

Bamboo for Beverage Containers of *Legen* and *Tuak* as a Reflection of Local Wisdom of Tuban Society

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Abstract

Legen and *tuak* beverage container made of bamboo has different names and functions namely *bethek*, *centhak* and *ongkek*. This study aims to see how people use bamboo as part of local wisdom in the form of *legen* and *tuak* container. The society gaining knowledge from living with the nature finds that the functions of a bamboo are being thermal insulation, being a not-easily-broken container, maintaining flavor and aroma, and making the content in it more durable. Apparently, the sustainability of this natural-made packaging is not only due to its function which is tangible but also related to the socio-cultural of the local community especially how they produce, consume and distribute *legen* and *tuak*. In practice, local wisdom of bamboo as *legen* and *tuak* beverage containers continuously gives attention to the balance of nature that does not destroy or force the nature to produce more than its capacity, it is inherited from generation to generation, and it is correlated to the culture. It contains the philosophy of self-controlled and sharing.

Keywords: Bamboo, beverage containers, local wisdom, Tuban society.

Introduction

Indonesia is rich in its cultural diversity as well as its culinary diversity. Food and beverages that are called traditional in Indonesia sometimes not only have a story behind them, but also are closely linked to local tradition. Indonesian society has shown their capability to make use of natural resources and local traditions. That is why the concept of local wisdom is very important and embedded in everyday life of society (Mulyana in Affandi & Wulandari, 2012).

The concept of local wisdom has many interpretation from a balanced and harmonious relationship between nature and the cultural environment which is an illustration of systematic life (Ridwan, 2007). From the perspective of society and individuals, local wisdom refers to knowledge derived from community experience and the accumulation of local knowledge. These experience and knowledge are inherited from generation to generation and can be seen as the philosophy of a society. Such knowledge often serves as a guideline for people in their daily lives, including how they interact with family, neighbors, friends, people around them and their surroundings (Phongphit and Nantasuwana in Kongprasertamorn, 2007). These values and knowledge derived from the past are guarded by a group of people who care about social practices in relation to nature (Salam, 2007).

According to Phongphit and Nantasuwana (2002), the characteristics of local wisdom can be explained as follows: (1) local wisdom must fit in knowledge of virtue that teaches people about ethics and moral values; (2) local wisdom must teach people to take care of nature, not to destroy it; and (3) local wisdom must come from the elder members in the community. The problem is that local wisdom usually is not formally published and promoted. As

a consequence, it is not easy for the people to know and use this kind of knowledge (Kongprasertamorn, 2007). Forms of local wisdom in society can be: values, norms, ethics, beliefs, customs, customary law, special rules, people's thoughts, ways of living, occupations, ancestors advice, or culture that is built up scientifically in a society (Sartini, 2004; Kongprasertamorn, 2007; Santoso, 2009). It can be understood as the local idea which is wise, full of wisdom and good valued followed by the society (Santoso, 2009). It can be said that local wisdom can be tangible and intangible. The implementation of local wisdom in this research can be found in a bamboo as a beverage container.

One of the traditional beverages that is widely known and closely associated with the local culture is *Legen* and *Tuak*. Actually, these beverages are available in various regions in Indonesia with a different name. In general, people know that *legen* and *tuak* are taken from trees known as the palm trees. Palm (*Arenga pinnata*, *Arecaceae* tribe) is a plant that is versatile like coconut. Neera or palm nectar can be utilized as a natural drink, *legen*, and is also used for the manufacture of raw materials of palm sugar. Raw neera (fresh) are laxative (*laksativa*), so it is often used as a laxative. The fresh neera is also good as a mixture in making bread dough rise. By applying other materials, or by storing it for a few days, the neera can also be fermented into vinegar (Heyne, 1987). In addition to neera, fruit of the palm tree can be used for *kolang-kaling* (sugar palm fruit), and the stem is used as a raw material of corn starch. This plant is known by various names such as *nau*, *hanau*, *peluluk*, *biluluk*, *kabung*, *juk* or *ijuk* (various local names in Sumatra and the Malay Peninsula); *kawung*, *taren*; *akol*, *akel*, *akere*, *inru*, *indu* (languages of Sulawesi); *moka*, *moke*, *tuwa*, *tuwak* (Nusa Tenggara), and others. Internationally, in Dutch, palm is known as *arenpalm* or *zikerpalm* and in German it is called *zuckerpalme*. In English it is called sugar

palm or Gomuti palm (Heyne, 1987). Meanwhile, farmers in Tuban often call this plant as *bogor*. They say that in fact the species of *bogor* plant is different from sugar palm (*aren*) in Borneo (Sarju, 2016). In Indonesia, especially in Jakarta and West Java droplets of *aren* are sold as *aren* ice (Kompas.co.id., 2008) while in Central Java, they call it *legen* and in the northern coastal areas of East Java this beverage is known as *legen* and *tuak*. However, the similarities and differences of palm trees and *bogor* are not discussed in this study.

