Preservation of Indigenous Knowledge Activities: A Case Study on "*Jamu Gendong*" Kiringan Village,Yogyakarta, Indonesia

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ABSTRACT

Indigenous Knowledge (IK) is tacit and embedded knowledge in practice and experiences that emerge later and disseminated to various communities through oral communication and demonstrations to be used again. This study motivated that Kiringan Village is the largest number of the traditional herbal village. Almost 130 mothers in Kiringan village work as makers and sellers of traditional herb. Kiringan village traditional herb so famous with taste, unique served and sales model. This study aims to investigate the activities of the Kiringan Village community in the indigenous exchange knowledge of making and marketing traditional herbs. The study applied qualitative research. The data collected through observation, documentation, and interviews. The finding of the study revealed that the process of transferring tacit knowledge of the making of traditional herb in Kiringan Village to the community through oral tradition and demonstration from generation to generation with Javanese culture. Knowledge preservation was carried out in the activities of mothers who members of the Seruni Putih Cooperative and the activities of the Jamu Gendong Kiringan Tourism Village. Dissemination activities are related to information technology shown by blogs and social media managed by Karang Taruna Kiringan Village and government websites that made the Jamu Gendong Kiringan icon as a treasure of local culture.

Keywords: indigenous knowledge; traditional knowledge; traditional herb; jamu; java cultural

INTRODUCTION

Traditional knowledge is defined as knowledge possessed or mastered and used by a particular community, community or ethnicity that is inherited and continued to develop in accordance with environmental changes. The term traditional knowledge in the perspective of WIPO contains a broader understanding including wider knowledge and folklore (Sardjono 2006, 1). Indigenous Knowledge (herein after abbreviated as IK) is predominantly tacit and embedded in practices and experiences and exchanged within

the community through oral communication and demonstration. Recording and disseminating it across the communities is not easy.

Indigenous Knowledge is described from various disciplines, including environmental conservation, traditional education systems, health practices and prevention, medical technology, sustainable agricultural practices, local industry and technology, and other areas. Similarly, Indonesia has a variety of IK, one of which is traditional herbal medicine. Herbal medicine is a cultural heritage of Indonesia's ancestors that must be preserved and protected. Herbal medicine is a blend of ingredients from nature that used for health care, disease prevention, disease treatment, health, fitness and beauty recovery. Raw materials for herbal medicine are obtained from nature, namely plants, herbs, tubers, roots, and certain ingredients.

Along with the development of science and technology, the existence of traditional herbal medicine began to shift with the emergence of various kinds of modern pharmacology. However, there is still one village on the southern tip of Yogyakarta that still maintains the cultural heritage of making traditional herbal medicine, named Kampung Jamu Gendong Kiringan. It began in the 1950s when there was a traditional birth attendant named Simbah Joyo Karyo who made jamu for mothers have births, and then he changed his profession from a traditional healer to a herbalist. Initially, the profession as a seller of herbal medicine was only carried out by himself, then passed on to his two daughters, and then to his four grandchildren. Finally, the profession was imitated by the community so that it developed into a village. At present, almost 130 mothers in Kiringan village work as makers and sellers of traditional medicine.

Asian countries and even the world generally have herbs, but they cannot be equated with each other. The traditional herb in Indonesia, specifically the Kiringan traditional herb village has interested, the ingredients, the method of concocting, the method of presentation, and the sales model with cultural traditions. Kampung Kiringan is increasingly well-known through various exhibitions, herbal festivals, herbal concoctions and cultural icons by the government. Promotional media also supported by the government through the website. Preservation of the traditional herb in Kiringan Village is important because 1) knowledge of the manufacture of traditional medicine includes ancient knowledge of the ancestral heritage of the Indonesian ancestors, which is currently only known by certain communities or the community of observers of traditional herb; 2) Utilization of traditional herb knowledge provide economic benefits for the community; 3) Traditional herb in Kiringan have many unique characteristic. One way to preserve traditional knowledge is to disseminate this knowledge to be known by the general public through the exchange of indigenous knowledge. This activity can help provide an understanding of the community of existing traditional knowledge. The study aimed to examine how the activities of the Kiringan village communities in the area of exchange indigenous knowledge?

