

LOCAL WISDOM OF BATAK TOBA CULTURE IN ENVIRONMENTAL CONSERVATION

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Abstract

The values of local wisdom contained in the social system of the community can be lived out, practiced, taught and passed down from one generation to the next decent. Local wisdom can shape and guide everyday human behavior towards the environment and fellow human. Local wisdom will produce ethics which means tradition or habit, in the sense of good living habit, good living procedure, both for fellow human and their group. Batak people also have their own local wisdom in treating their environment which is integrated in Batak culture known as *Martutuaek* and *Parhombaan*

Keywords: Local Wisdom, Batak Toba Culture, and Environmental Conservation



A. Introduction

Wisdom is a study material in the world of philosophy. Since the 5th century BC, the sophists have named themselves as sophists which means "wise people". Then, the understanding of wisdom was developed. At that time, in Greek society wisdom was indigenous knowledge of the local community as happened to Indonesian people who lived in the countryside about three generations ago. Original knowledge is useful for regulating human life both regulating relations between humans in a society, human relations with nature and human relations with God. Such original knowledge was inherited from generation to generation and then inherited and guided from one generation to another. This original knowledge is constantly guided in their life habit in managing livelihood, the environment and including strengthening personality. The original knowledge of the community needs to be collects and implement for the improvement of human welfare and peace.

Local wisdom and knowledge of the local community that can be used to improve welfare and create peace in the community is essentially the truth and that is what the community want. Such truth in development is then called pragmatic truth. Practically, original knowledge and local wisdom is the real truth because it really benefits for human life.

Some ethnic groups in Indonesia have local wisdom to preserve ecology, among others: *Orang Rimbo* (stronghold) who roam in the hill of XII National Park area, Jambi Province developing *hompongan* in the form of dark forest that surround the center of settlement that is deliberately maintained and function as bastion of attack or disturbance parties or people outside the community. For the *Dayak Tembuyan* people, *Loyangan* and *continentq*, a long house called *Betang*, *Low* or *Lamin*, was intentionally built in the edge or facing the river. Likewise, the long house (*Jew*) in Asmat was set up facing a large river. The river serves as a transportation infrastructure as well as a bastion against enemy and wild animal attack. Likewise, the Batak people in North Tapanuli, a resident village called *Huta* was on a hill or foot of a mountain to facilitate monitoring of attack



from other village or at least make it difficult for the enemy to carry out impromptu attack. Likewise, the Malay who lives in Langkat District, North Sumatra. Their traditions also pay attention to the natural environment and environmental care. Although forest can be managed, forest utilization space is very limited. Forest can be encroached if it is necessary for the person concerned, for example to make planting plot, making canoe, and medicinal herb.

Regarding local wisdom, Batak people are ethnic group that also have local wisdom in maintaining and preserving their environment. However, the problem of environmental damage continues and to be characterized by the decreasing number of forest stand in the Batak land area, especially around Lake Toba so that the water supply to the lake decreases. It makes surface decline of Lake Toba from year to year.

B. Method

This study was used normative research method or literature method. In accordance with the problem studied, this study was used the conceptual approach (conceptual approach) and historical approach.

C. Research Finding

Local knowledge is important to use in the context of implementing environmental conservation in the Toba Batak region, which is increasingly concerned recently. It can be seen from the vast amount of forest that is decreasing and the contaminated Toba Lake.

D. Discussion

Batak People and Culture

Batak or Tano Batak land areas where *halak hita* (Batak people) are located in residential areas around Lake Toba, North Sumatra Province. In north of Lake Toba, there is the Tanah Karo area to



Gayo-Alas, Langkat, and Deli Serdang; in the east of Lake Toba is Simalungun, Asahan to Panambean; in the west there is Dairi (Pakpak), Humbang, and Hurlang to the sea coast in Manduamas, Barus, Sibolga, Natal and crossing the Pacific Ocean to Nias Island; south of the lake or often called the Toba Plateau is Sipirok, Angkola, and Mandailing. Batak people consist of six groups, namely Angkola-Mandailing, Karo, Simalungun, Pakpak, and Nias. Nowadays, the existence of the Batak people, especially those from the Batak Toba has spread all over the nation, from Aceh to Lampung, There were in Sumatra, Jakarta to Lombok, Kalimantan, Sulawesi, Maluku, Irian Jaya even Malaysia and Singapore.

