IOSR Journal Of Humanities And Social Science (IOSR-JHSS)
Volume 27, Issue 2, Series 2 (February. 2022) 34-39
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Traditional Knowledge of Coffee Farmers as Community Intellectual Property in Bener Meriah Regency

Yulia Yulia[1], Malahayati Malahayati[2]
[1,2]*Faculty of Law, Malikussaleh University, Aceh, Indonesia*

Abstract:
Background: Traditional knowledge of coffee farmers is intellectual property in the form of ideas, ideas, or inventions of community groups. Tradition-based ideas refer to systems of knowledge, creation, innovation and cultural expression that have generally been passed on from generation to generation. Thus, this knowledge needs recognition and also its use without losing it as the knowledge identity of coffee farmers in Bener Meriah. At present, the distribution of traditional knowledge is uneven and not systematically documented. In fact, this is an extraordinary potential as an asset that must be protected and developed so that it can benefit the community. This study uses empirical legal research with a qualitative approach that uses primary and secondary data. In obtaining primary data, respondents and informants were determined. Respondents. The results of the study found that coffee farmers have traditional knowledge as intellectual property that can be managed by data collection or inventory. Various kinds of traditional knowledge of coffee farmers from seed sowing, land preparation, planting, care and fertilization, harvest and post-harvest. This traditional knowledge has been passed down from generation to generation in coffee farming families, but the traditional knowledge is decreasing day by day. They do not realize the importance of this knowledge as one of the factors influencing the Geographical Indications of Gayo Coffee in the field of Intellectual Property. This is an internal obstacle in managing traditional knowledge

Key Word: traditional knowledge; farmer; coffee; bener meriah

---

Date of Submission: 28-01-2022 Date of Acceptance: 09-02-2022

I. Introduction

Traditional knowledge including local knowledge possessed by a community in meeting the needs of life (Eko Noer Kristiyanto, 2017) Knowledge gained from adaptation knowledge is actively passed down from generation to generation into environmental wisdom that is proven to be efficient in preserving environmental functions and creating social harmony (Jenni Kristiana Matuankotta, 2018). Environmental wisdom is manifested in the form of norms, values, mythology, folklore, social interaction, traditional and religious ceremonies and settlement patterns as well as environmental management technology such as the equipment used (Fatmawati P, 2019).

Local knowledge which is part of the traditional knowledge of a farming community living in a specific area is usually acquired based on experience passed down from generation to generation. Sometimes a technology developed in another place can be adapted to environmental conditions so that it becomes an integral part of their agricultural system. External technology becomes part of their local technology as well as the technology they develop themselves. Farmers' practical knowledge about local ecosystems, about natural resources and how they interact with each other, is reflected in their farming techniques and skills in managing natural resources (Dyah Ethika Noehdijati, 2017).

Local knowledge about ecology, agriculture and forestry that was formed from generation to generation from their ancestors and developed over time. This local knowledge is in the form of experience in farming and gardening as well as interacting with the environment (Andi Tenri Lawa Putri L. Haris, 2019). Extracting information about local community knowledge and innovations adopted by farmers can describe the pattern of natural resource management in the vicinity. In addition, it can also be used as input in improving the lives of farmers, both from an economic, ecological and social perspective (Agus Purwoko, 2017).

The knowledge system owned by a group of people becomes the cultural pattern of various ethnic groups in Indonesia. One of the cultural features is in the fields of fisheries, animal husbandry, and agriculture, especially farming. The transfer of knowledge about the world of agriculture is usually not carried out at any time because of the various elements of ancestral beliefs that consider it sacred and believe that not just anyone can accept it unless they have it (Erni Rahmawati, 2019). Traditional knowledge of coffee farmers is one part of

the culture and the result of work, creativity and initiative in living their lives. A knowledge system that focuses as a knowledge system in the field of planting crops (Rosramadhana, 2017).

