, there is the appearance of sailors from the Mongol race

originating from Formosa. They travel to the southern region and occupies a variety of Islands to visit. Newcomers began practicing farming patterns of burn and slash (slash and burn). (Read 2005:19). Therefore, they made a canoe-great canoe reach the Islands they had attended it and settled there.

Farm in the archipelago civilization began to emerge after the newcomers from Formosa began to apply ways of planting rice, sugar cane, banana, and taro. In addition, they also brought breadfruit and coconuts, sago as foodstuffs in traveling. They also carry domestic animals such as pigs, dogs, and chickens. In the end, we can know that different types of plants and animals can be found in almost all regions of the country.

According to Maryoto (2009:7), the first migration of humans from the Asian mainland to the islands of the archipelago estimated to occur around 5000 years BCE. A society that does this migration known as the Proto-Malay. This migration is estimated through the territory of the Mainland of the Malay Peninsula are connected with the western part of the Malay Archipelago, such as Sumatra, Java and possibly Borneo. This migration was most likely influenced by climate change and the availability of food.

At the time, rice was an indicator of economic and political stability as well as the prosperity of a State. The abundance of rice in a Kingdom became the Kingdom of indicators that are experiencing prosperity so that any Royal political stability is assured. Other than as an indicator of stability, rice is also identified with the emerging powers of divination (Maryoto, 2009:98).

2 METHOD

This paper uses a qualitative descriptive approach. Data collection techniques in this paper use the literature review from a variety of literature which is relevant to the discussion in this paper.

3 RESULT AND DISCUSSION

3.1 Local Wisdom Agriculture System

The local wisdom of the community for the agricultural sector in Indonesia is the wisdom in managing agricultural land and crops. Rice ups and downs have long been known in the area of the river and the estuary of the river. One of the areas that have long been acquainted with the agricultural technology is South Kalimantan. Basically, an ethnic group who inhabit the southern part of Kalimantan have long been acquainted with the agricultural system which makes use of peat and bogs. The local wisdom was estimated to have been around since the time of Majapahit Kingdom in the 13th century when to expand its influence in this area. (PaEni, 2009:198).

Generally, the views of this type of agricultural soil in South Kalimantan are divided into two, namely agricultural rice paddies and agricultural fields. Farming rice fields can be found in the area of the river and the estuary of the river. This area is fertile agricultural land that is affected by the tidal waters of the river. Rice paddy agriculture in South Kalimantan concentrated along the banks of the River, both major rivers such as the Barito River or smaller like Amanda and Martapura, while agricultural fields can be found in the hilly area Meratus.

Based on the types of land management, agriculture in South Kalimantan is divided into two, namely, subsistence farming and commercial agriculture. Subsistence farming is traditional farming techniques which are still using simple equipment in land management are moving to meet the needs of the limited. While commercial agriculture is the land management are already using its advanced agricultural technology to seek optimal results in order to be sold.

Dayak Tribe knows some natural marks are used to identify the entry of the dry season and rainy season. With the known beginning of the dry season and the rainy season, then the Dayak tribe can take into account the time to plant and harvest the rice. The following is a portion of the sign used by the Dayak tribes to start planting and harvest season as described by Tjilik Riwut (1993:298) in his book titled "Natural and cultural Building of Borneo".

- a. Toadstool *Danum* or the mushroom water. When the mushrooms are found on tree trunks that were stranded on the river or the coast and grows at the top of the stem, then it indicates the water will immediately install. When the fungus is grown in the lower part of the stem indicates the water would soon recede.
- b. When the egg *Kalambuei*, found in water areas, then it indicates the maximum rise in the tide.
- c. If many frog sounds at night, especially in morning signifies the rainy season will soon arrive.
- d. When the fish *Biawan* (Tebakang-Dayak) began laying signifies a drought coming soon

Farming in the fields generally conducted in the mountainous area that still

has a lot of land and wide, so that they can perform planning on the move to find a fertile area. In General, the Dayak community cultivating at the same place for 3 consecutive years. After that, according to their belief that the land is no longer fertile, so they switch to another land is still the one with their land. This lasts for 3-4 times before returning to land that has been abandoned. It is aimed at in order to land that is considered no longer fertile may be overgrown by other plants so that these can be fertile ended back when they put on the land at another time.

Farming in the fields seen from land is divided into two, namely land that is still forested, and only the overgrown reeds. (Saleh, 1977:36). In agricultural fields, the land was still forested is cleaned by means of cutting and slashing forests, then cut the trees that have been cut down. After cutting the wood finish, then in the land surrounding the land hoe in advance as far as three meters out. It is aimed at in order to fire upon the combustion is not radiating outward. After the work of land ready to be burned. After burning is complete, any land ready planted called manugal banih. (Supeli, 2011:89).

In agricultural fields, the water becomes the deciding factor in the success of the harvest. Therefore, it becomes very important in irrigation farming in paddy fields. Views from the source irrigation, a farm in South Kalimantan is divided into two irrigation sources originating from the Western monsoon rainfall and river flow caused by monsoon East. Linblad (2012:23) explained that the agricultural zone in South Kalimantan, along the valley of the river Barito outside can be divided into four parts, namely:

- a. lowland and Hill in the Upper Village (Puruk Cahu even on top and a narrow Southland stretching from the Cape and Barabai to-Banjarbaru, Pelaihari and Martapura. In this zone, we will find the dry fields in a higher position and monsoon paddy fields underneath,
- b. lake area around and North of Buntut River (Amuntai) with the Western monsoon paddy fields in the periphery of higher river and monsoon paddy fields in an area of bushes,
- c. the area of the bushes that covered the hamlet of Ilir Barito, central area in the eastern part of the sea runs toward the upper reaches of the river and also Tabanio in South (near-Banjarbaru Pelaihari), and
- d. coastal areas in the South, Ilir Barito, southwest of the River Upstream, and the neighbouring areas of Banjarmasin Marabahan. Monsoon paddy fields in the area are spread out evenly.

