

Pasang and Traditional Leadership Ammatoa Indigenous Communities in Forest Resources Management

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Abstract—This article analyses forest resources management in Tana Toa, South Sulawesi, headed by Ammatoa. Keammatoan membership is divided into *Ilalang embaya* or tradition area and *Ipantarang embaya* or outside tradition area. The tradition allows possibility of empowering local institutions to manage forest resources in the context of regional autonomy. This paper discusses to what extent Ammatoa leadership and the custom have been used for managing forest resources through reflective mutual understanding process which lead to the transformation to an open community.

Keywords—Pasang, Ammatoa, Kamase-mase, Traditional leadership.

I. INTRODUCTION

South Sulawesi is one of the provinces in Indonesia which possesses unique and at the same time diverse social phenomena and cultures. Just to cite some examples, in south Sulawesi Province, there are three main ethnic groups or tribes (Buginese, Makassarese, and Torajanese) with four groups of local languages, namely Buginese language, Makassarese language, Torajanese language, and Massenrempulu language; beside that, there are twenty-four sub-groups of local languages [7],[8], each sub-group of language has its own dialects. As for physical culture, South Sulawesi also shows diversities. Some of them have already been known by external societies, among others, the Vernacular Architecture of Toraja, of Buginese-Makassarese as well as the famous Phinisi Boats. Among the above-mentioned diverse cultures, there is a unique social phenomenon which, up to the present time, has not been well-known by outside communities. This social phenomenon is the social and cultural life of the Ammatoa community, further on will be identified as Ammatoa Community. This community lives exclusively in the area of Kecamatan Kajang, Bulukumba Regency, and the area is known as the Ammatoa traditional area.

For centuries this community has lived and tried to maintain traditional and simple life (Kajang: *Kamase-masea*). These people believe that was the way of life their ancestors had lived and ordered (Kajang: *Boheta*); hence their descendants have the obligation to observe it. Thus, this way of life can still be seen now in the Kawasan Adat Ammatoa.

According to the definition by the Department of Social Affairs, an isolated community is a community whose location of residence is remote and isolated, hence such community possesses limited communication with other communities, receives limited services from the government, which results in the underdevelopment and causes the communities fall behind in the process of the development religious, ideological, political, economical and socio-cultural life [16], [7].

Historical evidences showed that for centuries Ammatoa community have had contact with outside world,

especially with the communities as well as the kings of the important kingdoms in South Sulawesi such as the kingdoms of Luwu, Gowa and Bone. As a matter of fact, some writers have done researches on the Ammatoa community, like A.A. Cense [16] in a report entitled "*The Patoentoengs In Het Bergland Van Kajang*". Some local writers and related departments have also carried out researches in this cultural area, such as [11], [14], [21], [2],[1], [15], [13], and [6].

In the above-mentioned researches, the main idea which are discussed concerns the local knowledge used by the Ammatoa community in order to preserve the forest they have. Such knowledge is called *Pasang ri Kajang* and has collectively been observed ever since both by the Ammatoa community and by the outside communities. This local knowledge then becomes the main theoretical issue in the researches related to the environment management. This research is also concerned with the issue related to the development which disregards the knowledge of the local people and the local wisdom [3],[9],[5];[10],[18] also see [20]. Though various technology and information entered the local community, not all are accepted, adopted and practiced by the local people. As an actor who knows best the conditions of his environment, where he lives and farms. A farmer has certain local knowledge how to manage natural resources. This kind of knowledge becomes the basis of adopting information and technology, and later provides the local people with the local knowledge [17],[19]. In line with the above-mentioned idea, in order to conserve the natural resources, man will develop a certain system of knowledge leading to the formation of a land management pattern accompanied by various conservation efforts [20], [3].