Bener Meriah Regency is one of the centers of coffee production in Aceh Province and is one of the largest coffee producers in Indonesia (Tri Edo Syaputra, 2017). In Acehnese society, coffee is not just a drink during breaks or welcoming guests, but also has an important economic meaning. Since the Dutch colonial period, coffee has become the main source of income for coffee farmers in Bener Meriah Regency. All family members in the Gayo tradition and culture have a role in coffee production (Tuti Karyani, Endah Djuwendah, 2019).

The history of mastery of agricultural science on coffee cultivation in processing and cultivating Arabica coffee plantations in Bener Meriah Regency has grown rapidly to foreign countries. Knowledge of Arabica coffee cultivation can never be separated from cultivation techniques ranging from land preparation, planting, maintenance, harvesting, post-harvest handling and marketing of crops. The mastery of farmers in growing coffee can be seen from the ways they maintain coffee so that they can produce good quality fruit that can be marketed not only in Indonesia but also abroad. Coffee in the Gayo Highlands is often referred to as the life and death of urang gayo, where together with coffee there are many historical, scientific, and cultural values stored, even the self-esteem value of urang gayo is implied Suci Maharani et al, 2019).

Coffee farmers in Bener Meriah Regency have used traditional knowledge from generation to generation in managing coffee plantations. They develop an agricultural system with a variety of knowledge that has been integrated into a culture in their lives (Puspitawati, 2020). Traditional knowledge of coffee farmers is intellectual property in the form of ideas, ideas or inventions of community groups. Tradition-based ideas refer to systems of knowledge, creation, innovation and cultural expression that have generally been passed on from generation to generation. Thus, this knowledge not only requires recognition but also dissemination of utilization for the community without losing the identity of Bener Meriah Regency coffee knowledge. This article will examine the traditional knowledge of the farming community as the intellectual property of the people in Bener Meriah Regency.

II. Literature Review

In the study of traditional knowledge, there are several previous studies that are relevant to the topic of traditional knowledge of coffee farmers, such as that conducted by Anna Nesti Zebua, et al., (2017), Widiana et al., (2017), Paisal Ansiska, (2020), Andi Tenri Lawa Putri L. Haris, (2019) dan Yulia et al., (2020). Knowledge is the human capacity to understand and interpret both observations and experiences, so that it can be used to predict or as a basis for consideration in decision making. Knowledge is the output of the learning process, explanation based on perception. It also includes reasonable understanding and interpretation. But knowledge is not absolute truth. Knowledge alone does not lead to a real action (by Anna Nesti Zebua, et al., 2017).

Traditional knowledge is included in the scope of community intellectual property in the form of ideas, ideas, or inventions of community groups. The scope of traditional knowledge refers to tradition-based literature, artistic or scientific works, performances, inventions, scientific discoveries, designs, brands, names and symbols, undisclosed information, and all other tradition-based innovations and creations caused by intellectual activities in industrial, scientific, literary or artistic fields. Tradition-based ideas refer to systems of knowledge, creation, innovation and cultural expression that have generally been passed on from generation to generation, are considered related to a particular society or region, have been developed non-systematically, and continuously in response to a changing environment. Thus, traditional knowledge not only requires acknowledgment of the discovery of ideas or ideas, but also of their dissemination and use by other parties (Widiana et al., 2017).

Local knowledge which is part of the traditional knowledge of a farming community living in a specific area is usually acquired based on experience passed down from generation to generation. Sometimes a technology developed elsewhere can be adapted to environmental conditions so that it becomes an integral part of their farming system. Therefore, this external technology will become part of their local technology as well as the technology they develop themselves. Farmers' practical knowledge about local ecosystems, about natural resources and how they interact with each other, will be reflected in both their farming techniques and their skills in managing natural resources. Indigenous knowledge is not only limited to what is reflected in farming methods and techniques, but also includes understanding, perception and conscience or feelings related to the environment which often involves calculating the movement of the moon or sun, astrology, geological and meteorological conditions. Local knowledge that has been so integrated with belief systems, norms and culture, and is expressed in traditions and myths that have been held for a long time is likely to become a 'local wisdom'(Paisal Ansiska, 2020).