Legen is categorized as soft drinks while some people classify *tuak* as liquor because it contains alcohol which can be intoxicating. What is interesting about these beverages is how the production, consumption and distribution of *legen* and *tuak* use a bamboo container that has a different term in accordance with its function. The containers are named *bethek*, *centhak*, and *ongkek*. *Bethék* or bamboo tube is used to hold *deresan* or droplets of palm. In Jakarta, people refer *bethek* as *lodhong* (large bamboo) (Kompas.co.id., 2008). *Centhak* which functions as glasses made of bamboo serves as a *legen* or *tuak* drinking container. Meanwhile, *ongkek* is a tool used to sell *legen* or *tuak*. According to some residents of Tuban, *legen* and *tuak* sellers are no longer using *ongkek*.

We see nowadays the use of natural materials as containers for traditional drinks especially *legen* and *tuak* is increasingly scarce. Along with the development of this modern era, natural materials are getting more difficult to get because there is no more land to plant bamboo or be overgrown with bamboo; thus, it makes the material price more expensive (Natadjaja & Yuwono, 2016). Currently bamboo as container begins rarely to be used, seen and even known by the communities themselves. Even in Lamongan, *bethek* function is already being replaced by the pipe or PVC because it is lighter and easier to get (Mia, 2016) while the function of *centhak* is clearly been replaced by glass. Meanwhile, *ongkek*, formerly carried by human power, obviously cannot be found again, replaced by the seller using a bicycle or motorcycle. Some of the sellers also use public transports to distribute *legen* and *tuak* to the merchants.

The increasing scarcity of the use of bamboo in the form of *bethek*, *centhak* and *ongkek* makes us feel the need to examine how the community implements local wisdom on a beverage packaging that may now be replaced with more practical modern packaging. This study aims to observe how people use natural material like bamboo as part of local wisdom with different functions and various terms in the form of *bethek*, *centhak* and *ongkek* as *legen* and *tuak* container.

Method

We often find *legen* and *tuak* on the north coast of the island of Java in particular in Gresik, Lamongan and Tuban, but in this study we focus on finding data in Tuban. *Legen* and *tuak* in Tuban are mostly known to the public compared to *legen* and *tuak* in Gresik and Lamongan. We believe that the existence of *legen* and *tuak* cannot be separated from the

culture of society that is more tolerant and multicultural. Based on our observation, people in Tuban still consume *tuak* openly in the streets even though *tuak* is considered as liquor. In addition, people also more likely still consume *legen* and *tuak* as a daily drink in comparison to other regions.

This study is a qualitative study using ethnographic methods. We needed ethnographic methods to see the paradigm that occurs in society. We hardly found literature that specifically explores about traditional beverage especially *tuak* and *legen*, and the use of bamboo containers that reflect a local wisdom. The objective of using ethnography method is to get the data as accurate as possible from the main informant based on current condition. The qualitative researchers are most interested in humans, especially how humans arrange themselves, review their setting and understand the study on their surroundings through symbols, rituals, social structures, social roles and so forth (Berg, 2009: 8). Researchers examining the paradigm can use a wide variety of research tools; one of which is ethnography (Saukko, 2003). Researchers prioritize field studies with data through observation, documentation and interview. Ethnography involves the final product of field research, namely writing the results of observation, interviews and so forth (Ellen, 1984). Ethnography is an activity to understand the way of life from a different angle, a work depicting the culture (Spradley, 1979: 3). In this study we also used the study of literature before and after doing the field research to support the data obtained from the field study.

The steps of this study began by searching the literature that could direct us to the data searching. We did not find many data sources that led to the search of key informants. Then, we looked for informants when we did a field study. In field study we did four research steps as defined by Lull in Gillian Rose (2002). In the field study, we first sought access to a resource. Here we divided a resource into three, namely non formal informant, main informant, and expert speaker. Non formal informant is expected to lead us on the access to key informants. This person gave us information about the main informant. Non formal informants include: fellow professors, students, alumni, shop keepers, stores, merchants, hotel receptionist, security guards and others. We do need non formal information especially from the local community because we hardly find them by only browsing information in the internet. The main informant especially sugar palm farmers is usually far from information access, being in a remote area and not promoting themselves. Next was the main informant. Here we had access to a beverages producer who was also the sugar palm farmer and seller. We observed the activity and interviewed them. We got some important information about the production, consumption and distribution of these beverages. The third was the expert speakers. We required statements that were expected to support this field research. The expert speakers were from academic, packaging consultant, humanist, and culinary expert. We used their information to support our arguments from different perspectives.

The next step was to make observations. In this step, we made observations about *legen* and *tuak* with the variety of products and their packaging. We followed the activity of sugar palm farmers and community activities that consume *legen* and *tuak*. Observation is needed to see something hidden in the community (Holmes, Wicker, Ashari, 2005: 54). Next, for the data mining, we did an in-depth interview. We did documentation through photographs, video and sound recording, and took notes on some important points. For this interview we prepared a list of questions, but in reality, on the field the questions were less structured and the interview was more toward conversational interviews.