3.2 Irrigation Systems and Storage Crops

According to Rasmadi, an irrigation system developed in South Kalimantan is known by the term anjir and handil. Anjir is the artificial water basin resembles a River connecting the two rivers, where on each side can be used as an agricultural area. While handil is a small canal that cut perpendicular or River a few kilometers, in which each side can also be developed farmland. In 1890, the colonial Government of Netherlands deploys workforce without a machine for digging anjir connecting the Barito River along the Kapuas River and 28 km. (PaEni, 2009:198-199). In addition to the two irrigation systems above, there is one more known by the people of South Kalimantan, i.e. ray. Ray is a water canal as wide as 3-4 meters, which connects two

pieces of fruit or two handil or handil and river aims to facilitate water management in agricultural land.

In 1920, the colonial Government of Netherlands creates a highway around the city of Banjarmasin by way of digging and stockpiling of the excavations and to the road. Thus, it is making roadways and drainage on the side that makes the community interested in staying there and the opening of the farmland began to bloom. Tidal farm business growing rapidly with very fertile regions. Finally, with the abundance of rice crops, the region is known for its so-called Kindai Limpuar.

Achmad Norginayuwati (2005:34-46) describes the local wisdom of farmers wetlands in South Kalimantan in predicting the rainy season and the dry season. In their writings, entitled "local wisdom of farmers of Lebak in the development of the farmer in the swamps of South Kalimantan" explain that in some areas the agricultural wetlands, farmers predict the coming of the dry season by looking at the order of the star of *karantika*. In addition, they also look at the behavior of aquatic animals that live on the farmland. When the fish began to leave the area of farmland leading into the River, then marks the dry season will come.

Dayak tribe who inhabited the region of Borneo has its own way in seeking food sufficiency. In the life of the Dayak tribe, they know the term banih obsolete, namely rice yields are kept for one year in the barn, known as the *lepubung* (Supeli, 2011:73). According to Mega Yunawati (2011:32), "for the Dayak rice is" sky fruit ", so the yields are obtained from the results of the fields should not be sold". Yields obtained should only be stored for the purposes of family and traditional ceremony. This regulation is one of the forms of protection

of the Dayak tribe against the adequacy of their food supplies for at least a year.

3.3 Local wisdom as the Foundation Policies

Local wisdom provides an excellent example in dealing with the food crisis. In addition, local wisdom can also be used as a reference against the direction of Government policy in the agricultural sector. Food security can be achieved by domestic food with sufficiently meets the factor of availability (availability), affordability (accessibility), stability (stability), and security (safety).

The Government is a good idea to make a national policy through the proposals from each area corresponding to the characteristics and the topography of the area respectively. Thus, the application of the policy in each region, of course, will vary according to the characteristics of farms and farmers in agricultural purposes. For example, in the area of South Kalimantan, the agricultural policy in farming fields and agricultural fields naturally could not be equated. In farm fields, agricultural land that is not moving to make the land must be given material support to maintain their strength, i.e. by way of fertilizing. In addition, agricultural purposes, irrigation against rice fields also must be considered by the Government. In the area of Marabahan ray, who in the new order era was built simultaneously with the aim to facilitate water management is now dormant.

In agricultural fields, the need for accuracy of predicting drought and is one of the main indicators of the success of the harvest. Erratic seasonal changes in the present, making the number of farmers who failed to harvest. Government as steward

and protect community can provide assistance in the farmer's fields in mountainous regions in various ways, including through policy forest protection from illegal logging and mining that causes damage to the forest. In addition, the Government can also provide assistance with how to hold a variety of tools to see constellations like telescopes.

In terms of keeping the local food supply, we can reflect the local wisdom of the Dayak tribe only allows the harvest of rice for their own purposes. The Government, in this case, served to maintain Logistic Agency food stability in Indonesia by buying crops from local farmers in advance, so local farmers can earn profits from their crops. The Government should not import rice hastily before the crops of local farmers in a certain period absorbed. For example, in the area of South Kalimantan harvest of rice ranges from July-August each year. Government through Logistic Agency bought crop farmers in South Kalimantan over the last two months, so that farmers can restore capital and profit. Thus, the farmers became passionate to do replanting in subsequent years.

The Government in this regard, the Ministry of Agriculture may also provide assistance to farmers by cooperative units back to build a village that at the time of the new order was tasked to gather the harvest and sell it to the Logistic Agency. In addition, the Government can also assist with guarantees the availability of subsidized fertilizers that can be purchased at affordable prices by farmers. In other words, belongs in a cheapest price with satisfactory results. To support the availability of fertilizer, the Government can also help provide tools for creating

composting in addition to reducing dependence toward chemical fertilizers.

4 CONCLUSIONS

The Government can help agricultural development in Indonesia, especially in South Kalimantan by way of reviewing local wisdom to apply a policy that corresponds to each area. Therefore, the Government can hold a meeting attended by the artists, the agricultural extension officers, farmers, academics, NGOs, environmentalists and other experts to formulate local wisdom that can be applied in a Government policy areas, so as not to conflict with the local wisdom and norms of society. Agricultural development in Indonesia may be even better in the future by observing the characteristics of local wisdom and each region.

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