Local knowledge about ecology, agriculture and forestry which was formed from generation to generation from their ancestors and developed over time. This local knowledge is in the form of experience in farming and gardening as well as interacting with the environment (Elok Mulyoutami; 2004). It is recommended

that the local government through the relevant technical offices provide facilitation in increasing farmers' access to production facilities, increasing the number and quality of extension services, technical guidance, and relevant training (Andi Tenri Lawa Putri L. Haris, 2019).

The knowledge system possessed by a group of people becomes the cultural pattern of various ethnic groups in Indonesia. One of the cultural features is in the fields of fisheries, animal husbandry, and agriculture, especially farming. The knowledge system possessed by farmers in a community group is generally obtained from their previous ancestors, both in oral and written form. Knowledge obtained in oral form is usually conveyed by word of mouth and at certain times and situations. This means that the transfer of knowledge about the world of agriculture is usually not carried out at any time because of the various elements of the beliefs of the ancestors who consider it sacred and believe that knowledge is not accepted by just anyone unless it has.

III. Material And Methods

This research is an empirical research with a qualitative approach that uses primary data and secondary data. In obtaining primary data, respondents and informants were determined. Respondents in this study were coffee farming communities and farmer groups, coffee SMEs and the informants were Reje and the Head of the Department of Agriculture, Food and Horticulture, Bener Meriah. In this study, researchers took the research location in Bener Meuriah Regency, namely Permata, Bener Kelipah and Bandar Districts. These three sub-districts are part of the coffee plantation area in Bener Meriah Regency (based on BPS Bener Meriah 2016 data).

Primary data collection was carried out through in-depth interviews and FGDs to find out the 'corpus' or the community's traditional knowledge system about coffee. The determination of informants and respondents was carried out by purposive sampling which selected certain people who could represent the needs of this research. Secondary data in this study was obtained through literature study from various libraries and internet media. Data that has been collected and has gone through the stages of verification, categorization, reduction, will be checked for validity. The results of the analysis will produce a formulation of traditional knowledge management of coffee farming communities in Bener Meriah Regency.

IV. Result and Discussion

1. Traditional knowledge of coffee farmers as intellectual property

The local wisdom of the coffee plant carried out by coffee farmers in Bener Meriah Regency is local wisdom that has been passed down from generation to generation from their ancestors and parents. The purpose of local wisdom that farmers do is an interaction with the environment to process natural resources wisely and wisely.

a. Seedling

Coffee plants are sown manually, namely with coffee beans sown in the soil media that has been made. After 2 months or 4 months, the coffee plant is moved to a new place, so that it is not too close to other coffee plants. When preparing seeds, dried coffee beans should not be exposed to direct sunlight. Next is the process of filling the soil into polybags and seeding the dried coffee seeds. Coffee in Bener Kelipah District is a type of Ateng coffee and superior Arabica. With good quality and no use of chemical fertilizers, only relying on rain water, does not require much special treatment, it's just that the process of transferring coffee plant seeds requires human treatment.

b. Land preparation

In the beginning, the community grew coffee, before there was a lopi garden as it is today, land clearing was an activity to clean up part or all of it elements in the earth's surface at a certain level and for a certain period of time for agricultural activities. The term land clearing is more appropriate to use in primary forest areas that have never been touched by humans. Land clearing activities in Jongok Meluem village have different provisions in the past and present. In the past, land clearing was required to carry out an activity before gardening activities were carried out, such as the village community waiting for directions from Reje Gampong.

Then in starting to plant coffee, land preparation is needed. The land preparation process is carried out starting from planting or making coffee plant paths so that they are neat. The second process is making holes, where each hole has a size of about 30 x 30 cm and a depth of 30 cm. The prepared hole is then filled with coffee plants that are 6 months old.

