

## MODEL LOCAL WISDOM TO PRESERVE THE ENVIRONMENT IN SOUTH SULAWESI AND WEST SULAWESI INDONESIA

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This study aims to determine the local knowledge of communities to preserve the environment in South Sulawesi and West Sulawesi, this research was using a qualitative research approach. The independent variable of this study was the local wisdom of indigenous groups of *Kajang*, *Karampuang*, *Toraja*, and *Mamasa*. Data analysis involved a descriptive analysis of the results that were obtained from the interviews. The results show several findings. Firstly, according to the local wisdom of the *Kajang* who as indigenous groups believe in *Pasang*, literally as customary law that must be respected and upheld by the *Kajang* communities in relation to environmental protection, in particular with respect to forest resources. Secondly, the local wisdom of the *Karampuang* community groups that cutting down trees in the customary forest must be authorized by the *Gella* (indigenous leadership) which requires the planting of trees ten times the amount harvested. If this provision is violated, the people are deprived of their customary privileges for generations. Thirdly, the local wisdom of the *Toraja* community groups refers to *Kombong* which literally translates to the protection of forests to preserve wood, bamboo, and other building materials that are used to renovate traditional houses and barns. Finally, the local wisdom of the *Mamasa* community groups refers to *Ombo* which literally means the protection of forest on any upstream or springs, and to *Marraruk* which literally refers to the planting of protective trees for the village. These four groups of indigenous peoples reflect how adaptable their human experience is with nature, and how they can live as one with nature. The fourth local wisdom, high economic value because it can conserve water resources is needed for agriculture.

**Keywords:** Environmental preservation; Indigenous communities; Local knowledge.

### Introduction

In the Indonesian English Dictionary according to Echols and Syadily (2003), local wisdom can be understood as local ideas or believes that are thoughtful, full of wisdom and good value, which are embedded in local communities and followed by community members who support the culture. Thiam (2003) further says that “conceptually, local knowledge and local believes is the human wisdom that rests on the philosophy of values, ethics, and behavior of community in ways that are traditionally institutionalized”. Said (1998), believes that local wisdom in different regions throughout the country is a cultural wealth that needs to be brought to the surface as a form of national identity. Therefore, it can be summarized that local knowledge is a product of the ancient culture of each group of indigenous people that is constantly maintained and held in life, which although is local, the values contained therein are considered universal.

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In Indonesia, as one of the countries on the equator that have tropical forests, one cannot ignore environmental problems caused by issues of poverty population present and government who in the populist the area. Gorog (2005) explains that “On the surface, Indonesia’s environmental problems are deforestation, wildlife trade, pollution, overfishing, etc., and vanishing natural resources”. Furthermore, he explained that during 2000 and 2005, the UN Food and Agriculture Organization estimated that Indonesia lost a massive 1.87 million hectares of forest every year; about 9.35 million hectares over it a 5-year period. The loss of this forest also contributes to global warming and has broad impact on the loss of the habitat of certain species such as the Sumatran Rhinoceros, Orangutan, Dwarf buffalo, and several other protected species. In addition, it also affects the loss of the livelihood of particular communities who depend on forest resources. Nationally it also has implications for reduced government revenues of the forestry sector of both central and local governments. Therefore, the destruction of forests also affect the larger economy because of declining public revenues, which in turn affect the tax sector, which is one source of government revenue to build.

Zainuddin (2008) explained that “ the tropical rain forest and tropical areas, with a minimum annual rainfall ranging between 1,750 millimeters (69 in) and 2,000 millimeters (79 in) the average monthly temperature is above 18 °C (64 °F) throughout the year”. Furthermore, he explained that the tropical rain forest vegetation is richest, both in terms of the number of living species, as well as its high value of resources. Lowland forest is dominated by large trees that form a canopy (layering), at least the top canopy height averaging 45 m (higher compared to the average height of forests), that remains green throughout the year.