LITERATURE REVIEW

Traditional Herb

The term "traditional herb" has been noted to the literature (Mudjiono et al. 2014, 39) comes from the Old Javanese language "*jampi*" or "*usodo*" which means healing using medicinal herbs or prayers. The term traditional herb was introduced by traditional healers or traditional medicine doctors. The original traditional herb was introduced in the palace environment. In Surakarta Palace, information on traditional herb is found in ancient manuscripts *Serat Kawruh* chapter *Jampi*. Traditional herb is an original natural herb used for health care, disease prevention, disease treatment, health, fitness and beauty recovery. The raw material of traditional herb is obtained from nature by combining plants, herbs, roots and certain ingredients.

Jamu is a traditional Indonesian herbal medicine that has been used for centuries by Indonesian people for health care and to treat diseases. Although chemical drugs have emerged, herbal medicines are still very popular in rural and urban areas. Now, traditional herbal medicine is being developed into a form of rational therapy, with herbal approval and in the form of phytopharmaceuticals (Elfahmi, Herman, Oliver 2014, 51)

Preservation of indigenous knowledge

Indigenous Knowledge (IK) is tacit and embedded knowledge in practice and experiences that emerge later and disseminated to various communities through oral communication and demonstrations to be used again. World Bank (World Bank 1998) created the process of exchanging IK involves the following six steps (Anwar 2010, 6) :

- 1. Recognition and identification is something that is not easy and may be carried out social and technical analysis;
- 2. Validation, namely relevance, handled, function, compatibility, and transferability;
- 3. Recording and documenting, using information technology in the form of audiovisuals, narratives taken, images, or other forms that can be codified;
- 4. Storage, for example, categorizing activities, indexing, connecting it with other information, easily accessed, preserving and maintaining it in the form of a repository so that it can be used later;
- 5. Transferring, make knowledge available to potential users
- 6. Dissemination, sharing knowledge using the right communication channels

The exchange of IK is the ideal outcome of a successful knowledge transfer. Preservation of indigenous knowledge become important because is compatibility with the preservation of the local environment and sustainable development of communities concern. In technology and communication era, indigenous knowledge will eventually at risk. Therefore, well-conceived and continuous effort must be done to save it.

Arnon Bar-On 2014 identified IK as the knowledge that arises without the help of an external system, and then is transferred orally or by imitating and developing independently. IK is dominated by undocumented knowledge. IK is usually shared so that other people or the general public can find out, although some people may have

more than others because of the socio-economic division of labor (Arnon 2014, 781).

International Atomic Energy Agency or IAEA (International Atomic Energy Agency 2011, 6) report that preservation knowledge as the processes required to capture, understand, archive, retrieve and protect explicit and tacit knowledge and to maintain accessibility and readability of it, as technology evolves for as long as the knowledge remains useful. Preservation knowledge is a process of maintaining an organizational system of knowledge and capabilities that preserves and stores perceptions, actions, and experiences over time and secures the possibility of a recall for the future.

Singh Nijhar (Singh Nijhar 2004, 163) shared that the lifestyle of indigenous peoples is closely linked to their customs and tradition. For thousands of years, the history, culture, and religion of indigenous people have been passed down from older to younger generations via oral tradition because the most indigenous knowledge have not been transcribed in written form. The indigenous knowledge in traditional medicine is identifying the material and medicinal plants, preparation method, practices, belief, experiences and observation which have been handed down from generation to generation.

The Knowledge Process

Nonaka and Takeuchi (Nonaka & Takeuchi 1995) report that knowledge creation always begins with an individual that translated knowledge into valuable, public organizational knowledge. There are four modes of knowledge conversion:

- 1. Socialization (tacit-to-tacit) consists of sharing knowledge in face to face, natural and typically social interactions. For example, the sharing of mental models, brainstorming, apprenticeship and mentoring interaction.
- 2. Externalization (tacit-to-explicit) gives visible form to tacit knowledge and converts it to explicit knowledge taking the shapes of metaphors, analogies, concepts, hypotheses, or models
- 3. The combination, the process of recombining discrete pieces of explicit knowledge into a new form. For example a review report, a trend analysis, a brief executive summary or a new database.
- Internalization (explicit-to-tacit), strongly linked to learning by doing. Internalization integrated individual experiences and knowledge into individual mental models (Dalkir 2012, p.16)

Kiringan Village

Kiringan Village is located in Canden Village, Jetis District, Bantul Regency, Special Province of Yogyakarta, about 16 km south of Ngayogyakarta Hadiningrat Palace. Kiringan village is divided into an area of 13.966 Ha and an area of agricultural land of 10.785 Ha. The agricultural land is very fertile to grow various kinds of plants for herbal raw materials.