Soil processing on Arabica coffee plantations in Permata District is the most important at the time of making planting holes. In the process of making planting holes, the soil is left on the left or right and mixed with manure, so that the soil becomes fertile when planting. After the soil is mixed or given manure or ground coffee grounds, it is put back into the planting hole and left for 2 to 4 weeks before planting. In the land cultivation process, people in Jongok Meluem village still use traditional tools such as hoes and rakes, and carry out land cultivation in mutual cooperation with family members to facilitate and shorten the time for tillage.

b. Season and planting method

Planting is usually done in cooperation with fellow family members. Before planting, the community calls for traditional leaders to pray that the planting process will run smoothly and the coffee plant will thrive and produce lots of fruit. In determining the first day of the current month, the people of Bener Meriah determine it through the movement of the moon, where this system aims at a good time or day to plant. In the past, the community made offerings before planting, but now this is no longer maintained by farmers. After the seeds are 6-7 months old, the seeds can be planted into the hole has been prepared and then covered again with soil. Watering is done depending on weather conditions, if the rainy season watering is not necessary.

The intercropping pattern is more in demand by farmers because it provides added value to their harvests. In addition, the benefits of intercropping with trees are to reduce direct sunlight, reduce erosion, prevent upstream dew at high altitudes, source of organic matter, reduce weed growth, and can be a source of fuel for drying coffee. Shade trees should also be arranged so that the objectives of the intercropping pattern can be achieved. The conditions for shade trees are deep rooted, easy to regulate periodically, and do not become host plants for pests/diseases, including types of nuts.

c. Care and Fertilization

In coffee treatment, any shoots that grow while the coffee is fruiting must be removed from young shoots or shoots because it will slow down the fertilization process. In picking coffee beans, you should not pick green coffee because it will damage other coffee beans, also coffee that has fallen to the ground should not be mixed with the picked coffee because it will also damage the quality of the coffee picked. Fertilization is done by taking into account:

1. Spacing more than 1 meter, then the fertilizer is applied in a circle with a distance of 30-40 cm from the stem with a depth of placement of 2-5 cm.
2. The spacing is smaller than 1 meter and with a fence system, the fertilizer is placed in a straight line between the coffee rows with a distance of 30-40 cm from the stems.
3. Before sowing fertilizer, weeds or grass around the coffee are cleaned first. After sowing, the fertilizer is covered with soil.
4. Fertilization of seeds is carried out in bulk by diluting the fertilizer which is then applied together with watering.

Based on the results of interviews conducted by researchers with gayo coffee farmers in Permata District, Bener Meriah Regency, there are several factors that influence coffee production, apart from choosing the right seeds to produce. The used are only purchased in the market or obtained from fellow farmers whose varieties are not yet clear, as expressed by Saiful, a resident of Gampong Bale Musara:

> "For coffee seeds, I cultivate myself and even sell them, for example, buying them is usually provided in the market, but the variety is available. Sometimes I bought it at the market but it didn't match the coffee name. When it comes to cultivation, farmers already know a lot about how to handle or cultivate coffee properly. However, post-harvest processing still needs more training and supervision. So far, farmers have processed it to the stage of dry green bean coffee to get to the processing of ground coffee that is ready for consumption, it is still limited to self consumption. there is also the assistance of a ground coffee processing machine". (Interview with Permata District Farmers)

True Meriah coffee farmers do not use chemical fertilizers, but they use natural fertilizers from waste or ground coffee. As mentioned by a coffee farmer in Permata District:

> "We, the community, feel that coffee that is grown and picked, we also serve it for drinking, it must be maintained and cared for properly so that it can function for body health. If we use chemical fertilizers in the treatment of coffee, then these chemicals will enter our bodies and damage our health because we drink the coffee. Therefore, farmers use fertilizers that come from intercropping waste and coffee grounds after processing. So that all parts of coffee are useful for human life and nothing is wasted."

d. Harvest

Harvesting of coffee cherries is generally done by picking ripe fruit on coffee plants that are around 2.5-3 years old. Ripe coffee cherries are marked by a change in the color of the fruit skin. Dark green rind means that the fruit is still young, yellow coffee cherries are half ripe and if they are red, it means that the coffee cherries are fully ripe and turn black after the full ripening has passed. As stated by a coffee farmer in Balee Musara District, Sulaiman that:

> "To get high-quality results, the coffee cherries must be picked fully ripe. Arabica coffee takes 6 to 8 months from flowering to harvesting. In Arabica coffee plants, ripe coffee cherries tend to fall off easily. If allowed to fall to the ground, the fruit will absorb odors above the ground which can reduce the quality

of the coffee. So it is recommended to immediately pick Arabica coffee cherries as soon as they look full red. Coffee cherries are not harvested simultaneously, the picking process is carried out in stages. Usually the coffee will ripen every two weeks and it will be picked."