The final step was data analysis. A research usually results in a lot of information. We connected the analysis of the data obtained with the theory of local wisdom. Then, the results were organized according to topics that were considered coherent before being interpreted in order to describe the conceptual point (Lull, 1990: 180).

Discussion

Bamboo in the Form of *Bethek*, *Centhak* and *Ongkek* for *Legen* and *Tuak*

There are various versions of the production of *legen* and *tuak*. *Legen* or sugar palm water is from the processing of palm fruit that is from *kolang-kaling* tree (Kompas.co.id., 2008). Some people said that *legen* comes from palm trees while *tuak* comes from different trees. One of the sellers of *legen* in Lamongan said that *legen* is *deresan* (droplets) from palm trees while *tuak* is *legen* mixed by leaves of *babakan* or leaf of *juwet* (Mia, 2016). There are those who say that *legen* is droplets of new palm while if it is already lodged one day then *legen* becomes *tuak*. Meanwhile, in Kalimantan, neera is processed again into *tuak* just by entering *langsap* skin or *ketapi* bark and being kept in storage for several hours; neera which is initially sweet will turn into a somewhat bitter taste (Kaltim Post, 2008). In some areas in Indonesia, *legen* is said to be derived from the fermented neera into some sort of alcoholic beverages or *tuak* or in the east area it is called *saguer*. *Tuak* is produced by putting one or several kinds of bark or roots (e.g. *nirih* bark (Xylocarpus) or similar to forest mangosteen (Garcinia) into the neera and it requires to be kept in storage of one to several days to process. Depending on the herb added, *tuak* can taste a little sweet, a little sour or bitter (Heyne, 2016). Not all of *legen* and *tuak* sellers know how *legen* and *tuak* are produced; they only buy from farmers who routinely send their products. Apart from the various versions of the *legen* and *tuak*, in this study we see directly and reveal how *legen* and *tuak* are produced, consumed and distributed, especially among farmers, sellers and consumers in Tuban.

For the people on the northern coast of East Java, especially Gresik, Lamongan and Tuban, *legen* and *tuak* are the drinks they can consume daily. The abundance of *legen* and *tuak* makes these drinks even become a compulsory consumption for some people, especially in this study, people

who live in the village area of Tuban. Then, what are *legen* and *tuak*? From their mode of production, *legen* and *tuak* are beverages from the same tree that is referred to as a sugar palm (*aren*) tree or called a *bogor* tree by farmers in Tuban. Although farmers of *legen* and *tuak* in Tuban call *legen*-producing trees are *bogor* trees, but in their explanation during in-depth interview they often call the *aren* tree compared to *bogor*. Besides, droplets of sugar palm water from *bogor* tree are referred to as droplets of *aren* water or neera. Moreover, Indonesian people are more familiar with *aren* tree than the *bogor* tree. The term *bogor* is limited to farmers in Tuban. Thus, in this study, we use the term *aren* compared to *bogor*.

***Bethek*: A Reflection of Production Control of Sugar Palm**

In this study, we have not found any written records that describe when the first discovery of *legen* or *tuak* was. No one can explain the beginning of bamboo used as a tool to hold droplets of sugar palm water. Some information says that bamboo is used as a container of the droplets because at that time the farmers have no other choice but to use bamboo. Thus, they take advantages of the natural materials around, especially bamboo, as the material most likely to be exploited, to hold droplets of sugar palm. We see that in Tuban it is rarely found other materials to make a drink container such as from clay or other. In addition to its functional requirements, the actual use of bamboo can also be said to be political. Bamboo grows wild. It will disrupt the growth of other plants, so the bamboo should be used. Bamboo is useful for various applications at different ages; at age six to nine months bamboo can be used for making baskets (Adam, 2003). The use of bamboo as a container makes the growth of bamboo plants able to be controlled; thus, indirectly the use of bamboo plants functions as environmental preservation.

Bamboo itself has advantages over plastic. Bamboo material can withstand the heat of the sun when the droplets of sugar palm are tapped. As the heat retaining, bamboo can reduce the oxidation of sugar palm water into alcohol. Besides, bamboo can maintain a sense of *legen* and *tuak* in order to stay sweet and fresh and not quickly sour. In various regions in Indonesia, bamboo is used as a container as well as food packaging which functions to give aroma and also functions as a container when the food needs to be burned. Some of the Indonesian foods that use bamboo are *lemang* from Banjarmasin and Minangkabau, *nasi Jaha* from Manado and Minahasa, *Pa'piong food* from Toraja, chicken stick from Manado, *putu* of Java, chicken bamboo from Kulawi area, and catfish bamboo from West Kalimantan. For snacks, producers usually give bamboo a mat from banana leaves (Kaskus.co.id., 2010).

Appropriate term given by Tuban community to *bethek* is *dibebet ben ora mlethek*, which means it cannot break when it is wrapped. The nature of bamboo is strong and not easily broken withstanding the heat of the sun while taking the droplets of sugar palm that are relatively long at around 7-8

hours per day. In addition to the nature of bamboo that is not easily broken when linked to the palm fronds, bamboo tube or *bethek* is not slippery so that the winding of palm leaves can bind strongly on the bamboo tube and can withstand the sugar palm droplets until it is quite full. Moreover, by using bamboo the taste of *legen* or *tuak* will be more fresh, sweet, still contain soda and not so sour.