II. OBJECTIVE AND METHODOLOGY

Pasang, the knowledge system of the Ammatoa community, has been described and then presented in the more easily understood form of knowledge model for the purposes of: (1) developing the knowledge and technology potentials, and (2) preventing the extinction of the local knowledge by the development of the more dynamic knowledge. The approach used is the system which is based on the knowledge, known as the *Knowledge Based System* (Sinclair and Walker, 1998a). The compilation of the local knowledge is carried out by taking inventory of the information about the local knowledge, and then documenting it in the form of *unitary statements* and finally relating the statements in such a way that it reveals the model of the local knowledge of the Ammatoa community.

The process of the data inventory and the process of the articulation of the local knowledge are carried out by having deep interviews and focused discussions with the informants. The result of these processes is a comprehensive description which reveals that the practices as well as the activities have

been carried out in accordance with what have prescribed in the *Pasang ri Kajang*. All information and description are presented in a special format which can be easily understood by anybody. This special format uses a software which has been developed by the Unuversity of Wales, Bangor, called *Agroecological Knowledge Toolkit* [4].

III. RESULTS

A. The Meaning and the Function of Pasang

Literally, *Pasang* means “message”. However, for the Ammatoa community, *Pasang* has a broader meaning than a message. It is a sacred mandate. In fact, *Pasang* is to be observed, obeyed and implemented, and when it is not implemented, it will result in something undesirable, such as the unbalance of both the social and ecological systems (Kajang: *Ba’bara*) in the form of certain disease (Kajang: *Natabai Passau*) suffered by either an individual or the whole community. Thus, *Pasang* as something that must be obeyed, has made its value equal to the revelation and/or sunnah in monotheistic religions. Every violation against *Pasang* will bring bad consequences to the person concerned. He or she will not only be expelled and/or suffer from disease in this world but also be punished in the hereafter where he/she will miss the opportunity to meet his/her ancestors in peace and safe. Even his/her spirit will not be accepted by God and has to assume a form of a creature/an animal who behaves exactly the same as himself/herself when he/she was still alive [21].

Pasang as a mandate of the ancestors, which is orally inherited from one generation to another (oral tradition) teaches the community the knowledge about the essence of life, both in this world and in the hereafter. Therefore, *Pasang* covers everything about how to live communally and culturally. *Pasang* then means a mandate, an instruction, advice, guidance, warning, and reminder to the community. With this meaning and its limitation, *Pasang* is a system of knowledge, though it may be static, it also contains some dynamic aspects. The static contents of *Pasang* can be seen in the saying that “*Pasang ri Kajang anre nakulle nitambai, anre nakulle nikurangi*” (*Pasang* in Kajang cannot be added nor be reduced). While the dynamic characteristics of *Pasang* is revealed by the saying that: “*Manna kodi Pasang tonji, punna baji’ la’bi-la’bi baina, mingka nukodia nipa’ Pasangngi jako gaukangi*” (Though bad it is, it is sill *Pasang*, and when it is good make it even better, but when it bad, never implement it). Therefore, Ammatoa justifies that when a person does “better things” (in accordance to the tradition of the Ammatoa) than his ancestors, his deeds will become part of *Pasang* which has to be preserved.

Pasang in *Kajang* in its ideal form of the Ammatoa culture can be seen in the following *Pasang*: The obligation to believe and to give oneself only to the Almighty God (Kajang: *Tau Rie’ A’ra’na*, or TRA)

TRA, *ammantangngi ri pa’ngarakanna, anre’ Nisei rie’ne anre’na* TRA *nakiappala doang, Padato’ji pole nitarimana pangrota iya toje’na, gitte makianjo punna nigaukangi passuroanna, nanililiang pappisangkan*. Meaning: The Almighty will act and does something He wants. We do not know where He is and where He is not, we can only pray, but TRA will tell us if our prayers are accepted, we surely meet Him when we obey His orders.

In daily life, the concept of simplicity is also realized in traditional and daily costumes which are simple and black in color. The Ammatoa community believe that indeed the world

is colorful and this reflects the cultural dynamics of the communal life. Hence, they choose only the black color as a symbol of their simplicity and honesty. Black symbolizes the earth or soil. And soil is considered as the component of the nature which possesses the simple and honest characteristics, fire (red in color) symbolizes man’s temperamental characteristics, wind (yellow in color) symbolizes man’s characteristics of having no opinions, and water (blue in color) symbolizes man’s cunning and bootlicker characteristics.

