

Characteristics of The Local Wisdom from South Borneo In Ecological Aspect

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ABSTRACT

Local wisdom in some local communities in Indonesia is used as the basis to manage their environment. Their traditional judgments even in line with sustainable development goals rather than current modern policy. In this paper, we focused on a literature study about the ecological aspect of the local wisdom of South Borneo society, such as their agriculture system, irrigation system, river society, traditional house, and philosophical values. Despite slower productivity compared with using modern technology, we conclude South Borneo's local wisdom in ecological aspect showed harmonious relationship between humans and their natural environment. The advancement of modern technology, consumerism, and socio-economic competition in accessing natural resources becomes a big challenge for policymakers to achieve sustainable development.

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INTRODUCTION

Local wisdom is the particular characteristics of ethics and cultural value in a local community that passed down from generation to generation (Damayanti, Dewi, & Akhlis, 2013). In Indonesia, awareness of local wisdom started to flourish after the regime fall of President Soeharto in 1998 (Wahyu & Nasrullah, 2012). Local wisdom in some local communities is used as the basis to manage their environment. Baduy Society for example, a local tribe in West Java, divides their area into three zones of land use: Reuma zone (settlement), Heuma zone (non-irrigated paddy field and cultivated lands), and leuweung kolot zone (old forest) (Suparmini, Sriadi, & Dyah Respati Suryo Sumunar, 2012). Their traditional judgments are in line with sustainable development goals. Advanced technology and consumerism in this globalization era pretty much affect the continuing practice of local wisdom because the current human socio-economic needs view the local wisdom has no longer give them benefits. In his paper, Mawardi (2018) stated that the principles and concepts of local wisdom are actually still able to coexist with modern culture and become a reference policy for sustainable development by strengthening the empowerment of the local communities.

South Borneo, located at the center of Indonesia, bordered by the Java Sea, Strait of Malacca, East Borneo Province, and Center Borneo Province. This province is notable for the largest Moslem community in Borneo and dominated by Banjar Tribe (from Malay root). Until now, this province is known for its river civilization through centuries. South Borneo has 11 regencies and 2 municipalities with their own unique characteristics of local wisdom. They have a pretty huge natural resources commodity as well, such as coals, woods, resin, rattan, etc.

The local wisdom in South Borneo is varied both in their unique characteristics and also philosophical values, such as the mother language, proverbs, handicrafts in clothing, houses, and Aji stone, culinary, and their socio-economic activities. In this paper, we identify the local wisdom from the Banjar Society that affects the environment: (1) Agriculture system; (2) Irrigation System; (3) River society; (4) Traditional house; (5) Banjar philosophical values.

AGRICULTURE SYSTEM

Land preparation for rice farming, farmers use the *Tajak-Puntal-Hambur* system. *Tajak* is a type of long machete in the form of the letter "L". *Tajak* or *Manajak* is the term for an activity about harvesting grass or hay leftover from the previous season's rice harvest. *Puntal* or *Memuntal* is the local term for collecting weeds or hay that has been cut down and then forming a pile like a ball with a diameter of 30-50 cm, left to soak in the paddy fields for up to two weeks. To speed up weathering and to make the process more evenly distributed, after 15-21 days the pile is turned over. After the weeds and hay rot, then a collection of grass is chopped or cut into small pieces and then spread to the surface of rice fields as organic fertilizer. The process of reversing weeds and grasses collected from slash can accelerate the decomposition process carried out by aerobic bacteria. *Mahambur* or *Hambur* (means scattering) is the final stage of work in preparing the land for the "tajak-puntal-hambur" system, which is to spread the organic material that has matured to the entire surface of the soil equally. This work is done before planting. This system is useful for maintaining and increasing soil fertility, especially reducing soil pH (Umar, Noor, & Noorinayuwati, 2014).

The local farmers prepare paddy fields by cutting and clearing swamp grass when the swamp water is still deep, so that the open area provides opportunities for the growth of aquatic plants. Then the farmers plant rice seeds on the expanse of water plants, plants will grow well and aquatic plants will become effective mulch to control the rate of evaporation of groundwater, effective weed control and as an additional source of nutrients. The nursery is carried out with two systems: the sudden and the floating seedlings. The sudden seeding system is a dry nursery system in a place that is not affected by standing water. The floating seeding system is carried out on waterlogged land using a raft and as a medium for growing seedlings, the raft is given swamp mud (Ar-Riza, Fauziati, & Noor, 2007).