In the past, particularly in South Sulawesi and West Sulawesi, a kind of local knowledge was maintained by the ancestors and specific communities to preserve and protect the forest, with the application of customary law and sanctions. These laws and sanctions were very strict the original forest is still protected by the indigenous communities. To identify the form of local wisdom that is still able to protected their customary law in this global era.

### **Methodology**

This research aims to determine the local knowledge of communities that are able to preserve the environment in South Sulawesi and West Sulawesi. This research was a qualitative study in which data collection involved conducting structured interviews with respondents, Especially to *Ammatoa* in Kajang, and *Gella* in Karampuang as the main respondent in his capacity as traditional leaders. The independent variable of this study was the local wisdom of indigenous groups, the *Kajang*, *Karampuang*, *Toraja*, and *Mamasa*. Indicator variable is local wisdom nuanced environmental conservation. The four groups of indigenous communities were chosen in this research because they have very specific local knowledge

related to environmental preservation. The data analysis technique was a descriptive analysis that involved describing and interpreting the results that were obtained from the interviews.

## **Results and Discussions**

### ***Results***

The results identified local knowledge is still preserved in several areas as explained in the following sections that located to the area of surroundings:

#### ***Kajang***

The *Kajang* community groups in South Sulawesi, interact with their specific environment led by their traditional leader who was given the title of *Ammatoa* as traditional community leader and also as the protection forest leader. They live in nature, and to preserve the environment. As examples, cutting timber is not arbitrarily done; they must go through rigorous customary practices. Even for the use of other natural resources, society must get permission from *Ammatoa*. Although they live in the midst of modern society, however, in the areas that they control that they call *Kajang Dalam*, they retain their traditional life patterns and are not affected by the patterns of modern life.

They community livelihoods off natural resources in their environment and integrate with nature. If their children and grandchildren are tempted by modern life, they have to go out and live in the region that they call *Kajang Luar*. Based on the interview with *Amma Toa*, the village chief, it was revealed that the local wisdom of the *Kajang* community is to preserve the environment. The literal translation of *Pasang* which means that customary law must be respected and upheld by the *Kajang* community in relation to environmental protection, in particular forest resources. This local knowledge, articulated through traditional media such as myth and ritual, contains the actual ancestral ecological knowledge, especially knowledge about the role of forests in maintaining the ecosystem. In addition to maintaining ecosystems, local knowledge of economic impact to the surrounding community because of the fertility of the soil to remain fertile agricultural land, as well as a source of water for irrigation in this region so that the sustainable production of rice farmers can be maintained.

#### ***Karampuang***

*Karampuang* is an old village that still preserves their culture. *Karampuang* culture is a mix of Bugisnese and Makassarnese ethnic. *Karampuang* community who live in the District Tompobulu Bulupoddo Sinjai, maintaining their traditional lifestyle centered on the *Karampuang* traditional house, furnished with custom woods consisting of wood, rattan, etc. Indigenous forest remains well maintained and the

wood should not be cut without the permission of the *Gella* (the traditional leader of the Karampuang).

### ***Toraja***

In Toraja, each family has a traditional house called *Tongkonan*. The neighborhood was built on *Tongkonan*, consisting of *Alang* (granary), *Rante* place of funeral ceremony, *Liang* (grave) and the *Kombong* (a protected forest reserve with wood, bamboo, etc.) for building materials to renovate *Tongkonan* or *Alang* when the time was ripe for renovation (Mithen *et al.*, 2007: 24). This *Tongkonan* as a built environment, should be kept and maintained properly by the family who owned the *Tongkonan* due to harmony and balance with nature must be maintained based on the teachings of *Aluk Todolo* (ancestral religion) that hinted that if the people were angry in nature, it would be disastrous for humans (Tangdilintin, 1980). After public support for this culture of ancestral religion or *Aluk Todolo*, converts to Christianity and Islam has been maintained their culture because of them still believe that their ancestor, still exist and give the community blessing and peaceful. The sustainability of *Tongkonan* was because *Tongkonan* functions to keep relationship and kinship, in addition to the purposes of tourism in this area. *Tongkonan* has been maintained throughout, with *Kombong* as part of the built environment. Therefore, *Kombong* is one of the indigenous communities of Toraja that maintains environmental preservation.