B. Pasang and the Leadership of the Ammatoa

The important position of the Ammatoa in preserving and implementing *Pasang*, as well as his function which is not just as a worldly function but far more than that, can be understood by looking at the his existence and his appointment process. As already been discussed above, the first Ammatoa was *Tau-Manurung* (one who came down from Heavens), and was sent by TRA to the world in a certain place of customary Tupalo Forest. Therefore, since then that forest has been considered as the most sacred and holy place in Kajang area, because they believe that their ancestors landed for the first time there. In fact, this place has been considered as the beginning of earth creation; thus is also called *Tana Toa* (Old Land). *Tau-Manurung* was the first in the family-tree of the *Tu-Kentarang* in Kajang, and the current Ammatoa, Puto Nyonyok (73), is Ammatoa XX.

The position of the Ammatoa is a life-time position, and when the Ammatoa dies, his position will be taken over by a person entitled “*Puto*” (a pious man). A *Puto* is a man who in his life shows no defects, and devotes himself for the policy and interest of his community. Before he dies, the Ammatoa will appoint a “*Puto*” whom he considered the most suitable to replace him, and the new “*Puto*” will be given the title “*Amma-Lolo*” (an Temporary Ammatoa). Since then, the *Amma-Lolo* will have to undergo a stage of evaluation process, before he is installed as the Ammatoa; this stage of evaluation process lasts for about 3 years. During this period, the *Amma-Lolo* is not allowed to leave the customary area, and he has to work hard in order to master *Pasang* under the guidance of the *Amma’ Galla’* or *Galla’ Puto*. In the meantime, some natural signs will appear, such as:

Napparanakkang juku, napaloloiko ruang kayu, nahambangiko allo, nabattuiko ere’ bosi, napalo’lorangko ere’ tua, nakajariangko tinanang. Meaning: The plants, and fish begin to multiply, palm wine keeps dripping, dry and wet seasons are balanced, and all food crops give good yields.

When the said natural signs prove to be true during this first stage, this means that the candidate is a pious and pure man (Kajang: *Manuntungi*), and therefore he has the right to continue the next process, that is to prepare all the necessary things for the ceremony of installment which takes five weeks. In this second stage, the *Amma-Lolo* begins to carry out various rituals; so all other members of the Ammatoa are involved in the preparation of the installment ceremony.

In everyday life, the existence of the Ammatoa is awed and respected not only by the Ammatoa community but also by the outside community, especially in the kingdom era. This can be seen when residential and provincial officials often visit and ask for blessings of the Ammatoa, either at the beginning of their tenures or at the end. In one of *Pasang*, it is stated that:

Ammatoa iyamintu tau kaminang ri olo, bakka abbali tana Gowa, Bone na Luh. Apa-apa mamo nakasim-puang tallu boccoa, riemo surona mange ri Ammatoa. Meaning: The

Ammatoa is the person given the precedence, great as the lands of Gowa, Bone, and *Luwu*. Whatever makes them depressed the three kingdoms will send envoys to Tana-toa.

Even in some other *Pasang* it is stated that the influence of the Ammatoa spreads to other area outside Sulawesi island, like Sapa and salaparang in Lombok island, Tambelu and Tambora in Sumbawa island, and in some other areas in Ambon and Ternate.

Pasang and Ammatoa are two very important and determining in the life of the Ammato community. Their existence is analogous to the holy books and the disciples in monotheistic religions. Therefore, in order to understand the existence of the Ammatoa community and culture, we have to understand adequately about the communal concept about the existence of both the *Pasang* and the Ammatoa.

a. *Patuntung Belief in the Forest Preservation*

The ability of the Ammatoa community to preserve their forests while the forest in other parts of the world (including in South Sulawesi) experience serious degradation has become their unique characteristics. Such a condition is interesting if we want to further trace why the forest conservation in Ammatoa traditional area until now. Technically, a forest is a wide area where trees are grown. The forests in Ammatoa traditional area are different from those in other places, because the forests in Ammatoa traditional area are traditionally stated and not stated by the government. The forest area in the Ammatoa traditional region is 110 ha, in it there are four locations where flow four rivers, namely Tuli, Sangkal, Limba and Doro rivers. These four rivers form the boundaries between *Ilalang Embaya* region or the traditional area and *Ipantarang Embaya* or the region outside the traditional area [8].