“When droplets of sugar palm are stored in bamboo, tuak tastes fresh, sweet, contain soda, not sepet and not sour. If tuak is contained in the bottle, there is heat because of sunlight. If using bamboo, the heat can not penetrate because the bamboo skin is thick” (Gunawi, 2016).



Figure 1. *Bethek*

Furthermore, the question that arises is what distinguishes *legen* and *tuak* from its mode of production. The only difference between *legen* and *tuak* is the way of droplets of sugar palm shelter, especially if *aren* farmers will clean *bethek* or not at the time when they take sugar palm water. *Aren* water is taken by accommodating droplets or in the Java language is often referred to droplets of *aren* midrib or called *neera*. When sugar palm water is put in the cleaned *bethek*, then sugar palm water will become *legen*. Meanwhile, when farmers want the sugar palm water to taste stronger or contain more alcohol and become *tuak*, then *bethek* does not need to be cleaned. Sediment that is in the *bethek* makes *aren* water into *tuak*. *Legen* and *tuak* are usually taken twice a day, around at seven o'clock in the morning, and afternoon at about three o'clock (Gunawi, 2016; Sarju, 2016). After sugar palm water droplets are collected in *bethek* for a long period, farmers will climb the palm tree to take the water that is in *bethek*. *Bethek* can be taken from the tree and cleaned if farmers want to get *legen*, but *bethek* will be left without washing if the farmers want to obtain *tuak*. *Bethek* that is unwashed will produce a precipitate which makes *legen* react to produce alcohol that makes *tuak*. Thus, *tuak* production is actually easier because *bethek* does not need to be taken from sugar palm tree and cleaned.

“If bethek is often cleaned, then the sugar palm droplets become legen; it stays sweet. If bethek is not cleaned, then it becomes tuak because there are sediments of sugar palm drops” (Gunawi, 2016).



Figure 2. The Process of Taking Sugar Palm (*Deresan*)

With the use of bamboo called *bethek*, it is arguable that farmers preserve the balance of natural harmony or not forcing the nature to produce more than its capacity. The size of the *bethek* certainly has been adjusted to the capacity of droplets; only the harvest should be done twice a day. The *aren* droplets into the *bethek* illustrate patience to acquire a result. Javanese philosophy *nrima ing pandum*, which means acceptance describing a local wisdom in utilizing bamboo as a container that does not only qualify functionally but the limited size of bamboo also depicts self-control as well as preserves the nature.

Centak: Togetherness and Tolerance in the Consumption of Tuak

Legen has meaning *kelegen* which means sweet (Gunawi, 2016; Sarju, 2016). Some people recognize *legen* as "klangenan" drinks because it tastes sweet and fragrant (Sudarman, 2009). *Tuak* itself according to the local community has the meaning *noto awak* or arranging body (Gunawi, 2016; Ghofir, 2016; Sarju, 2016). Regarding to the meaning *noto awak*, some people call *tuak* as *towak*, but in this article, we prefer to use the term *tuak* as it is used in Indonesian language.

Tuak consumption by farmers is still done using *centhak*. Farmers and his colleagues are used to drink *legen* and *tuak* from a container made of bamboo that serves as cups. Interestingly, when *tuak* is poured from *bethek* to *centhak*, it appears that the amount of *tuak* is much; however, when *tuak* is poured in *centhak*, the amount is just three quarters. This is because the base of the bamboo tube is not until the bottom but rather rise to the top, making it less than it looks. It seems that *tuak* consumed is a lot but actually less, not like what it seems. If its name is associated with *centhak*,

then the actual bamboo tube is shallow or *cethek*. *Tuak* is a drink that contains alcohol; it is better that *tuak* consumption is not excessive.



Figure 3. *Centhak*

Associated with the consumption of *legen* and *tuak*, there is uniqueness of how people drink it. Generally, people buy *legen* for personal consumption or more individuals while they prefer to consume *tuak* together. When associated with alcohol content, *tuak* is often categorized as liquor. It is no wonder that this drink is more delicious when it is drunk together. Drinking *tuak* for some societies in Tuban is a must and becomes a daily habit. They drink *tuak* just like drinking coffee in the morning and evening; even some of them also drink during the day.

"My colleagues drink tuak when they go to work early in the morning, the same time when the villagers feed the cows at 8 am. They drink tuak as their breakfast. They do not eat rice but drink tuak three glasses and last until 12 in the afternoon, sometimes until 4 pm. This is different from people deliberately drunk who drink five liters of tuak for two people" (Sarju, 2016).

Tuak drinkers are usually male. They usually gather in one of the houses of their farmer's colleague in the morning before going to work and reconvene in the afternoon to get back together drinking *tuak*. Women in Tuban also drink *tuak*, especially when they menstruate in order to smooth and clean the menstrual blood. However, the difference between men and women is men are used to taking *tuak* in public spaces together while women consume individually at home (Sarju, 2016).