Batak people have a kinship system that has been widely known called *Dalihan Natolu*. Etymologically, *Dalihan Na Tolu* is a Batak language consists of three words, namely *Dalihan, na and tolu*. *Dalihan* means "stove made of stone", *na* means "which :, and *tolu* means" three ". Thus, the definition of *Dalihan na Tolu* is literally "three stoves." The three pillars of stone are plugged into the ground and arranged so that the distance of the stone is the same and is close to one another. In order the load placed on it does not tilt or shift, the rock surface must have the same height from the rock surface and must have the same height from the ground surface. It is said that people used to be no exception to Batak people using such stove to cook in the kitchen.

The elements in the *Dalihan na Tolu* kinship structure is differ in their names of each family but it points to the same three stoves. *Hula-hula, Dongan tubu,* and *Boru* are terms known in Batak toba people; *Mora, Kahanggi,* and *Anak boru* for the Angkola-Mandailing Batak people; *Kula-kula, Sabeltek,* and *Anak boru* for Pakpak-Dairi Batak people; *Kalimbubu, Senina,* and *Anak beru* for Batak Karo



people; and *Tondong, Sembuyak, Anak boru* for Simalungun Batak people

For the Batak people of each continent in cosmology was ruled by the gods, namely god *Batara* the master controls the upper continent, *Mangala Sori* controls the central continent, and *Mangala Bulan* controls the below continent . These three gods are representations of *Mulajadi Na Bolon* in specific functions, in order to realize the balance of the cosmos. *Batara Guru* represents the creative power, *Mangala sori* reflects the exertion power, *Manggala Bulan* reflects the renewal power of *Mulajadi na Bolon*.

The structure in the supernatural or the world of the gods (macrocosm) is made into a pattern that organizes social relations between fellow humans on the earth (microcosm) of the Batak people, known as the *dalihan na tolu*, consisting of *hula-hula*, *dongan* tubu, and boru. Batak people acknowledge that the blessing of Batara *Guru* is channeled through *hula-hula* during traditional ceremony. Therefore, *hula-hula* is a representation of *Batara Guru*. The function of Mangala Sori, which is represented by dongan tubu, is a friend who is good at carrying weight, and when enjoying the provision given by Debata, and also becomes a friend to discuss in finding solution to all problems. Mangala Bulan as a representative of Boru in traditional ceremony is a helper who must work for the implementation of tradition ceremony. As the ruler of the upper world, Batara Guru has the secret of Debata wisdom (hahomion). Thus, he has the ability to solve various life problems faced by humans (Batak people). Mangala Sori who ruled the central continent was becoming a god who mastered all the knowledge of faith (hamalimon) so that he became a source of teachings of hamalimon for Batak people. Meanwhile, Mangala Bulan has the



ability in the field of shamanic science (datu), because of that he is able to cure various diseases.

Dongan tubal, hula-hula, and boru which are the elements that are present in the *dalihan na tolu* are three functional groups. The three elements are considered as a reflection of the three continents cooperation mentioned above, which is the society or microcosmos. These three elements in daily life need to be balance and harmony, especially for the implementation and succeed of a traditional ceremony. Each element stands alone in its function and role, but must be in a unity to carry out traditional activities. In that case, the position and role cannot be separated. Each of the dalihan na tolu elements that accepting a status and occupying that status are always associated with relations with other statuses. If one of the elements of the *dalihan na tolu* is to carry out the right and obligation inherent in the status, it naturally carries out a role. One of the peculiarities of this kinship system is that the position of a person in the *dalihan na tolu* family is not permanent because at one time he could be located as a *hula*, but in other places he might be a *dongan* or boru depending on who was the focus of activity or tradition ceremony itself.

The *dalihan na tolu* kinship system is very strong in binding Batak people wherever they are. In fact, the kinship system possessed by Batak people is one example of a patrilineal kinship system that stands out in Indonesia. The kinship system is one of the social capital owned by the Batak people that enables them to form a community of Batak wherever they are. With the existence of this kinship system arises various units or associations (*parsadaan*) clans, such as *Parsadaan* clan of *Simatupang*, *Simanjuntak*, *Nasution*, *Siahaan* etc., which are not only in the village but also in other areas such as Jakarta, Medan, Bandung, and Batam. The formation of the



*parsadaa*n clan (clan association) has a minimum role in two ways, namely to maintain their customs and help members of parsadaan in various matters, especially concerning economic difficulty.