Within the Ammatoa traditional area there grow several kinds of trees, among others, *na'nasa* (bitti trees), *balangngireng ola' balatung* (Nephelium trees), *inru'* (coconut trees), and *raukang* (rattan trees); the *balangngireng ola'*, *balatung*, and *raukang* woods are used as housing raw materials, while *na'nasa* woods are used as housing raw materials and as raw materials for boats (particularly for phinisi boats) by the fishermen in Bulukumba regency. Aside from the different trees, in that forest there live various types of fauna, such as deers, mongkeys, cuscuses, pigs and many kinds of birds.

The maintenance of the stable and lasting forest in the Ammatoa traditional area has been the result of the obedience and loyalty of the Ammatoa community members to implement the teaching and belief of Patuntung they embrace, particularly the principles of the maintenance and conservation of the forest ecosystem.

b. *The Teaching and belief of "Patuntung" about the Functions of Forest*

The Ammatoa community who believes in the teaching of "Patuntung" try to conserve their forest ecosystem, because they believe that the forest ecosystem itself is an integral part of their belief structure. Thus, their faith in Patuntung plays the key roles in their attempt to maintain and conserve the forest in the Ammatoa traditional area. As already known, faith as part of the cultural system, is the most important guidance to direct and at the same time provide meanings to the actions as well as behavior of the human beings as its followers. Hence, in the ecosystem

model of approach in the Ammatoa traditional area the belief in Patuntung holds the regulatory key among the population of the Ammatoa community.

The forest ecosystem as part of the belief structure of the Ammatoa community, is believed to be the stairs for the human souls to descend from heavens to the earth and to ascend from the earth to heavens. Such faith is related to the legend of how the first man (*Tau Manurung*) had descended from heavens to the earth in the forest area, so did He in the same forest when He returned to heavens from the earth. Another thing which is related to the forest holiness is that it was there the earth was first created by TRA. That is the reason why the area is called *Tana Toa*, meaning the oldest land.

The belief in the holiness of the forest in this region then penetrates their social system. Such belief regulate the pattern of their actions and treatment of the environment as a norm which they must obey. The extent, to which the change of the ecosystem has undergone, it depends on the extent to which the change process has occurred in the faith of the Ammatoa community itself.

One of the interesting case is that the Ammatoa people have opened themselves to the outside influences, though the influences are still very limited. The basic concept about the environment and forest ecosystem is that there has been some worries that the influence from the outside world has brought about some degradation. Nobody knows when they will start reformulating their views by not relating everything to their basic belief but instead start rationalizing the functions of the forest ecosystem as known today. Nevertheless, such worry has not been apparent now. Basically, the belief in Patuntung views the forest ecosystem is still in line with the function of the forest ecosystem at present, beside its ritual functions. The correlation is expressed in the following *Pasang*:

Punna nitabbangngi kayua, nippapirang-ngangngi angngurangi bosi, appatanre' tumbusu, napau turiolowa. Meaning: when a tree (in the forest) is cut down, it will lessen the rain, it will make the spring disappear, according to our ancestors' message.

This *Pasang* proves that the belief of Patuntung sees the function of the forest ecosystem is in line with the modern view, that the forest is the source of both the rain and the spring (*tumbusu*). In other words, forests are the lungs of the earth. Therefore, the treatment given by the Ammatoa community members to the forest is not only in order to take care of its ritualistic function but also to take care of its ecological function. In relation to this fact, the vice Ammatoa (*Galla Puto*) says the following:

Anjo borongngaiya kontaki bosiya, nasaba konre mae anre' pangairang, iyaminjo borongnga selaku pangairang, nasaba iya nakabuttui bosi. Meaning: It is the forest which calls for the rain, because here there is no irrigation (technical irrigation), the forest functions as irrigation, that is it causes the rain.