### ***Mamasa***

Mamasa as a sub-ethnic group of Toraja, is commonly called West Toraja which is now included in the government of West Sulawesi province. In the past lives of the people governed by their customary law. This customary law is very strict hereditary practices were maintained. An interesting example of local knowledge is a concept related to the preservation and conservation of natural resources; its literal translation *Ombo'* is revealed through interviews with Mr. Demmaloga and several other community leaders, (Mithen, 2014: 239), who explain that since time immemorial, every upstream or spring forest was maintained and heavily guarded by the community using their customary law. The forest was named *Ombo'*. The customary law forbids to cut the trees or open farming in the region. If there is a violation of customary law, the person concerned will be subject to customary law so the forest around these springs remained stable and were maintained. Unfortunately, in modern culture, the concept *Ombo'* is no longer exist; almost the entire region which *Ombo'* formerly maintained as hereditary has now been turned into plantations and neighborhoods. A nuanced local knowledge of natural resource preservation and conservation of water resources has primarily been abandoned.

Other local knowledge related to environmental preservation in this area, is the customary rules of society or culture believes associated to the community

settlements involve the ferforment ritual during an environmental pioneer settlement. Its literal translation *Marraruk* means information of activity to determine the boundaries or new settlement areas, which is characterized by limiting the planting of trees (*ditabangngi*) i.e., planting trees (*tabang*) that as they grow form a *raruk* or protective barrier that is not destroyed by strong winds, as well as serves to protect dust or dirt that is wind blown in the direction of the township. In addition, trees were planted (usually bamboo and various types of wood which were considered good), intended as a backup for a variety of needs, that is when there is activity in the township either when celebration or mourning.

The function of bamboo trees to create make temporary houses also serves as firewood. Then other types of wood such as the tree *uru*, (good quality wood) and other tree species designated as backup material if there is a house or other building structure in the village that needs to be renovated. This concept is environmentally sound local knowledge, but unfortunately because it has a lot of local knowledge, present generations consider it unimportant, and do not want to continue with the practice (Mithen, 2014: 219).

### **Discussion**

The identification of local knowledge that is still preserved in several areas are discuss below:

#### ***Kajang***

The *Pasang* was a prevailing custom sanctioned for community lifelyhoods and even believed to be available later in the hereafter. One of the messages conveyed through *Pasang* according to the ancestors was: “*Anjo boronga anre nakkulle nipanraki. Punna nipanraki boronga, nupanraki kalennu*”, which means that the forest should not be destroyed. If you break this sanction, then you destroy yourself. Another message conveyed in the *Pasang* was: “*Anjo natahang ri boronga karana pasang. Rettopi tanayya rettoi ada*” which means that the forest can be sustainable because it is guarded by customs. *Ammatoa* as traditional leaders, divided forests into three groups, namely: 1) *Borong Karamaka* (Sacred Forest), which is forbidden area in the forest for all kinds of activities, with the exception of the conducting rituals. There should be no logging, measurement, planting trees, or visits except for conducting rituals, including a ban on disturbing the flora and fauna contained therein. 2) *Borong Batasayya* (Forest Borders) is a timber forest from which wood can be removed, as long as wood supply is still available, with the permission of *Ammatoa* as indigenous leaders. So the final decision whether or not the public should take the wood in the forest depends on *Ammatoa*. 3) *Borong Luara* (People’s Forest) is a forest that could be managed by the community. Although most of this type of forest is controlled by the people, the customary rules regarding forest management in the region are still valid. No misconduct is allowed in utilizing

these community forests (Syaiful, 2013). Writing about local wisdom Kajang, written by Heryati (2013) who try to express the strength of customary law (*Pasang*) as a local knowledge of traditional Community Ammatoa Kajang and links between customary law with Islamic concepts in forest management and systems reside in the area Ammatoa Kajang.