Environmental Conservation in Batak Culture

Each community group has local wisdom to manage its environment. It is inseparable from the culture possessed by these community groups. Batak people also have their own local wisdom in treating their environment which is integrated in the Batak culture itself, as follows:

a. Martutuaek

Based on Batak people's belief, water is the beginning of physical life. King *Ihat Manisia* and *Boru Ihat Manisia* are a mixture water of the heavenly human body of the sons and daughters of the Gods. The body that is born as human must be introduced to their original type "water". *Martutuaek* means going to a water source. Introducing human birth with water which is the priority of the source of life before recognizing the earth. For the first time human took water from the source to make offerings to *Mulajadi Nabolon*.

As the message received by King Ihat Manisia and Boru Ihat Manisia, humans must conserve the entire contents of the earth. It was further introduced that water is a springy body brother from the beginning of its formation to its maintenance in the blood circulation in its body. For the human person, water plays a role for "Parsuksion mula ni haiason, haiason starts with parsolamon, parsolamon mula ni hamalimon", the beginning of cleansing towards holiness, purity to perfection. For the relationship between man and Mulajadi Nabolon water "Mual Natio dipadomu dohot unte mungkur marangkuphon sanggul banebane jumadi pangurason parsungsion" acts



as an offering to *Mulajadi Nabolon* or the main complement of all types of offerings.

b. Parhombanan

Human development requires regular life management. The arrangement of life is regulated by the environment of house or settlement, sources of life, health and social relations. It is best to choose a village place, the main indicator is the existence of a water source, the sub-indicator is the ease of access to water sources. The selected water sources are rivers, showers and springs. It is said that previously they had not encountered a spring, but at their request to *Mulajadi Nabolon* they were given abundant springs.

This water source is maintained and cared for because it is recognized as the main gift in their life. The manifestation of their gratitude for the gift was by made offerings to *Mulajadi Nabolon* at the location of the spring. They make treatment boundaries a tribute to the water source. The source of the water is then channeled to the fields, as the main source of drinking water and the ritual needs of the "*pangurason*".

Once in a year a ritual is held on the spring called "homban mangase" which aims to treat it by cleaning the location of the spring, caring for plants and trees around it, maintaining the flow of water to the downstream to repairing embankment field. This is an early sign of descending a field after one year of being used to source life and start new activity for a new life in the future. *Mangase homban* is related to the "Asean Taon" ritual by making offerings to Mulajadi Nabolon with the sacrifice "horbo santi". Mangase homban is carried out by villagers, after the Asean Taon was carried out by Bius by involving all the villages in the Bius.



At each establishment of a new house in the village, a "*mompo*" ceremony is interpreted entering for the first time. Before the occupants of the house enter the house officially, the day before, they must meet the initial requirements by entering water into the house in "*panguhatan*". *Panguhatan* is a source of water in a house in the form of earthenware, and currently replaced with a bucket.

At the same time, a "*sipusipu*" is inserted, which is a small embers that remain alive until the next day until the occupants enter formally and do cooking activity in the house. It means, before they enter to the house , they accompanied by relatives with the customs procedure, they have found the source of life in the house, namely "water" and the source of living processing "energy" which is the embers of fire. The water is taken from the *parhombanan* and immediately goes into the house and is not recommended to drop to another house. Fire coal is usually taken from the main house if it is still close, or created in a new house if not possible from the main house. The main house is intended as a parent's house where he lived or previously lived. Another addition along with water is rice, a tool for processing daily necessary and mat.

c. Water, Land and Forest Management

In the Batak culture, a pattern of relation between humans with creator has been formed, that is human and fellow human and human with their environment. In connection with the message *Siboru Deak Parujar* to his descendants to "care for" the earth with all its contents, there is an understanding to "use" the earth with all its contents wisely. This awarding also means the giving of inheritance as "UGASAN" for the king *Ihat Manisia* and his descendants. Humans and their descendants are give known and an understanding that anyone who tries to destroy the earth and



everything in it will be punished by *Mulajadi Nabolon*. *Nagapadohaniaji*, who had initially ruined finally ask forgiveness, promised to guard.