The above statement shows that in Patuntungan belief there is a knowledge about the forest hydrological functions which is actually an indigenous knowledge, very conducive in managing the ecology. It is for this purpose that the Ammatoa community correlates the conservation of the forest with *tumbusu* (the spring), and this is in itself an ecological wisdom. Without *tumbusu*, they cannot work on their rice fields. They cannot accept the technical

irrigation because beside it is considered *kasipalli* (taboo), technical irrigation is difficult to build in this area due to the natural condition of the area. Although they have the knowledge of the practical function of the forest, the dominant factor which influences them in keeping the forest conservation is their strong belief that the forest is sacred. Such a belief clearly influences their daily behavior and actions, both their relationship with the Almighty, their relationship with each other, and their relationship with the environment.

In short it can be concluded that the functions of the forest are as follows:

- a) *Ritualistic function*, that is a link in the Patuntung belief system, which views the forest as a sacred place. Hence different rituals are performed as the consequence of that belief, like for example, the inauguration of the traditional leader (Ammatoa), *attunu Passau* (a curse ceremony for those who have violated the customs), a vow ceremony, and an *angnganro* ceremony (individually or collectively praying to TRA for good intention).
- b) *Ecological function*, that is the Patuntung belief which considers the forest as the water regulator (*appari'e bosi*, *appari'e tumbusu*), or as the cause of the falling of rain and the emerging of the spring. If viewed from its ecological function and from the way the Ammatoa community treats it, the forest in the Ammatoa traditional area functions more as a protection compared to other practical functions.

IV. DISCUSSION

Generally it can be said that resources are anything human being can find in the nature, which can support man's life. Based on this definition, several indicators show the understanding and relationship of the Ammatoa community with the functions of the natural resources which can be directly utilized or because of the importance of its position in the ecosystem. In relation to this, an expression of Pasang is often expressed in a loyalty vow to the Ammatoa or others as follows:

Punna napararakkang juku', napaloloiko raung kayu, napabannangiko riallo, Napaturungiko ere bosi, napalo' lorang ere tua', nakajariangko tinanang. Meaning: (we will remain loyal to you) if (during the period of your tenure) the fish will Multiply, the leaves of the trees will continue to sprout, the sun will go on shining, the Rain will continue to fall, the palm wine will still drop, and the plants will still grow well.

This Pasang presents a description that the Ammatoa community understands the natural resources or the physical environment which includes materials or elements which can directly be used to satisfy the life needs, like fish (*juku'*), plants (*tinanan*), the sun (*mata allo*), rain water (*ere' bosi*), the leaves of the trees (*raung kayu*), or forests (*borong*). These elements possess functions in the ecological system.

The relationship between the Ammatoa community and the natural resources becomes the logical consequence of their life which depends on agriculture. Besides, it is also a reflection of their indigenous knowledge about the image of the environment and generally about the ecological system. The relationship between the sun, the forest and the water shows the wisdom of the environment itself. According to the principles of ecological science, the environmental elements prove to possess functional relationship with each other.

The basic thing in the management of the resources and the ecology is the total involvement of human beings as part of the elements of the physical and living environment in the *kamase-masea* ecosystem. Consequently, the functional relationship between the components of physical, living and socio-cultural environment and human beings themselves must be tied together in such a way that the ecological balance can be realized. The way the Ammatoa community see human beings in one system or natural ecology, is symbolically realized through *juku'* (fish), *tinanang* (plants), *mata allo* (the sun), *ere bosi* (rain water), *raung kayu* (leaves of trees), or *borong* (forest) in Pasang is a very conducive and even determining way of looking at the conservation of forest in Ammatoa traditional area. The damage of the forest ecosystem in modern communities at present is caused by the view that the nature is only an object which is located outside the system and not within the same system as human beings. The former brings about a persuasive and harmonious pattern of relationship with natural environment, while the latter results in an exploitive pattern of relationship. In maintaining the conservation of the ecological balance and the forest care, the Ammatoa community consistently and voluntarily exerts efforts to save the energy and resources by trying to live a *kamase-masea* (simple/concerned) and self-sufficient pattern of life. They have to do this saving effort because it has been strongly recommended in Pasang, as follows: "*katutui ririe'na rigentengng tabattuna palaraya*" (take care while it is still available, before the critical/femine time comes).