On January 7, 2007, the seller of traditional herb joined the Seruni Putih Cooperative under the guidance of the Bantul Regency Office of Cooperatives, SMEs, and Industry.

Cooperative activities include discussing, training, managing the area of traditional herb sales, regulating the price of herbs per cup, savings and loan capital. The Seruni Putih Cooperative also developed the instant traditional herb business that is produced in groups by residents.

RESEARCH DESIGN

This research is a case study with a qualitative approach. This research aimed to describe the process of preservation knowledge of traditional herb in Kiringan village, Bantul Regency, Yogyakarta Special Region. Indonesia. This data research taken through observation and interviews. Structured interviews were conducted which adhered to the list of questions that had been developed previously. In addition to interviews, data collection is also conducted by observation. Observation has done in the Kiringan village to find out social conditions, how to make herbs and other activities. Observations are also carried out in the sales area to know how seller serves their customers

Informants research

This study uses a purposive sampling technique to decide the criteria of the informant to be chosen. Total informants used in this study is ten informants, the details are 1) the young generation of Kiringan Village with two informants 2) the chair of the Seruni Putih Cooperative with one informant 3) Mother maker traditional herb with two informants and 4) customers with five informants. The young generation was chosen because they are the next generation and now participating in dissemination information about *Jamu Gendong Kiringan*. The chair of Seruni Putih Cooperative was chosen to know the activities of this organization. Mother makers were chosen to know their opinion about services and impact of the traditional herb.

Data analysis

The steps of data analysis in this study is organized and prepare the data for analysis, read or look at all the data, start coding all of the data to generate a description, represented data in qualitative narrative, and the last is making a conclusion and an interpretation.

RESULTS

The activity of making herbal medicine starts in the evening, which is boiling ingredients such as white turmeric, pace, Javanese chili, cinnamon, and some other spices. Furthermore, the ingredients are pounded at 3:00 a.m. with traditional equipment, named *Alu* and *Pipisan*. After finishing the herbal ingredients are put into the pan, while the herbs are poured into the available bottles. Around 7 o'clock, the mothers in Kiringan village are ready to go to sell herbal medicine. At first, they peddled herbal medicine on foot carrying "*tenggok*" so that this village was known as the "*Kampung*

Jamu Gendong." However, along with the development of transportation and the distant sales locations are so far, today many are using bicycles.



Figure 1: The mothers go to sell traditional herbs

The herbs that are sold are at least 10 types, from galingale rice, turmeric tamarind, swingset excavation, puyang chili, jiri sirih, purwoce to uyub-uyub. The presentation of herbal medicine is quite unique, which is served in a cup made from coconut shell, or called '*cawik*' or '*bathok*'. Coconut shells are believed to increase the medicinal properties because they contain carbon which is useful for body health. There are two types of herbal medicine, the finished form and the mixture in place. The finished form, for example, kencur rice and turmeric, which have been packaged in bottles and stay poured if someone buys. Mix in place, which is a mixture of herbs that have not been diluted or mixed with water, the herbs will be formulated in front of customers, so that customers can find out directly what ingredients are mixed, and can choose herbal remedies according to their own desires. This direct concoction is tastier.

Kiringan traditional herbal medicine customers come from various backgrounds, from small children, adults, parents, housewives, to nursing mothers. The best seller herbal medicine is *uyup-uyup* for breastfeeding mothers who are efficacious to facilitate breastmilk. There are customers who use this traditional herbal medicine as an alternative treatment for their disease. This traditional herbal medicine is used to increase stamina or maintain a healthy body. For the village sale area, the Seruni Putih Cooperative has been arranged so that it does not overlap.

In addition, the nature of the Yogyakarta people who appreciate "*tepo seliro*" from each other also helps maintain the market area.