It is also based on the presence of *Boru Saniangnaga* to maintain the clarity of water that once tempted his heart from the world of the god. Batak people always respect the two rulers every time they want to take advantage of the potential of water and earth for life activity. The understanding of "UGASAN" for human over all the contents of the earth is still interpreted with respect to the conservation in connection with the gods because they had promised to carry out the preservation of earth and "created" water which was requested by *Si Boru Deakparujar*.

Water Role

Every utilization of water for special activities such as medicine must pass a special understanding, namely 1. Respect to the goddess *Boru Saniangnaga* who preserves the water conservation that will be used as "PANGURASON" and 2. Understanding the life cycle with the role of water called "HUMUASAL" discussed because in general it is done as a review ritual on medical professional to bring their spirituality closer to the environment and life. Every disease is believed to have a cause and there is always a medicine. The wrong body management is a cause of disease and environmental destruction is a source of disease. Both are related and cannot be ignored in real life.

Humuasal has several versions, here can be described two adjacent versions. *Aek jumadi ombun, ombun jumadi udan, and then hau hau*. Water becomes dew, dew becomes water, water becomes wood. The definition of area is evaporating into dew, dew becomes rain, rain becomes water flowing above the surface of the ground,



soil moisture and raindrops break down sprout so that it splits plant. There is life (harmonization). *Timus jumadi ombun, ombun jumadi udan, udan jumadi hau, hau jumadi api, api jumadi ombun.* Smoke becomes dew, dew becomes rain (water), water becomes wood, wood becomes fire, fire becomes dew. This second definition states; smoke and steam become dew, moisture becomes water, water breaks down sprouts and turns on plants, plants become fire (heat), heat makes evaporation so it becomes dew.

From the two *HUMUASAL* notions above, it can be understood that the level of ancestral studies will understand the origin of cause and consequence which are arranged in understanding the hydrological cycle. According to Batak medicine, balance is sustainability, and sustainability is eternity. Every time there is damage in the balance, repairs must be made. Based on that, everyone looking for a health solution is always directed at what is left behind and neglected in their livs. In every medical practice, water is always the main actor who is strung together with other supporting materials from plant which are said to be understood to occur and live because of water.

The series of sentences are combined with the hopeful prayer of the removal of damaged organ and system in the body, with the hope that the available potions can help the recovery and support of the God's Almighty. The spirit of the ancestor is also expected to play a role in fighting bad thing against the power of evil spirit so that what the *datu* do for recovery can run well for the purpose of healing. This combination of sentences is called "*TABAS*". This *tabas* gives the patient a suggestive impression.



Lamd Role.

Land is recognized as "tano ojahan, tano ondolan, ojahan ni saluhut nasa na adong". Land is a medium for the process of all human, plant, animal and water lives. Ombun (steam) is a temporary transition that eventually comes into contact with the ground because it comes from the ground. When water is interpreted as the flow of origin life, cause and effect, the land is interpreted as a medium for the fertility process to occur. The symbol of land fertility is called "Boraspati ni tano". Acting as a fulfillment of the threshold of human ability to treat their plant thrives. Humans are only able to provide the basic needs of their plant at the beginning of growth with makeshift macro nutrients, but the fulfillment of macro and micro nutrients will be given by the land itself by "boraspati ni tano". So that Boraspati is a Batak spirituality icon of the hidden element of the land for human life needs, known as fertility. Those who do not respect Boraspati ni tano tend to do damage to land fertility.

The symbol "*Boraspati*" can also be found in the Batak Toba home decoration. Understanding the existence of growing fertility in the occupant of the dominant house for the development of offspring for human but can not be separated from the understanding of the fertility of land. Human who do not get offspring are called "*pupur*". While infertile land is called "*tungil*".

In every land processing, Batak people always inform *Nagapadohaniaji* of their intention with the words: I do not want to damage the land that you uphold Nagapadohaniaji, but I want to use it for my daily need (or for other needs such as cemetery and housing establishment) ". After the word is pronounced, then the first graft or pressing is done. For agricultural activity, it is usually left a few days later to do the actual tillage. Activities like this show



that there cannot be an attitude that shows greed for land even though in that sense it is "UGASAN" for human. In the first management, it is also always done with "*rice gurgur*" rice flour which meant that whatever is done for the purpose of life get the blessing of *Mulajadi Nabolon*, understood by *Nagapadohaniaji* and the response from *Boraspati ni tano*. *Itak Gurgur* symbolizes the offering and the interpreting of all the results of the work will develop well (*gurgur*).