The characteristics of ripe coffee cherries can be seen from the color of the skin. The best coffee cherries to harvest are those that are fully ripe, red in color. Farmers who will harvest coffee first prepare tools such as sacks, buckets, and jerrycans with the top cut off so that it is easier to put the picked coffee. Farmers only harvest by picking the red coffee cherries into a bucket or jergen tied to the waist.

e. Treatment after harvest

The coffee cherries that have been picked are then put into a pulper to release the skin of the fruit. From the pulper machine, the peeled fruit is then left in a tub and soaked for several days for fermentation. After the seeds have gone through the pre-washing process, they are immediately stockpiled and soaked in a fermentation bath. This fermentation place is made of cement plaster tub with a sloping bottom. In the middle of the base is made a channel and covered with a plate with holes. Soaking is done for 12 hours and every 3 hours the water is changed. During the fermentation process with the help of micro-organisms, there is a breakdown of the mucus layer components, it will be released from the surface of the coffee bean horn skin. After soaking the coffee cherries, they are washed and finally dried. Drying is done by drying in the sun or by using a dryer. Then put into a huller machine or pounded to remove the horn skin.

In general, Arabica coffee processing includes stripping, fermentation, washing, drying, stripping the horns, cleaning and uniformity of bean size, roasting, grinding and brewing drinks. Although all these steps are feasible, farmers do not always see this as important because all these activities require time and money.

2. Obstacles in managing traditional knowledge as intellectual property

Farmers have not realized the importance of the existence of traditional knowledge so that there is no data collection or management of this knowledge. They feel that it has become a habit so that even though it is passed down from generation to generation, coffee farmers are not perfectly conveyed to their descendants. This is as stated by coffee farmers in Bener Kelipah that:

"I got coffee gardening knowledge from my parents, because since childhood we have been helping parents in coffee gardening. Mothers and fathers' ways of gardening coffee were not conveyed in detail and in depth but conveyed that when we worked in the garden, for example when planting, we were taught how to plant. When we cultivate, we are taught how to cultivate. So this knowledge is not written down and collected, so we cultivate coffee traditionally in the family gardening for generations."

Then the local government also does not have a program to record or document the traditional knowledge of coffee farmers in managing coffee plantations so as to produce coffee that is characterized by all time as the requirements of Gayo Coffee Geographical Indications. This causes the loss of traditional knowledge of coffee farmers as intellectual property. Likewise, the government has not specifically recorded the experience and traditional knowledge of coffee farmers as intellectual property that has a major influence on the Geographical Indications of Gayo Coffee. In fact, a Geographical Indication in Intellectual Property Rights is influenced by natural and human factors on the characteristics, quality and reputation of Gayo Coffee.

V. Conclusion

Bener Meriah Regency coffee farmers have traditional knowledge in managing coffee. It should be protected as a very valuable public intellectual property. Coffee as a Geographical Indication is an intellectual property that is not only influenced by natural factors, but also influenced by human factors. So farmers and local governments must realize how important the traditional knowledge of coffee farmers is as an intellectual property that supports coffee as a Geographical Indication.