This year, there are still 130 mothers in Kiringan village working as makers and sellers of traditional herb. Throughout the literature searches, it is the largest number of herbal sellers village in Indonesia. In other areas, it only ranges between 50-100 people per village. Based on the results of interviews, to the concept of preserving cultural heritage

as the main goal. Moreover, the development of this profession is also motivated by economic motives and socialization. The barely to get an income of their husband already motivated them to continue to be persistent in helping the family's economy. The motive of socialization, by peddling their herbs, they were so happy to interacting and to sharing in several subscription areas, and even create close relationships. They regarded customers like family. If their customers sick or hit by a disaster, they visit them. They believe that if they work sincerely, fortune will be launched. Therefore, the seller of Kampung Kiringan is famous for its hospitality in serving buyers, delicious herbal taste and the uniqueness of its presentation. Kampung Kiringan is increasingly wellknown through various exhibitions, herbal festivals, herbal concoctions and cultural icons by the government. Promotional media are also supported by the government through the website.

1. Recognition and Identification Activities

The knowledge process begins with a mother having the knowledge of concocting herbs then teaching her child. Neighbors know that in their environment there are those who have the knowledge, and then the owner of the knowledge explains how to mix herbs with oral traditions and demonstrations. Then, the neighbor teaches his child, his sister, brother with the same method. Finally, this knowledge can move from generation to generation. This identification is in accordance with the theory of Indigenous Knowledge (IK) which is transferring tacit knowledge to the community through oral traditions and demonstrations.

Recognition from the government can contribute to the importance of indigenous knowledge to be developed and protected. Jamu Gendong Kiringan has received recognition from the local government to the level of the Special Province of Yogyakarta. The government pays attention to this cultural heritage through the Cooperatives, Small and Medium Enterprises (SMEs) and Industry Department to mentoring cooperative activities including traditional herb training, assistance in selling traditional herb, and business capital. Even in exhibition activities, in the city and outside the city, Jamu Kiringan always gets a free boot. The Government through the Tourism Department has also inaugurated the Jamu Gendong Kiringan Village to become a Tourism Village on June 6, 2016. The potential for traditional herb in Kiringan will be taken seriously by the government and will be promoted to hotels, so can be a tourist product. *Jamu Gendong* Kiringan Village is a traditional herb icon of Yogyakarta Special Province. The recognition of the traditional herb icon carried out in every government activity helps the process of preservation of traditional knowledge.

2. Validation Activities

Validation in indigenous knowledge is the assessment knowledge traditional medicine of Kiringan, referring to relevance, reliability, functionality, effectiveness, and transferability of the source so it can be said as the local knowledge. The relevance seen from the transfer of knowledge of Kiringan traditional herb making is the Javanese perspective of inculcating human to human, not individualistic. Someone has certain knowledge or abilities, he will not monopolize for his own sake, even though it brings economic benefits. They try to disseminate this knowledge so that other people can use

it. They assume that knowledge is shared property. From the concept of Islamic religion (majority religion of the population), they follow Allah's command that the knowledge obtained cannot be hidden (QS Al-Imron: 187) and spreading knowledge is a charity. In the community life, people at village Kiringan cohesive to cooperation, for example to build houses for the residents, built village facilities and clean up the village together.

The functionality of Kiringan traditional herb from the side of tradition can be seen from the early history which was only used in the Yogyakarta Palace to maintain health and beauty of the Princess in the Palace, then began to explore the local community. Reliability can be seen from the customers of Kiringan Traditional Herbs who are still loyal so that they still exist in the Yogyakarta community. The development of the profession of making and selling traditional herb in one village from generation to next generation is proof that the effectiveness and transfer of knowledge in traditional herb have been successful.

3. Record and document activities

Recording and documenting is one step to converting tacit knowledge into explicit knowledge by changing that knowledge into other forms of media in accordance with technological developments. This recording activity can be done using multimedia tools, like audio, visual and audiovisual. The activity of recording the knowledge of making traditional herb initially came from tacit to tacit knowledge and then passed on to the next generation orally and practically based on the experience of the daily activities of the community. For decades there have been no recordings or written documents about the process of making traditional herb or recipe for the concoction. After the community began to know the technology around 2000th, there were photos of the process of making traditional herb and activity of selling, but only for local family collections. Only in the last ten years has the knowledge of traditional herb been published in the form of photos, pictures, and videos. Recording and documenting activity was carried out by collaboration between young generation. Seruni Putih cooperation, and village heads.