Moreover, in connection with the meaning of the *noto awak* or arranging body, *tuak* consumption is not only for a thirst-quenching beverage, but also for health reasons which are kidney health for men and reproductive health for women. For the people in Tuban, they say that *tuak* is good for health, especially for a natural remedy for kidney stones. Although it is not yet fully proven in the medical world,

farmers and some communities in Tuban said they have felt the efficacy of drinking *tuak* regularly (Gunawi, 2016; Sarju, 2016).

"Women can drink tuak but it seems taboo that women drink liquor. Usually if women have menstruation, they drink tuak to let her womb clean like young coconut. My children who are women also drink tuak and usually if they drink tuak at night, the urinary is more smooth" (Sarju, 2016).

According to the people of Tuban, *tuak* does not make them drunk. Even though *tuak* contains alcohol, *tuak* drinking habit does not make people drunk. It is in contrast to common people who would feel the effect of the alcohol. In fact, according to them, no fights or disputes are caused by drinking *tuak* (Gunawi, 2016; Sarju, 2016). When drinking *tuak* with *centhak*, they drink it together. In addition, there should be self-control so it is not excessive resulting drunk. This attitude shows the existence of togetherness and mutual tolerance.



Figure 4. Drinking *Tuak* by Using *Centhak*

Ongkek: Being Abandoned and Limited Distribution

The results of the droplet of sugar palm water to some farmers are consumed alone without selling them, but some others consume the beverages by themselves and sell partially to sellers. From the distribution side of *legen* and *tuak*, there are three types of distribution systems these days. The first is *tuak*, especially after the harvest, is not distributed but consumed among farmers. *Tuak* consumption has made farmers drink together in one of the houses of the *aren* farmers. Every morning and afternoon, the wife of the farmer prepares *tuak* in containers which they call the *bethek*. From *bethek*, they pour *tuak* in *centhak*. They use *centhak* to drink instead of glass. As a companion to drink *tuak* as well as an additional income, the *tuak* farmer's wife also sells food such as rice corn, *brengek*s of spotted barb, vegetable from grated coconut or *urap-urap* that are wrapped in small pieces and sold at relatively low prices. The farmers are going to consume *tuak* along with dishes that have been provided. They usually will pay a sum of money for *tuak* and the food they eat.



Figure 5. The Proportion of *Bethek* and *Centhak*

Another distribution system is farmers sell harvested *legen* and *tuak* directly to buyers who come directly to farmers. Some people in Tuban and outside Tuban who know the location of *legen* and *tuak* farmers usually prefer to buy directly from them. They believe the *legen* or *tuak* of farmers is new, fresh and not mixed with other ingredients such as water. Although customers buy directly from the farmers, the price of *legen* and *tuak* that the farmers sell is almost the same as the price of *legen* and *tuak* sold by the sellers.

The distribution system commonly found is the distribution from farmers to sellers and consumers. In the town of Tuban at Jalan Manunggal has lined *legen* and *tuak* sellers. The area is famous for its *legen* and *tuak* sellers. The buyers are usually from out of Tuban town. They buy *legen* and or *tuak* to be consumed on the spot or taken home as souvenirs. Currently there are no more sellers who go around to sell *legen* or *tuak* on foot, because no one wants to bear the burden of *legen* and *tuak*. With the ease of transportation, many sellers of *legen* and *tuak* use bicycles or motorcycles. However, most sellers still sell *legen* and *tuak* by setting up kiosks or stalls. This is in contrast to the past where the seller sold *legen* and *tuak* all around by *ongkek*. Sellers of *legen* and *tuak* should bear *ongkek* which contains *legen* or *tuak* which generally consists of four long bamboo tubes, bamboo for drink containers that are strung up, two on the right and two on the left, coupled *bethek*, a medium-size bamboo and *centhak*, and they are carried together on a bamboo splinter and sold around on foot. Sellers will also bring *bethek* and *centhak* on his *ongkek*. Unfortunately, when this study was conducted, we could not find *ongkek* in its original form. *Ongkek* currently is only sold in miniature form as souvenirs in the souvenirs shops.

"*Ongkek* still existed between the 1970s-2000s. *Ongkek* is usually carried by the Blora people. Besides being put in shoulders, *tuak* used to be sold by bicycle or now using motorcycle " (Sarju, 2016).

Abundant production of *legen* and *tuak* makes *legen* and *tuak* able to be sold. At the time, the plastic technology had not been found, and the glasses broke easily and were too risky to carry around, so sellers of *legen* and *tuak* designed a tool called *ongkek*. By using a bamboo tube that was longer and more numerous, sellers could bring more *legen* and *tuak*. Sellers also brought *bethek*, so before pouring in *centhak*, *legen* or *tuak* was first poured in *bethek*, making it easier to pour in *centhak*. *Ongkek* shall be shouldered by the sellers. It is said the sellers carried the *ongkek* with flip-flops or available footwear and used a hat as headgear to sell *legen* or *tuak*. Because of the use of manpower to transport, the distribution and sales of *legen* and *tuak* were limited. In addition to the heavy burden of a bamboo tube, it made the move of sellers also limited.

