

A REVIEW: FARMERS' LOCAL WISDOM ON NATURAL RESOURCES

Zuhud Rozaki^{1*}, Oki Wijaya¹, Khamsing Keothoumma² and Emil Salim³

¹Department of Agribusiness, University of Muhammadiyah Yogyakarta, Indonesia

²Department of Community Forest and Rural Development, National University of Laos

³Department of Chemistry, Andalas University, Indonesia

*Corresponding author email: zaki@umy.ac.id

ABSTRACT

Natural resources are essential parts of human life, even the technologies continue to grow, natural resources still become a strategic sector for many countries. Many countries that don't have many natural resources are trying to collaborate with rich countries. How people manage natural resources is very important to get maximum benefits. Local wisdom seems to have a role in managing natural resources with wise ways, get full benefits without destroying it. Natural resources, especially in terms of soil, water, plant and animal diversity, vegetation cover, climate, and ecosystem services, are fundamental for agricultural systems' structure and function. Therefore, how farmers are managing their farming can be seen as farmers are managing natural resources. Farmers' local wisdom on natural resources can be seen in the shape of how farmers managing their farming activities with various ways that they learned or got from generation to generation. Understanding farmers' local wisdom on natural resources can help stakeholders make a suitable program for farmers' lives and natural resources development.

Keywords: Local wisdom, farmers, natural resources, rural areas

INTRODUCTION

Agriculture sector plays crucial role in economic development for many countries. Many parties are trying to develop this sector with many ways. In developing agriculture, considering the food production only is not enough, there is farmers who need to be considered when people want to develop agriculture sector, like how farmers live, how farmers are doing farming etc. It is a holistic thinking in developing agriculture. Future challenge in agriculture will become all parties' responsibility (Rozaki, 2020; Wijaya, 2017).

Natural resource has strong relation with agriculture and farmers, where plantation can be said as natural resource too. How farmers are managing natural resource is important for agriculture development. The powerful forces of technology, the global economy, and demographic changes are reshaping how people

live and how communities function all around the world, including how they are managing natural resource (Blackwell & Colmenar, 1999).

Local wisdom refers to the knowledge that comes from the community's experiences and the accumulation of local knowledge (Kongprasertamorn, 2020). In rural areas, local wisdom become the part of people life. Farmers as people who are dominating the livelihood involving local wisdom in their farming activities. Local communities are meeting the challenge that people are struggling to choose protecting environment through local wisdom, or losing environment for economic benefit (Blackwell & Colmenar, 1999). This paper aims to formulate the farmers' local wisdom on natural resources, which closely related with their farming activities. (Kongprasertamorn, 2020) Explain that local wisdom is still relevant to be discussed in this present.

LOCAL WISDOM

Local wisdom become part of human life especially people who live in rural area, where the culture still being hold by the habitants. Local wisdom activities can be seen from their daily activities, such as work and festivals (Kongprasertamorn, 2020). In addition, (Kongprasertamorn, 2020) explain some characteristics of local wisdom, they area: local wisdom teaches people about ethics and moral values, local wisdom teach people to love nature, not to destroy it, and local wisdom come from the older members of the community. (Norsidi, 2019) stated that local wisdom is an absolute thing that contains social values and is used as a source of thought and behavioural guidelines to preserve the ecosystem of forest resources. Meanwhile (Rostiati, Marsi, Ashari, & Marnisah, 2019) explain that Local wisdom or local genius or national cultural identity, is a cultural personality that is able to absorb and cultivate foreign cultural dispositions. (Hong & Sun, 2020) said that local wisdom in some places have relation with religion, or derived from religion or belief.

(Prayoga, Riezky, Syuhada, & Prayoga, 2020) showed that local wisdom commonly had been obtained from previous generations and being practice daily. How those local wisdom had born still become a secret, but people believe that what their ancestors were doing are correct and need to be preserved. In some program, from government or other parties, local wisdom plays important role to make the program success (Rambu Atahau, Huruta, & Lee, 2020). To make the local wisdom can be useful for any program, the local wisdom need to be learnt with global perspectives (Liao, Le, & Nguyen, 2016; Pandapotan & Silalahi, 2019).