### ***Karampuang***

Forest management in the *Karampuang* as the customarily law arranged in such a way, that the forest can be accessed by the public but permission should be sought from the Traditional leader. What is unique is taking only what is needed, and they have the obligation to replant the forest in an area that is 10 times greater than the amount taken. Those who violate these rules face severe sanctions, like being expelled from the community or revocation of indigenous rights for several generations. This sanction applies not only to the common people. Even when ***Gella***, the supreme leader, violates the rights, he is punished (Muhannis 2009). This rule is a local wisdom for the preservation of natural resources, particularly forest resources. This local knowledge, economic value, supporting soil fertility and water supplies around the region.

There is an interesting practice, namely *Maddui Aju* when the community gathering wood in the forest, the people customarily held a ceremony. The *Maddui Aju* means to pull wood from the forest. The *Maddui Aju* ceremony involving a traditional procession is very interesting, because all levels of society are involved in this event and is a hallmark of community self-help and public support for this culture (Mithen, 2010: 38-39). Literally, *Maddui* means pull or let out and *Aju* means wood. In a *Maddui* procession, a piece of wood is pulled. The wood is reserved for customary homes as a replacement of the damaged parts of the house, such as pillars, and other structural materials. To create a sense of togetherness and unity, the wood is not allowed to use means of transport. In their beliefs, only a strong man alone can participate. However, if pulled, the weak, the elderly even children can participate. *Maddui* is one element of the culture that remains stable until now. Preserving this tradition means contributing to preserving the cultural traditions of the nation (Muhannis, 2009). Another study, also conducted by Chandra, (2014), and concluded that: Forest management in the area of customs *Karampuang* arranged in separate mechanism. Indigenous forest, which is owned by the community can be accessed or owned by people with certain conditions. Among others with the knowledge and permission of customs, take the taste as needed as well as the obligation to replant forest 10 times higher than that taken.

### ***Toraja***

*Kombong* is a portion of house that cannot be separated from *Tongkonan*. *Kombong* is built from *Tongkonan* forest area, planted with various kinds of wood and bamboo

that are very useful for building materials if there is a material structure of traditional houses or barns that are obsolete and need to be replaced. *Kombong*, is maintained by generations of family owners of *Tongkonan*, and must be preserved. The main concept of this *Kombong* system, is finding replacements of materials for traditional houses and barns of the *Toraja* people. In addition, the ancestors of the *Toraja* realize that their area is upstream *Saddang* which plays an important role in other areas, as a source of water to irrigate the fields, particularly in the regions neighboring downstream, i.e., Sidrap and Sawitto Pinrang. Both of these areas, require the water source of the river *Saddang* for irrigation, so the area is well known as a producer of rice in eastern Indonesia. The policy of the ancestors of the *Toraja* to preserve forests in the region, are a local knowledge that is useful not only for themselves, but also useful for other regions. Thus, *Kombong* is a local wisdom in *Toraja* give economic impact for the surrounding regions. Research on local wisdom *Toraja*, also conducted by Mulyadi (2013), and he concluded that: *Tongkonan* Culture is the soul of *Toraja* culture that reflects the harmonious relationship between human and nature, one of which is realized in the form of making the forest as an element in the *Tongkonan* culture. Therefore, basically *Toraja* culture preservation on would synergized with forest conservation on efforts. Real effort to organized the forest in order to ensure continuity of *Toraja* culture.

### ***Mamasa***

Local wisdom related to environmental conservation in the area of *Mamasa*, is *Ombo'* and *Marraruk* or *Raruk*. *Ombo'* is a protected forest that is maintained on the upstream of the river, or on any springs. This concept, well recognized by the ancestors of the *Mamasa* that water resources need to be maintained, which is very useful as drinking water for humans and livestock, as well as water for irrigation of rice fields. Their main goal is to maintain consumption for local needs, and knowing that it is also useful for people in other regions, especially those residing in the downstream region in the areas of *Pinrang*, *Polman* and *Mamuju*. Therefore the concept of these *Ombo'*, have a very high economic value.