Foret Role

Forest (*harangan*) is a collection of various tree plants (*hau*) shrubs and grasses (*ramba*). Plants develop according to their nature without human influence. There is also Expanded Timber Nonforest Village developed by humans themselves. Wood in forest or folk plants always gets special treatment for fulfilling meaningful need in human life. Plant in mythology is old brother of human before Siraja. Like humans, plants / wood also have cycle need with the role of air. Fulfillment of housing, timber meet important. Tree of life has the same need as human but human has inherited everything on earth wisely. Respecting for fellow living substances for the purpose of mastering basic protection for plant / wood.

Other things also get the attention of Batak people, such as mastery of the forest by supernatural beings. They may have already chosen a certain forest or a certain tree early for the dwelling place. The principle of mutual respect is not based on idolatry, but how to have objects that have already been mastered by others. This procedure is still carried out to avoid the occult demands that the place (house) of human use the wood.

Before the desired tree is cut down, there are a number of things that are done that have different meanings: "*Huhuasi*"



communicates when there is an unexpected thing who has mastered the tree. Then they stuck "*takke*" a type of ax into the bark as a sign that they had chosen the tree. If the next day "*takke*" is still sticky then they can have the tree. The occult has been ignored and there will be no more interference following the "*huta*" village.

"*Martondi Hau*" is a welcome to the tree invited to the village. As a brother and sister of humans who will be used to "*parhau*" the building material of house to be built, so that they will always get along well between the house and the occupants, they will not be disturbed by other forces from outside the home that can harm the occupants. As a remark, "*ulos* or "*pandan*" mat is wrapped around a tree trunk, and after a few hours logging is done.

In agriculture, there are also known activities "*Martondi Eme*". At the time of the old rice, the mothers brought "*gurgur itak and studio*" to the rice field in the basket. A handful of *itak* is placed in the rice field and the studio is plugged in. It is hoped that rice plant will develop well, far from being a pest. *Gurgur* leftovers were distributed to all passersby, buffalo shepherds who were around the rice field. Those who accept have understood that this statement of unspoken promise will be shared responsibility for all the contents of rice field from disturbances of bird and livestock. There is a moral responsibility for those who have received it.

"*Pinta-pinta*" in a Batak life attitude, every use of something always expects a substitute later. The principle was implanted with "*Martumbur partabaan, malomak pansalongan*". This principle does not limit one to replace one, but multiply. Anyone who cuts trees and does not guarantee that there will be substitute plants means that he has cut off one life cycle and there is a "*sapata*" of losses in the future. Workers supervised by the elder, they pay attention to the direction in which the tree collapsed. The aim is to minimize small



trees being victims. "*Marobo hau bolon, malisat hau anak*" The rub a large wood, most likely will hit small wood. Care must be taken to determine the direction of reducing the risk, the trees that are cut down are not broken and there wouldn't small wood for being victim.

In the activity of extracting wood for mooring (*borotan*) of buffalo livestock or in various ritual and traditional Batak activities, also undergoing an important process. The cut wood branch must be planted close to the logged-over trunk and promised that after the log has been used for the event, it will be planted again around the village. Usually *borotian* wood is planted back near the village to know the instruction, if shade indicates that the offspring will develop. Usually these former botanical plants are well cared for to bring a better impression.

At any traditional party or anesthesia party that hits the drum (*gondang sabangunan*) it will usually cut the buffalo. During the *Bius* ceremony, the buffalo was called the "*horbo santi*" sacrifice. But at a traditional wedding party called "*parjuhut*", at the event the death is called "*boan*". At the event of death which does not use *gondang sabangunan*, the buffalo that is cut is called "*ola*". But at this time it tends to vaguely mention it.

Traditional Law

A charismatic leader (*marsahala*), must be able to make the rule of law in his community democratically and beneficial for all levels. The leader invites the people, "*beta hita, tabahen patik na na patik nadeng or hangol natorop sude*", let's make good rules to protect the lives of many people, then the community agreed to conduct deliberation. The content of training is not always the same in every



village, *horja* or *bius*, but the goal can be felt and the benefits are the same. The essence of the training is:

For the social order of the parish / *paradaton*, such as the *pangoli anak Magodang, Pamuli Boru*, Marriage and *Tata Parjambaran*. For socio-economic arrangement, such as *mangase*, improvement of waterways with mutual cooperation, seed agreement and planting schedule, utilization of lake and forest. For the legal order (criminal and civil), and so the stamp can become *panangkoan*, may not steal and cannot be stolen, *hukum tunda* (livestock damaging crop), persecution and murder.