The use of heavy *ongkek*, requires physical endurance and patience especially if the beverage has not been sold quickly. *Ongkek* has been abandoned with modern transportation that is faster and more practical. Similarly, heavy bamboo is being replaced by lightweight plastic.



Figure 6. *Ongkek* as Souvenir

These constraints, added with the advances in technology and also the offers of practicality and ease of more modern packaging make sellers who used to use *ongkek* currently use bicycles and motorcycles. Moreover, they are no longer using a bamboo tube. The sellers address the consumers who need to buy *legen* and *tuak* for souvenirs by selling *legen* and *tuak* in used bottles of mineral water. It turns out that the industry is already interested in the production of *legen*. There are already industrial manufacturers that produce *legen* in plastic bottle. They have not been able to produce *tuak* in the packaging due to lack of packaging innovations that can withstand the constraints of the alcohol from the continuous reaction of *tuak* gas especially when exposed to the sun's heat. The production of industrial *legen* is sold in new packaging but it is similar with the mineral water packaging, just using the label with a different design, equipped with a lid and sealed with red color plastic.



Figure 7. *Legen and Tuak Seller*

Preservation of Local Wisdom

Tuak and Tayuban: Two Inseparable Things

Legen and *tuak* are not only for daily consumption. *Tuak* especially becomes public consumption when *Tayuban* (Sarju, 2016). *Tayub* dance is a traditional dance developed in the area of East Java and Central Java. Even as a social dance, this dance is often performed at night between 10 pm to 2 am in the morning and followed by adult men. This dance is usually performed after a wedding, a circumcision, and the cleaning of the village. Most community and religious leaders have opposed the performance of *Tayub* dance because it is often a source of trouble and the arena of hidden prostitution. It is understandable because in the past all men who got the scarf (*ketiban sampur*) from female *Tayub* dancers then were allowed to dance along. As a gratitude, the man who got the scarf (*ketiban sampur*) gave money (*saweran*) to the *Tayub* dancer by inserting it to their bra. The problem arose when the man who *ketiban sampur* and had given money would not immediately give the turn to another man who also wanted to dance. Thus, there was a fight. Moreover, in every performance *tuak* or liquor was usually served and it could make the *Tayub* participants drunk.

While dancing, the man who dances holds *centhak* and drinks *tuak* from it. Here we see a function of *centhak* is fit to be held at the time of dancing. Bamboo solid shape makes the person find it easy to hold while dancing. When it is held harder, the shape is not changed, unlike plastic that is easy to deform. *Centhak* is also not easily broken like glass. In the *Tayuban* event, a man can dance to get drunk, and therefore, he may not drop objects that could harm himself or others. *Centhak* will not be broken if it falls, and

can be cleaned immediately from the location and reusable. In this *Tayuban*, we see the function of bamboo in *centhak* is safe and not replaceable.

In Tuban, the favorite liquor which can make drunk is *tuak*. As long as there is *Tayuban* there is *tuak*, these two things can not be separated. *Tuak* makes *Tayuban* more lively. Instead *Tayuban* makes the consumption of *tuak* still continues in a community cultural event. Until these days, the consumption of *tuak* is still difficult to be avoided, but restrictions on the amount that must be taken will be supervised by the communities themselves. Thus, drinking *tuak* until getting drunk rarely happens again. Because of this, it appears the acronym or a new term of *Tayub* word which means 'arranged to harmony' (*ditata supaya guyub*) (Ukik, 2015).

Urgent Innovation for *Legen* and *Tuak* Packaging

Actually, *legen* and *tuak* should be consumed directly at the stall, but because of the need to bring the *legen* and *tuak* as souvenirs, then the *legen* and *tuak* cannot only be placed on *bethek* or *centhak* without cover. The need is answered with a more modern material that is plastic. Unfortunately, the plastic used is a used plastic bottle of mineral water that even looks already broken and also no longer clean. Formerly *legen* and *tuak* were stored in a plastic jerrycan that was still new, but in the long run because plastic bottle is cheaper and the consumers are less concerned about the material used, it makes producers switch from using jerrycan to plastic bottles of mineral water. The packaging experiment using glass material had been tried, but it was not able to hold the glass from the alcohol gas reaction especially from *tuak*, so that when the glass was closed, it would be broken (Sarju, 2016).

Legen sold by the sellers is produced not only by farmers but also by industry. Large industries are now starting to package *legen* in sealed plastic bottles. Compared with the *legen* produced by farmers, it appears that the industrial production of *legen* is more beautiful because the label has been designed and it looks more hygienic. Actually, according to sellers, the lid of the bottle contained pure *legen* is usually left open so that the natural gas produced can hold out without damaging the plastic bottles. The packaging uses the bottle of mineral water that the lid must be open when it is sold.