Constraints in the management of coffee farmers' traditional knowledge, where coffee farming communities do not realize the importance of comprehensively registering their traditional knowledge. Thus, it does not disappear for their children and grandchildren to be able to make maximum use of it to support the human factor in maintaining the Geographical Indications of Gayo Coffee in addition to its natural factors. The government also does not understand the importance of the existence of traditional coffee farmers' knowledge as their intellectual property that can support economic development

Acknowledgements:

Research conducted under the Research Institution of Malikussaleh University

References

[1] Eko Noer Kristiyanto, Kedudukan Kearifan Lokal Dan Peranan Masyarakat Dalam Penataan Ruang Di Daerah, Jurnal RechtsVinding, Volume 6, Nomor 2, Agustus 2017

[2] Jenni Kristiana Matuankotta, Peran Aktif Masyarakat Hukum Adat Dalam Pembangunan Ekonomi, jurnal SASI, Volume 24 Nomor 2, Juli - Desember 2018: 101 – 113

[3] Fatmawati P, Pengetahuan Lokal Petani Dalam Tradisi Bercocok Tanam Padi Oleh Masyarakat Tapango Di Polewali Mandar, Walasuji Volume 10, No. 1, Juni 2019, 85-95

[4] Dyah Ethika Noehdijati, Usahatani Kopi Arabika Desa Babadan Lereng Selatan Dieng Kabupaten Banjarnegara, Prosiding Seminar Nasional dan Call for Papers "Pengembangan Sumber Daya Perdesaan dan Kearifan Lokal Berkelanjutan IX" 19- 20 November 2019 Purwokerto.

[5] Andi Tenri Lawa Putri L. Haris, Peran Modal Sosial Ketua Kelompok Tani Dan Dampaknya Terhadap Knowledge Sharing Petani Studi Pada Petani Di Kabupaten Enrekang, Jurnal Ekonomi Islam, Volume 10, Nomor 2, Juni 2019

[6] Agus Purwoko, Kajian Pengetahuan Lokal Masyarakat Petani Dalam Pengelolaan Daerah Aliran Sungai (Das) Ketahun Di Kabupaten Lebong, AGRISEP Vol. 16 No. 2 September 2017, p 201-210

[7] Erni Rahmawati, Nilai-Nilai Pendidikan Yang Terkandung Dalam Ritual Kangkilo Pada Masyarakat Muna Desa Warambe, Jurnal BASTRA (Bahasa dan Sastra), Vol. 4 No.1, Edisi Januari 2019, 169-183

[8] Rosramadhana, Pengetahuan Kearifan Lokal dalam Bercocok Tanam (Nuan-Nuan) Suku Karo di Desa Keling Kecamatan Merdeka Kabupaten Karo, ANTHROPOS: Jurnal Antropologi Sosial dan Budaya 3 (1) (2017): 19-24

[9] Tri Edo Syaputra, Kerjasama Ekspor Kopi Mandailing Ke Korea Selatan Tahun 2016, JOM FISIP Vol. 4 No2 Oktober 2017, 1-14

[10] Tuti Karyani, Endah Djuwendah dan Kuswarini Kusno, Peningkatan Kemampuan Petani Dalam Mengelola Risiko Usahatani Kopi (coffea arabica) Dharmakarya: Jurnal Aplikasi Ipteks untuk Masyarakat Vol. 8, No. 4, Desember 2019: 268 - 273

[11] Suci Maharani et al, Kearifan Lokal Masyarakat Pesisir Dalam Mitigasi Bencana Di Kota Pariaman, Vol 3 No. 3, 2019, 1591-1597.

[12] Puspitawati, Kearifan Lokal Petani Kopi: Dataran Tinggi Gayo, Yayasan Kita Menulis, Medan, 2020

[13] Anna Nesti Zebua, Analisis Kearifan Lokal Dan Strategi Petani Kopi Dalam Pengelolaan Tanaman Kopi Ramah Lingkungan Di Desa Hutagurgur Kecamatan Dolok Sanggul Kabupaten Humbang Hasundutan Sumatera Utara, JOM Faperta UR Vol. 4 No.1 Februari 2017,1-15

[14] Sumarto, Budaya, Pemahaman dan Penerapannya "Aspek Sistem Religi, Bahasa, Pengetahuan, Sosial, Keseninan dan Teknologi", Jurnal Literasiologi, Volume 1, No. 2 Juli – Desember 2019

Yulia Yulia, "Traditional Knowledge of Coffee Farmers as Community Intellectual Property in Bener Meriah Regency". *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 27(02), 2022, pp. 34-39.