4. Storage Activities

The storage activity in indigenous knowledge is storing the knowledge that has been recorded and documented in the repository. This activity requires a library to classify and index knowledge that will be stored, either in record or print so that it can be reused. This role is in line with the mandate of Indonesian law, *UU Nomor 43 Tahun 2007* about Library, at 8 clauses which states that the regional government is obliged to organize and develop regional public libraries based on regional peculiarities as research centers and references on regional cultural wealth in its territory. In the knowledge storage activities, the Kiringan Village community keeps it in a filing cabinet at the Children Center Kampong Kiringan hall, not included in the repository. Digital library or another website, not yet special i-repository regarding Jamu Gendong Kampung Kiringan.

5. Transfer Activities

The transfer of knowledge about the making of Kiringan traditional herb is done orally, both individually and in groups. Conversion of knowledge transfer is done by 1) Socialization, that is, the knowledge owner transfers his knowledge to the community through verbal and demonstration and visitor; 2) Externalization, at this stage the knowledge of the traditional herb Kiringan Village that was still in memory has been converted into an explicit form into a video recording and a complete profile of Kampung Jamu Gendong Kiringan 3) Internalization, departing from the training provided by the UKM and Regency Industry Bantul regarding herbal innovation, Kiringan village community adopts the knowledge gained by applying it in instant herbs, candy, syrup and other ingredients. The manufacture of the instant traditional herb is managed by the White Seruni cooperative. This activity is relevant to the SECI Model knowledge conversion introduced by Ikujiro Nonaka 1995 (Dalkir, 2012, p.54)

6. Dissemination Activities

Activities to disseminate knowledge obtained from the results of recordings and documentation that have been obtained previously. This activity is the final step in the activities of exchange of indigenous knowledge. Kiringan villagers spread knowledge in various ways. Initially, the knowledge was disseminated in the activities of the Seruni Putih cooperative, which is providing training or workshops to new members regarding the manufacture of traditional herb. Now, they gave training to the making of traditional herb to guests who came systematically with a guidebook to form a village for tourism of Kampung Kiringan. Through this tourism village activity, tourists go around the village, explained the process of making traditional herb and see first-hand the mothers concocting herbs. Tourists will also be invited to see the garden planted with spices and herbal ingredients. Tourists are designed to feel live in as a herbalist. There have also been many guests from outside the region who conducted comparative studies to Kiringan Village to learn how to make traditional herb. This activity is a knowledge conversion in combination (based on the SECI model) which is conveying documented knowledge to be developed or used to become new information that is systematically delivered to groups.

The Yogyakarta government often holds exhibitions or expos or herbal drink festivals. Through the Kiringan Tourism Village exhibition activities they always participate in disseminating the manufacture of traditional herb and their herbal products. Through the festival, traditional herb makers not only distribute free thousands of glasses of traditional herb to visitors but also share the process of making traditional herb, recipes, and benefits. Kampung Kiringan also often participates in competitions to concoct herbs and get championships. Kiringan Village has also created blogs, not yet websites, available at www.sentrajamukiringan.wordpress.com. The fan page Facebook is available at https://web.facebook.com/Kiringan4ever/ and Instagram available at @wisatakiringan_id. Social media managed by Kampung Kiringan youth to disseminate activities in Kiringan Village. The local government, such as the sub-district and district, has also shown the icon of Kampung Jamu Gendong Kiringan on the website. This method strongly supports the dissemination of knowledge about Kampung Jamu Gendong Kiringan.