To enforce the law and regulation, an institution was formed which involved village leader called *Raja Panimbang*, who functioned as a driver of community development and in other circumstances if there were findings of irregularity. They acted as judges to propose the execution of the punishment that was considered to the King (*pandapotan ni uhum*). *Raja Panimbang* in various regions can be different mentions, such as *Raja Naopat*, *Raja Naualu* and others whose functions are the same as a jury in the meaning of deliberation, at various *levels*, *huta*, *horja* or *bius*.

In *bius*, the final decision is the consideration of *bius* Kings consisting of 4 elements, *Raja Naopat* or *Raja Maropat*, which is often called the *Ampang Ni Naopat Harajaon Bius* Temperature. *Patik dohot Uhum Habatahon* is called "UGARI". In water use, those who carry out mutual cooperation in the formation of water rope include group of water users or group of owner who form regulation. Regulations established will apply to anyone who is a non-owner of water except maintenance. It is this owner group that is obliged to do "*bondage or homban*" once a year.

"*Bondar*" irrigation water sources usually come from large spring (*embung*) which is often called "*jullak*". This *jullak* in some



groups of water user call it as *homban* even though it is not like a real *homban*. Village *homban* usually also carry supporting irrigation water because they tend to be small. Some are sourced from large river but this source has never been called *jullak* or *homban*.

The leader of this group is called Raja Bondar, who owns the device in accordance with the agreement. They are tasked with carrying out routine maintenance and collecting care fees from group members and non-members. This contribution is called "nutmeg" and in some places it is called "angkut-angkut". In the real sense of all forms of water use and forest retribution, it is called nutmeg, the agreed measuring device is called angkut-angkut. For example, in the Lumban Riaria hamlet, Laguboti Sub-district, water channels were owned by hamlet communities that crossed two hamlets, namely Hutatinggi and Lumban Dolok. Previously these hamlets were separate villages before there was a merger of village. The irrigation stream is 98% across the Lumban Dolok area and around 2% crosses the Central Sulawesi. There was a preliminary agreement that each community's rice field in Lumban Dolok along the canal was released from nutmeg. There are a small number of generous-hearted people who give nutmeg so that it becomes an obligation because they see the group's painstaking care of the canal which until now often landslide.

In forest management, every time you want to do a small or large exploitation of the forest there must be an official permit from *Raja Huta*. Beneficiaries of the forest can be from the huta community and outside the huta, which is of course different in the burden of nutmeg, but the rules for forest preservation still apply to anyone according to huta regulation. Forest supervisor who are formed usually conduct check directly into the forest to prove whether there is a violation according to the permission given. If a



violation occurs immediately action is taken according to regulations. If those who do are other residents, a warning will be made through the local *Raja Huta*. *Raja Huta*'s law is very strict with the principle " *Ganjang pe banjar ganjang, mandapot di Raja Huta*. *Bolon pe rumah gorga, mandapot do di jabu bona*". Everything that became the final decision was on *Raja Huta*.

Raja Huta is usually the first person to form a village or offspring. The beginning of the establishment of the village must first plant "*hariara*" (fig wood) as a sign of leadership, Bamboo as a sign of hope that many inhabitants and harmonious and have a fellow protection law. *Bangunbangun*, as a symbol of the existence of a lasting life (*pansalongan*). In the Batak parable it is often called *bangunbangun pansalongan*, means there is a source that can be picked at any time. *Bangunbangun* is also a medicinal plant and is always given to mothers giving birth. *Raja Huta* symbolizes the order of harmony and source of life through the plants which he planted himself and must be preserved and conserved by the people.

E. Conclusion

The Batak tribe since their ancestor's period has been implemented environmental wisdom that is integrated in living the indigenous culture of the Batak people today. The local wisdom of various Indonesian tribes needs to be inventoried and then used as models of environmental preservation based on local wisdom. Preserving the environment by involving the participation of local people will ensure the success of environmental preservation.



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