The seedbed move system is a young seed that is moved from dry to wet. This is done by moving hordes of rice seedlings to the edge of the field 15 days before planting (Ar-Riza & Noor, 1992). The local rice farmers community operates 'sedepa 4' planting system, sedepa is equal to 1.7 m planted 4-bushes, which if the distance is rectangular, then the population of equivalent plants with 55,363 bushes/hectare. This population has been practiced for a long time and for generations. The selection of local rice varieties includes Pandak, Siam, Bayar, and Karang Dukuh. The selection of local varieties is easy to obtain, easy to market, the shape of the grain is rather large and the taste of rice is in accordance with the preferences of the local community, not easy to fall, plant height above 120 cm so that it is easily harvested with ani-ani. This local variety of rice cultivation is carried out with a gradual transplanting system called *taradak-ampak-lacak*. The initial nursery is called *taradak* (seedling), followed by *ampak* (transplanting I), then *lacak* (transplanting II) and transplanting (third activity). To reach planting time takes \pm 3-4 months. Planting of vegetables is carried out in rotation to prevent drastic loss of the peat layer, especially plants that are uprooted in the harvesting process. Types of vegetables commonly grown include chili, celery, basil, long beans, mustard greens, spinach, kale, luffa, corn, tomatoes, etc. Horticultural agriculture includes pineapple, coconut and orange cultivation (Ar-Riza et al., 2007).

IRRIGATION SYSTEM

One of the local wisdom in peatland management is found in the area of South Borneo that utilizes the tidal movement for irrigation and drainage. The community made water channels that led perpendicularly from the edge of the river to the interior, the channel was known as *handil*. The *handil* system is carried out cooperatively by small groups of 7 to 10 people (Dariah and Siti, 2014).

On a larger scale, there is *anjir* system. This system is a channel making system that connects two major rivers. *Handil* itself is made along the *anjir*. In addition, also there is *saka*. *Saka* is a water channel smaller than *handil* and is owned by individuals. *Handil* is made pointing perpendicularly from the edge of the river inland as far as 2-3 km with a depth of 0.5-1.0 m, and a width of 2-3 m. There are several things that affect the process *handil*, namely land conditions, tides, and peat thickness. In *Handil*, there is the making of *kemalir* which is used to enter and release water in the land. The process of getting in and out of the water from *handil* to the land also depends on the tides. When the tide then the water will flow into the land while at low tide the water will come out of the land toward the river. The people in South Borneo also have a policy locally to plant the outskirts of *handil* with rubber and fruit to strengthen the embankment to prevent landslides. In the policymaking process related to *handil*, all of them are under the leadership of a chief *handil*. South Borneo farmers have a traditional way to conserve water with a stratified *tabat*. *Tabat* is made by taking mineral soil and wooden planks to serve as water-retaining embankments so that water from above that flows can be retained for a certain time. A block is made at the end of the rainy season (Dariah and Siti, 2014).

Along the tertiary channel, several blocks are made with elevation according to the elevation so that the water in the high part is held up to a lower level until it enters the primary or secondary channel. Methods like this make it easy for farmers to make decisions regarding which crops to plant. For example rice for which is located at the bottom and secondary crops for land at the top with relatively little water availability (Noor et al., 2007).

RIVER SOCIETY

The Banjar Tribe civilization came from the assimilation of the society from Bahau watershed, Barito watershed, Martapura watershed, and Tabonio watershed. Floating Market, placed at Muara Kuin near Barito River estuary, has become the most attractive site for tourists, established since the 16th century under the reign of Sultan Suriansyah. All the merchants use wooden canoe (*jukung*) for transactions with their buyers (Rofelawaty, 2018).

Considering how many rivers and canals with countless branches in the city of Banjarmasin, Banjarmasin is called the city of "A Thousand Rivers" (Arifin, Maladi, & Kadir, 2016). South Borneo is one of the provinces in Indonesia which has many rivers as one of its natural resources. The largest and longest river in South Borneo is the Barito River, which springs from the interior of Central Borneo and empties into the Java Sea (Rochgiyanti, 2011).