It is unfortunate, that this concept has not addressed the current generation but surely *Ombo'* will be exhausted if there is no policy of the Government to restore the local wisdom inherited from their ancestors. *Marraruk* or *Raruk*, is the concept of landscaping to protect the township from the harsh wind or dust carried by the wind. In a village that was recently opened, the elder in the village walked around the borders to be used as settlements, planting trees, *tabang* (kind of local plants), followed by residents planting other types of wood and bamboo. Likewise, if you want to extend the old village, the same has to be performed. The trees were planted, in addition to functioning as a protector, also as useful for building materials replacement if there is a weakened material structure to houses or barns. In addition, the bamboo plant also serves for emergency building if there are event celebrations,

as well as grief. In fact, bamboo is old, and also serves as firewood for cooking. Relevant research, conducted by Darra (2014), and he concludes that: Wisdom is a practice in an area that characterizes the practices of community life, it is said to be wise when the values of the habit continues repeatedly and was attached to the coating social community, and this also applies in Mamasa.

### Conclusion

Based on the results of the research and discussion above, we can conclude that in South Sulawesi and West Sulawesi, the local wisdom of the four indigenous groups sampled in this study to environmental conservation may be summarised as follows:

1. Local wisdom of the *Kajang* indigenous groups associated with the environment is called *Pasang*, according to which customary law must be respected and upheld by the *Kajang* community in relation to environmental protection, in particular forest resources. Local knowledge is articulated through traditional media such as myths and rituals. The real ancestor messages contain ecological knowledge, especially knowledge about the role of forests in maintaining the ecosystem.
2. Local knowledge of the *Karampuang* indigenous groups associated with the environment, i.e. regarding the custom of cutting down trees in the forest, wood can only be cut down for a reason and must be authorized by *Gella* (Indigenous Leadership). The people concerned are obliged to plant trees 10 times the amount harvested, and if they violate this provision, they are punished and are deprived of their customary privileges for generations. This sanction applies not only to the common people; this sanction even applies when *Gella*, the supreme leader violates the rights.
3. The local wisdom of the *Toraja* indigenous groups associated with the environment called *Kombong* (a protected forest to preserve wood, bamboo, etc.) as building materials are used to renovate *Tongkonan* or *Alang*. *Kombong* as part of the built environment remains as *Tongkonan* will be maintained. Therefore, *Kombong* is one of the indigenous communities like the *Toraja* who are involved in environmental preservation.
4. The local wisdom of the *Mamasa* indigenous peoples is related to the environment called *Ombo'* and *Marraruk*. In ancient times, any upstream or springs forests were maintained and heavily guarded. The forest is named *Ombo'*. It is forbidden to cut trees or open farmland in the region. If there is a violation, the person will be subject to customary laws so the forest around these springs remain stable and maintained. Local knowledge called *Marraruk*, determines the boundaries or area of the new settlement, which is marked by the planting of a tree barrier (*ditabangngi*), i.e., planting



*tabang* trees a plant that hardy and when it grows forms a protective barrier of other crops (*raruk*), protects the township from strong winds, as well as serves to protect all kinds of dust or dirt that is wind-blown in the direction of the village. The local knowledge of *Ombo*' and *Marraruk* provides meaningful environmental conservation, particularly to maintain water resources and settlements.

5. These four groups of indigenous peoples, reflect how adaptable the human experience with nature is, and can live as one with nature. Symptoms of problems, or cues shown in nature, enable the people to know how to treat them so as not to cause natural disasters to their lives. Of course there are many more examples of other tribes who can live as one with nature, so that modern humans today would not experience problems if they draw from the experience of these tribes to preserve the environment for the sake of present-day life, and the lives of generations to come. In addition, four local wisdom, has a high economic value due to maintaining local knowledge indirectly they preserve natural resources, so that water resources remain sustainable, and soil fertility for agriculture maintained, water for irrigation needs also maintained so as to support agriculture in order to increase people's income.

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