"Natural alcohol cannot be eliminated. Once tuak was ever predicted to be produced in the factory, then the legen and tuak farmers will be asked to deposit to the factory. However, it turns out that until now no one can process alcohol that continues to react. Thus, legen and tuak still cannot be mass produced" (Sarju, 2016).

In terms of practicality and convenience of buyers to bring *legen* and *tuak* as souvenirs, the use of mineral water bottle is very practical and also cheap. Previously, sellers use jerrycan, but now jerrycan has begun rarely to be used because it is more expensive than the used bottles.

According to packaging experts, the use of used plastic bottles in terms of price supposedly does not differ too much with the new plastic bottles. The process of purchasing the bottles, washing and drying bottles takes time. Not to mention if the bottle has rubbed in the inside, then there could be a material that escapes and makes bottles react chemically when filled with liquid. The processes of manual washing and drying bottles are done by hand which are too far from hygienic processes. Producers should buy a new bottle because the price is still relatively cheap, it does not take the time to wash, and it is more hygienic because it is new (Julianti, 2016).

"Often manufacturers feel that used bottles that have been washed, brushed, soaked and dried are having the same quality with a new bottle. Mineral water bottles are disposable, so it is made very thin. It is better for producers to use new bottles because they are more hygienic and the price is not expensive" (Julianti, 2016).

Sales of *legen* and *tuak* in sellers do not all use plastic. For a drink at the venue, most of sellers use *legen* or *tuak* bottle made of plastic jar and pour it in a glass. However, still there are few of sellers presenting *legen* and *tuak* in a bamboo tube. There are sellers who use bamboo tube named *bethek* before it is poured into a smaller size tube named *centhak*. Unfortunately, the sellers generally use plastic containers to collect *legen* and *tuak* from farmers and pour them into a bamboo tube when there is a buyer who wants a drink at the venue.

The reaction of the alcohol produced by the *legen* and *tuak* that are stored becomes an obstacle. The natural reaction of alcohol turns out to be continuously produced; it is different from the artificial alcohol. Therefore, the farmers and sellers find it difficult to put *legen* and *tuak* in a container. Even sellers sell *legen* and *tuak* without closing tightly the bottle cap. Difficulties of packaging and also economic factors to obtain more profits made many sellers sell *legen* and *tuak* with water mixture. By mixing *legen* and *tuak* with water, the reaction of soda produced will be less and does not cause the bottle to be hardened because of the boost of gas from alcohol. In addition, sellers will benefit more because of the water content.

The use of bamboo as a local wisdom should be addressed more seriously. Bamboo as a beverage container is certainly rarely found in this modern society. It is time to do a variety of innovations related to materials, especially natural materials of bamboo as a packaging that reflects the local wisdom. Until now, the function of bamboo as a packaging is still used in a vendor where *legen* and *tuak* are produced and consumed, but the bamboo as the container of *legen* and *tuak* has not been used as a container for distribution, especially in order to meet the needs of *legen* and *tuak* as souvenirs.

Conclusion

Local wisdom in the *legen* and *tuak* is still reflected in the use of natural material such as bamboo. Local knowledge is

maintained because there are functions of bamboo that cannot be replaced by other materials. That function is a function of the resilience and strength, giving aroma and flavor and in particular serving to maintain the durability of the drinks. In addition to functional reasons, beyond the use of bamboo there are also political reasons. Bamboo is often considered as a weed because this plant undermines the growth of others. By the use of bamboo as packaging, indirectly, it is expected to help the preservation of the environment.

Currently because of the inevitable change of time and needs, the use of bamboo as a container of *legen* and *tuak* begins to be replaced by plastic. However, it turns out that the traditions inherent in the society are still able to maintain the bamboo in the form *bethek* and *centhak*, starting from the tapping of sugar palm water droplets using *bethek*, and drinking in a bamboo that functions as a glass like *centhak* which is used for drinking by farmers and some sellers to drink directly at the stall. Meanwhile, *ongkek* itself has long become extinct because there are no more sellers who want to carry heavy loads. Also, consumers do not consider *ongkek* as a tradition. Besides, all functions in *ongkek* can be replaced by any other materials which are more practical and lightweight, and they can be also transported by the media transport which is more practical.

The use *centhak* when *Tayuban* with its function that is irreplaceable with other materials makes bamboo material to be still used. Besides strongly bound by tradition, the use of bamboo materials is closely related to the functions that have not been replaced by other materials, either function as storage container, as the drink container at a vendor or a drink container which is brought to dance.

Local wisdom of bamboo as a *legen* and *tuak* beverage container is continuously inherited from generation to generation. By using bamboo, the producers and consumers are expected to be constantly aware to the balance of nature that does not destroy or force nature to produce more than its capacity. Correlated to the culture, the use of *bethek* and *centhak* contains the philosophy of self-controlled, sharing in togetherness and tolerance in order to live in harmony.