In managing and preserving the natural resources, the Ammatoa community implements land zoning by dividing the region into *rabbang seppang* (narrow boundary) and *rabbang laura* (wide boundary). *Rabbang seppang* is allocated for traditional area in which there exists the traditional forest with its contents which cannot be touched in order to preserve it as required in Pasang and for preserving the hydrological system. Thus, *rabbang seppang* is categorized as protection area. *Rabbang laura*, on the other hand, covers the regions which are used for different purposes, as residential area, farm area, and pasture area. This region includes the entire area outside *rabbang seppang*. When viewed from the point of the managing system of the natural resources, the land zoning in fact signals the ecological wisdom which is still relevant with the ideal land zoning system in the present modern era.

Because of the territorial concept which states clearly the boundary between *butta kamase-masea* (a concerned region) and *butta kuasaya* (a power-based region), the members of the Ammatoa community can protect the stability of their forest ecosystem and can easily control various harmful actions caused by either internal or external forces. The strict system of cultural values help the Ammatoa community to maintain themselves and live their life in *kamase-masea* situation or in *ada' butta kamase-masea* (a relatively closed region), while outside their area, other communities are developing dynamically. Hence, the Ammatoa community looks like a community within communities [12]. The characteristics of this community are: (1) the residents are able to live according to their ancestors' way of life; (2) the population remains small; (3) the residents are so homogenous that any individual can represent the community as a whole; and (4) they live in the self-sufficient manner.

The frame of the self-sufficient life in a semi-closed and relatively limited region forces the individual residents of the Ammatoa community to adopt *kamase-masea* way of life (sub-system), to preserve their environment and forest

ecosystem as well as the management of their natural resources for agriculture.

Indeed, the way of life, the demand for agricultural lands, and the ecological balance, have become classical problems in developing countries, which are dependent on the agrarian sector. Cases, such as *shifting cultivation*, and people illegally clear forests are often difficult to avoid.

Nevertheless, for the Ammatoa community, these cases can never occur, not only because it is considered as *kasipalli* or not allowed by Pasang, but also because the traditional pattern of permanent cultivation has already been practiced by generation to generation. For example, because the land is limited, they take turn to work on their land.

According to the territorial concept of the Ammatoa community, the responsibility for the conservation of the environment is coordinated effectively by the Ammatoa and supported by all residents. This kind of management eliminates the possibility damaging the forest conservation which may be brought about by the dualism of management. As we know, the problem of the environment management in Indonesia today is that it uses a holistic approach and it is difficult to implement because each institution uses a *sectorial strategy*, so that each sector tends to put emphasis on achieving the target of its program at a certain period.

V. CONCLUSION

The rationale of the management of the environment in Indonesia is that the suitable and balanced ecological conservation aims at increasing the the human prosperity through a continuum development. Based on this rationale, the forest resources need to be preserved, not just for the sake of conservation itself, but more for improving the prosperity of the Ammatoa community. Thus, from this point of view, the system of the forest management and conservation by the Ammatoa community is very good, since they have conserved their forest, beside for the sake of rituals, is also for increasing the prosperity of its community members as prescribed in Pasang.

The strong belief of the Ammatoa community to preserve their forest and everything that lives in that forest while the people live in simplicity (*kamase-masea*) is something very expensive at present. This is possible because the Ammatoa people in managing or preserving their forest keep paying attention to the ritual function of their forest (to fulfill their spiritual needs) and the protection function of their forest (to regulate the water use), and to make use of the forest resources wisely in order to improve their prosperity.