The floating market in North Kuin-Alalak which takes place over the Barito river is a hereditary tradition as a form of adaptation of the people who live on the riverbank. All activities take place on the river. Various community needs can be met with activities on the river, such as transportation and trade. River activities provide great benefits for the community because it is a milestone in the community of Banjar, so the floating market continues today. Knowledge of how to trade on water, the use of a barter system, how to control a *jukung* / boat and become a culture of floating market traders from time to time is termed local traditions and wisdom (Sakdiah, 2016).

Aside from being one of the local wisdom of the Banjar people, the floating market is also a leading tourist destination in South Borneo. Through this tourism aspect, it is expected that the floating market will be able to attract tourists to visit so that it can increase the economic growth of the people of South Borneo. Therefore, to enhance the interest of tourists, it is necessary to have sustainable development of the floating market to make it more attractive, modern, but without losing the local wisdom.

Some efforts to preserve or develop the floating market area so far have been carried out by the local government through the provision of assistance in selling facilities, such as repair and provision of *jukung* (boats) and the provision of funds as a form of stimulation for traders to remain willing and survive to sell in the Kuin Floating Market area. In addition, the construction of the pier in the Kuin area was also carried out as an additional form of tourism facilities for the area (Sugianti, 2016).

TRADITIONAL HOUSE

Banjar's traditional house is one of the cultural resources that have important value in the history of the development of architecture, art, and local cultural history. The material made of wood makes this traditional house vulnerable to damage, both due to human activity, weather and

biological factors. Behind the threat, traditional houses have values that can be taken advantage of for the present and the future (Hartatik, 2016).

Historically speaking, Banjar people were known as traders who lived not far from the river and tidal swamps. Banjar people's homes have always been in the form of stage houses, supported by a number of tall poles and sticks made of Ulin wood (ironwood; *Eusideroxylon zwageri*), because the tidal swamp areas tend to get wet. The Banjar house was originally in the form of a high ridge without a bridge (a room on either side of the main room, like a wing), then added a platform used as a bedroom. The roof is in the form of a saddle that soars high into the sky, so-called high ridge houses. There are also those who call it the house of *baanjung* because it has a bridge on the right and left-wing (Brotomoeljono, 1986).

As the strongest and the most durable wood ever known from Borneo, the demands of Ulin wood become higher and difficult to find at the same times which makes its price never going down. Pradjadinata & Murniati (2014) stated that due to the increase of human population and settlements, ironwood is on the verge of extinction.

PHILOSOPHICAL VALUES

Banjar culture has four main philosophical values related to the relationship between humans with God, the relationship between humans, the relationship of the human within themselves in terms of self-development, and the relationship between humans with nature. The relationship between human with their God reflected in religious culture of Banjar Tribe, such as how they do their job wholeheartedly and thankfully. In terms of the relationship between humans, the concept of *bubuhan* (teamwork), *bedingsanakan* (help each other like brothers or sisters), *bakalah bamanang* (give up own selfishness for the sake of team). In the relationship of human within themselves in terms of self-development, Banjar Tribe has the concept of *dalas balangsar dada* (work hard) and *manuntung* (finish your job well). The relationship between human with nature describes the concept of *bisa-bisa maandakan awak* (able to adapt to the environment) (Istiqomah & Setyobudihono, 2017).

There are also some expressions in South Borneo which become a motivating jargon for people to do well in their job, like *Gawi Sabumi sampai Manuntung* (working together until it's done), *Waja sampai Kaputing* (working together from beginning to end), *Kayuh Baimbai* (working simultaneously). These philosophical values describe how Banjar's traditional community work as one strong family.

CONCLUSION

Nowadays, the values and knowledge of the local wisdom for the local communities in South Borneo for using natural resources have been lost due to the economic pressure of supply and demand, advancing modern technology, competitions, and human the consumeristic nature through this globalization era. Integrating how local wisdom can coexist with sustainable development goals are necessary to conserve the local wisdom as the South Borneo's unique identity as well as a strategical way for sustainable use of natural resources.

South Borneo's local wisdom, although viewed as out of date method in natural resources management, showed a harmonious relationship between humans and their natural environment. The advancement of modern technology, consumerism, and socio-economic competition in accessing natural resources becomes a big challenge for policymakers to achieve sustainable development.

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