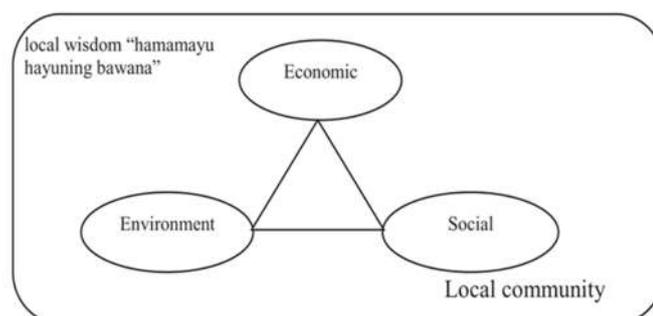


Figure 1. Local Wisdom, Environment and Social (Vitasurya, 2016)

FARMERS' LOCAL WISDOM

Farmers will get benefits from practising local wisdom if they are doing with global perspectives (Pandapotan & Silalahi, 2019). With practicing local wisdom, farmers can grow and develop attitudes and attitudes to always maintain a harmonious relationship with nature (the farming environment) (Norsidi, 2019). Commonly, local wisdoms that are being practiced by farmers in their farming activities were transferred from past and present by ancestors and self-learning (Jaitae, 2016).

Farmers' local wisdom in farming activities are how they conserve and preserve their plants as the trust, ethics and moral meaning, able to control, able to integrate elements of foreign culture into the native culture (Zamzami, Nursyiwan, Syahrizal, & Ermayanti, 2018). Local wisdoms that farmers are practicing give the presence of all external variables, serves as the driving force for microfinance sustainability (Rambu Atahau et al., 2020). To make the agriculture get positive effect from local wisdom practices, especially ecological wisdom, they need to be conducted with considering technologies (Steiner, 2018).

NATURAL RESOURCE

Natural resources, especially those of soil, water, plant and animal diversity, vegetation cover, renewable energy sources, climate, and ecosystem services are fundamental for the structure and function of agricultural systems and for social and environmental sustainability, in support of life on earth (Greenfacts, 2008). Natural resources has relation with environmental degradation if the management is not good (Atil, Nawaz, Lahiani, & Roubaud, 2020).

The decrease of natural resource can lead to environmental degradation and violent human conflicts, especially in developing countries. It cautions about the possibility of worsening environmental conditions (Kakoty, 2018). The goal of natural resource management, including agriculture, should manage humans' interactions with the surrounding environment and resources; humans should be perceived as are part of, not separate from, the natural environment. How people see and manage the natural resources are very important (Skinner & Castleden, 2014). In the theories of growth, it is claimed that the key determinants of economic growth are labor, capital accumulation, natural resources, human capital and technological development (Topcu, Altinoz, & Aslan, 2020).

FARMERS' LOCAL WISDOM ON NATURAL RESOURCES

Characteristics of local wisdom on natural resources is the close relation between people life and natural resources itself. Where for farmers is how close their life with farming activities. Closer the relation, less likely in harming the farming (Norsidi, 2019). Local wisdom is including the method or equipment to manage agriculture, so it is not limited to the belief, but also about the practices (Zamzami et al., 2018). Sustainable agriculture can be defined as part of local wisdom as the cultural knowledge possessed by a particular society that includes a number of cultural knowledge concerning models of sustainable use and management of natural resources (Humaida, Louisa, & Lestari, 2018).

Generally, government is protecting the natural resources from over exploitation through regulations. Especially it is related with company, the regulation is stricter, companies need to take good care of natural resource that related with their economic activities. If related party is personal, the regulation is quite difficult in watching. Therefore, developing local wisdom that can protect natural resources is important (Kartikawangi, 2017).

In term of agriculture, protecting natural resources through farming activities can be found in how they plant and managing their farming with wise ways that can be part of land conservation (Setyowati, Benardi, Widyastiti, & Arsal, 2019). Local wisdom that are still maintained in land preparing by slash and burn system, in cultivation with rotation and intercropping system, and in processing of agricultural product into comestible durable (as seen in figure 2 and figure 3). Traditional rituals began experiencing fading due to the times and increased demands of life (KUASA et al., 2015). Local wisdom that has proven capable of maintaining the balance of the community life in harmony, long-lasting and sustainable. As an a concept with various forms of spatial implementation, local wisdom of a community will continue to grow in the awareness of society (Vitasurya, 2016). Natural resources bring good financial development (Atil et al., 2020). But it become challenging because the local wisdom come from many generations before, so the local wisdom degradation might be occurred (Setyowati et al., 2019).