DISCUSSION

Indigenous knowledge activities can succeed in the transfer of knowledge. Preservation of indigenous knowledge is very beneficial for the next generation and supports sustainable development, both across communities, local communities, and the general public. Indigenous knowledge in this research is traditional medicine Jamu Gendong Kiringan. The author does not highlight the process of making herbal medicine, but how the activities of the Kiringan Village community can succeed to transfer knowledge by adjusting local culture. The knowledge identification process begins with a mother who has the skills in making and concocting herbs, then transferring her tacit knowledge to individuals and communities (a group of Kiringan residents) through oral traditions and demonstrations (the practice of concocting traditional medicine). This knowledge then gained recognition from the community and the provincial government of the Special Region of Yogyakarta, as evidenced by the inauguration of a tourist village in 2016. Validation of knowledge can be seen from the opinions of Jamu Gendong Kiringan customers who are still loyal so that they still survive. Hospitality and social spirit in serving using cultural values strongly support this validation. The development of the profession of makers and sellers of herbal medicine into one village shows that this transfer of knowledge has succeeded.

Recording the knowledge of making traditional kiringan herbal medicine was initially not documented, and only in the last 10 years has it been made explicit in the form of photos, images, and videos. The people of Kampung Kiringan keep it in a file cabinet at the Children Center hall in Kampung Kiringan, but it has not yet been included in the local government library's repository. Traditional herbal medicine knowledge transfer is carried out orally, both individually and in groups according to NECI's theory, including socialization, externalization, internalization and combination processes. Knowledge dissemination is carried out in various ways, namely training, workshops, competitions for concocting herbs, exhibition activities or expos, festivals for drinking herbal medicine. In addition, the Kiringan Village Youth Organization has also created a blog, Instagram and Twitter and Facebook.

CONCLUSION

From the results and discus of the above research, it can be concluded that the process of transferring knowledge of tacit making traditional herb to Kiringan Village to the community through oral tradition and demonstration from generation to generation with Javanese culture. Knowledge preservation is carried out in the activities of mothers who are members of the Seruni Putih Cooperative in the form of sharing knowledge, training, and seminars. The inauguration of this cultural heritage was shown by the government with the legal entity Koperasi Seruni Putih and the inauguration became the tourism village of jamu carrying. Tourism Village Activities Kiringan Village is designed so that tourists feel live in as a herbalist. Dissemination activities related to information technology are shown by blogs and social media which are managed by Karang Taruna village Kiringan and government websites that make the Jamu Gendong Kiringan icon as a treasure of local culture.

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REFERENCES

- Anwar, M. A. 2010. Role of information management in the preservation of indigenous knowledge. *Pakistan Journal of Library and Information Science*, Vol 11, no.2: 5-14
- Arnon Bar-On. 2014. Indigenous knowledge: ends or means. *Journal International Social Work.*, Vol 58, no.6: 780-790
- Dalkir, Kimiz. 2012. *Knowledge management in theory and practice*. Burlington: Elsevier Butterworth-Heiniman.
- Elfahmi, Herman J Woerdenbag and Oliver Kayser. 2014. Jamu: Indonesian traditional herbal medicine towards rational phytopharmacological use. *Journal of Herbal Medicine*, Vol 4, no. 2: 51-73
- International Atomic Energy Agency. 2011. *Comparative analysis of methods and tools for nuclear knowledge preservation*. Austria: IAEA Publishing
- J.W. Creswell. 2014. *Research design qualitative, quantitative and mixed method approaches*, 4th Ed, California: Sage Publication
- Jamu Kiringan. 2014. Sentra Jamu Kiringan, Bantul Yogyakarta. Available at: https://sentrajamukiringan.wordpress.com/
- Mudjijono, Isni Herawati, Siti Munawaroh and Sukari. 2014. *Kearifan Lokal Orang Madura tentang Jamu untuk Kesehatan Ibu dan Anak*. Yogyakarta: Balai Pelestarian Nilai Budaya
- Ngulube, P. Strategies for managing and preserving indigenous knowledge in the knowledge management era. Proceedings of the 15th Standing Conference of Eastern, Central & Southern African Library & Information Associations, Johannesburg, 15-19 April 2004
- Sardjono, Agus. 2006. Hak kekayaan intelektual dan pengetahuan tradisional. Bandung, Indonesia: PT Alumni
- Singh Nijhar, Gurdial and Azmi Sharom. 2004. *Indigenous people, knowledge system nad protecting biodiversity*. Kuala Lumpur Malaysia: APC
- UU Nomor 43 Tahun 2007 tentang Perpustakaan. 2007. Jakarta, Indonesia: Perpustakaan Nasional Pasal 8