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References

Affandi, D., Wulandari, P. (2012). An exploration local wisdom priority in public budgeting process of local

- government. *IJER*, 3(5), 61-76. Retrieved 18 July 2017 from [http://www.ijeronline.com/documents/volumes/Vol%203%20Iss%205/ijer2012v3i5%20\(6\).pdf](http://www.ijeronline.com/documents/volumes/Vol%203%20Iss%205/ijer2012v3i5%20(6).pdf)
- Adams, C. (n.d.). October, 16, 2003. *Bamboo architecture and construction with Oscar Hidalgo*. Retrieved 25 May 2016 from <http://www.networkearth.org/naturalbuilding/bamboo.html>.
- Berg, B. L. (2009). *Qualitative research methods for the social sciences*. Boston: Allyn & Bacon.
- Ellen, R. F. (1984). *Ethnographic research*. New York: Academic Press.
- Ghofir, J. (34 y.o.), Lesbumi representative, interview on 21 June 2016 at food court, New Terminal, Tuban.
- Gunawi. (33 y.o.), Hotel receptionist, interview on 21 April 2016 at Ratna Hotel, Tuban.
- Heyne, K. (1987). *Tumbuhan Berguna Indonesia*, jil. 1. Yay. Sarana Wana Jaya, Jakarta. 447-455.
- Julianti, S. (57 y.o.), Packaging consultant, interview on 11 July 2016 at her house, Surabaya.
- Kaltim Pos*. (3 March 2008). *Sarman, petani yang giat kembangkan kebun aren* [Sarman, Farmer that Deligently Develop Aren Farm]. Retrieved 16 May 2016, from <http://disbun.kaltimprov.go.id/berita2-71-.html>.
- Kaskus.co.id*. (17 April 2010). *Aneka kuliner yang dimasak di dalam bambu*. [Culinary Arts, Cooked in Bamboo]. Retrieved 26 June 2016, from <http://www.kaskus.co.id/thread/51adf2c60a75b48b62000008/aneka-kuliner-yg-di-masak-di-dalam-bambu/>
- Kompas.co.id*. (4 July 2008). *Jafar, berharap rezeki dari tetesan air aren* [Jafar, Hope sustenance from water droplets aren]. Retrieved 16 May 2016, from <http://bola.kompas.com/read/2008/07/04/14240830/jafar.berharap.rezeki.dari.tetesan.air.aren>.
- Kongprasertamorn. (2007). Local wisdom, environmental protection and community development: the clam farmers in Tambon Bangkhunsai, Phetchaburi Province, Thailand. *MANUSYA Journal of Humanities*, 10(1). 1-10. Retrieved 20 July 2017 from <http://www.manusya.journals.chula.ac.th/files/essay/Local%20Wisdom%20Environmental%20Protection.pdf>
- Lull, J. (1990). *Inside family viewing: ethnographic research on television's audiences*. London: Routledge.
- Mia. (31 y.o.), Legen and tuak seller, interview on 21 June 2016 at her stall, Lamongan.
- Natadjaja, L., Yuwono, C. (2016). *The sustainability of traditional packaging of snacks and beverages against modernity*. International Conference on Language, Literary and Cultural Studies (ICON LATERALS 2016). Widyaloka Auditorium, Universitas Brawijaya, Jl. Veteran, Malang, October 29, 2016, 436-449. DOI: 10.217716/ub.icon_laterals.2016.001.1.29. Retrieved 25 July 2017 from <http://fib.ub.ac.id/iconlaterals/wp-content/uploads/2016/12/Listia-Natadjaja.pdf>.
- Ridwan, N. A. (2007). Local wisdom scholarship foundation. *Ibda, Journal of Islamic Studies and Culture*, 5(1), 27-38.
- Rose, G. (2002). *Visual methodologies*. London: Sage Publication.
- Salam, A. (2007). Social changes and questions about local wisdom. *Ibda, Journal of Islamic Studies and Culture*, 5(2), 257-275.
- Santoso, I. E. (2009). *Kearifan lokal dalam perspektif penataan ruang*. Proceeding of Seminar Nasional Kearifan Lokal dalam Perencanaan dan Perancangan Lingkungan Binaan, 7 August, Arsitektur Unmer Malang.
- Sarju. (68 y.o.), Tuak farmer, interview on 22 June 2016 at his house, Kembang Bilo Village, Tuban.
- Sartini. (2004). Exploring local wisdom collection a philosophical study. *Journal of Philosophy*, 37(2).
- Saukko, P. (2003). *Doing research in cultural studies. An introduction to classical & new methodological approaches*. California: Sage
- Spradley, J. P. (1979). *The ethnographic interview*. New York: Holt, Rinehart & Winston.
- Sudarman. (7 March 2009). *Krismanto bertahan jajakan minuman "Legen"* [Krismanto Survive by Selling 'Legen']. Retrieved 16 May 2016, from <https://arenindonesia.wordpress.com/wirusahaawan-aren/jafar/>.
- Ukik. (2015). *Seni tari tayub* [Tayub Dance]. Retrieved 20 May 2016, from <http://www.kompasiana.com/aremgadas/seni-tari-tayub54f7f72aa33311c27b8b4fa3>