Figure 2. Terrace Planting Method in Indonesia (Setyowati et al., 2019)



Figure 3. Mix Planting Method in Indonesia (Setyowati et al., 2019)

Implementing local wisdom in farming management can support the agriculture development program especially in empowerment program (Rostiati et al., 2019). Local wisdom also becomes a determinant element of successful development of community and natural resources around that (KUASA et al., 2015). Local wisdom is not only related to solidarity among the people but has been rooted in the community activities in farming and its efforts to achieve ecological balance (Levis, Sukei, Sugiyanto, & Yuliati, 2017; Prayoga et al., 2020).

Farmers' local wisdom on natural resources 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 in local wisdom implementation for modern development (Humaida et al., 2018). Beside as the way to protect the natural resources, local wisdom also is conducted to deliver the gratitude to the God. This activity is belief can increase the revenues (Hasyim & Muda, 2019).

Farmer decision making on local wisdom implementation is effected by social aspects, social norms, motivation, perception, attitude and intent (Emerton & Snyder, 2018; Levis et al., 2017). Common trend in agricultural society, as long as the activities are more profitable will be chosen by farmers (Emerton & Snyder, 2018). Farming activities will be more benefit if the land is their own, not rent (Khan, Gu, Khan, & Oláh, 2020). The prevailing local wisdom is that once farmers understand how practices are reducing vulnerability, it is easier for them to incentivize their peers, as well as community and local institutions (Martinez-Baron, Orjuela, Renzoni, Loboguerrero Rodríguez, & Prager, 2018). Farmers' local wisdom on natural resources can be seen in figure, which is known that economic, environment and social are effecting, so these factors need to be considered when local wisdom want to be preserved.

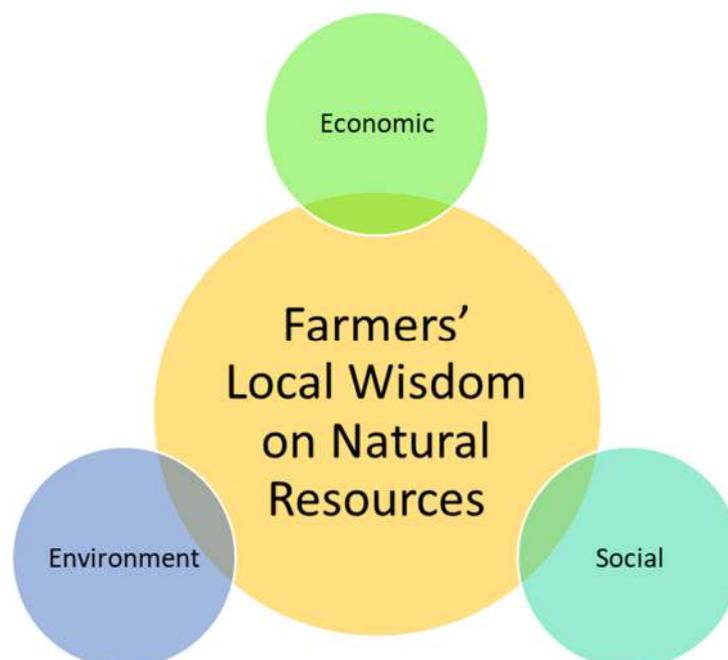


Figure 4. Farmers' Local Wisdom on Natural Resources

CONCLUSION

How people manage natural resources is very important to get optimum benefits. Local wisdom seems to have a role in managing natural resources with wise ways, get full benefits without destroying it. Natural resources, especially in terms of soil, water, plant and animal diversity, vegetation cover, climate, and ecosystem services, are fundamental for agricultural systems' structure and function. Therefore how farmers are managing their farming can be seen as farmers are managing natural resources. Farmers' local wisdom on natural resources can be seen in the shape of how farmers managing their farming activities with various ways that they learned or got from generation to generation. Understanding farmers' local wisdom on natural resources can help stakeholders make a suitable program for farmers' lives and natural resources development. Farmers' decision on implementing local wisdom for protecting natural resources in their farming activities is effected by economic, social and environment, these factors need to be considered when local wisdom want to be preserved.

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