REFERENCES

- [1] Ahmad, A.K. 1991. Komunitas Ammatoa di Kajang Bulukumba: Suatu Studi Peran Kepercayaan dalam Pelestarian Lingkungan Hidup. Makassar: FPS Unhas.
- [2] Aminah, S. 1989. Nilai-Nilai Luhur Budaya Spiritual Ammatoa Kajang. Makassar: Kanwil Depdikbud Sulsel
- [3] Chapman, M.G. 2002. Local ecological knowledge of soil and water conservation in the coffee gardens of Sumberjaya, Sumatra. Disertasi. University of Wales, Bangor, UK.: 50 pp.
- [4] Dixon, H.J.; Doores, J.W.; Joshi, L. and F.L. Sinclair. 2001. Agroecological knowledge toolkit for Windows: methodological guidelines, computer software and manual for AKT5. School of Agriculture and Forest Sciences, University of Wales, Bangor, UK.: 171 pp.
- [5] Gardner, K. dan D. Lewis. 1996. Anthropology, Development and the post-modern challenge. London: Pluto Press.
- [6] Gising, Basrah. 2010. Kearifan Ekologi Tu Kajang Dalam Pengelolaan Hutan Adat Lestari di Wilayah Adat Kajang Kabupaten Bulukumba. Disertasi Pascasarjana Unhas.
- [7] Gising dan Hijang, 2007. Kearifan Lokal Dalam Pengelolaan Hutan Kawasan Adat Ammatoa. Kerjasama Lab. Antropologi UNHAS dengan Pusat Pengelolaan Lingkungan Hidup Regional SAMPAPUA Kementerian Negara Lingkungan Hidup RI.
- [8] Hijang, Pawennari. 2012. Profil Masyarakat Hukum Adat Kajang dan Masyarakat Hukum Adat Karampuang: Inventarisasi MHA dan Kearifan Lokal Yang Terkait PPLH. Kerjasama Lab. Antropologi UNHAS dengan Kementerian Lingkungan Hidup RI.
- [9] Hobart, M. 1993. Introduction: The Growth of Ignorance?. Dalam M. Hobart (peny.) an Anthropological critique of development: The Growth of Ignorance. London. Routledge. Hal 1 – 30.
- [10] Joshi, L.; et.al. 2004. Soil and water movement: Combining local ecological knowledge with that of modellers when scaling up from plot to landscape level. In van Noordwijk, M.; Ong C.K. and G. Cadish (eds.) Belowground Interactions in Tropical Agroecosystems. CABI, UK: 349364.
- [11] Mattulada, 1964. *Ammatoa: Salah Satu Manifestasi Kebudayaan di Indonesia*. Ujungpandang: Fakultas Sastra Universitas Hasanuddin.
- [12] Redfield, Robert. 1973. *Little Community Peasant Society and Culture*. Chicago: The University of Chicago Press.
- [13] Sakka, Ambo. 1994. Laporan Hasil Penelitian Tentang Peranan Kepercayaan Patung Terhadap Pelestarian Hutan di Kajang Bulukumba Sulsel, LP Unhas.
- [14] Sallatang, Arifin. 1987. *Perubahan Perilaku dan Cara Berpikir*. Ujungpandang: LEPHAS Unhas.
- [15] Salle, Kaimuddin. 1999. "Keammatoaan Conception of Women", *Buletin Penelitian* Edisi Desember.
- [16] Sukman, 1993. Arsitektur Vernakular Ammatoa Kajang di Sulawesi Selatan: Karakteristik dan Beberapa Aspek Simbolik dalam Perwujudan Rumah Tinggal. Tesis Program Pascasarjana UGM, Yogyakarta.
- [17] Schalenbourg, W. 2002. An Assessment of Farmer's Perceptions of Soil and Watershed Functions in Sumberjaya, Sumatra, Indonesia. Disertasi. Catholic University, Leuven, Belgium: 146 pp.
- [18] Sinclair, F.L. and D.H. Walker. 1998a. A utilitarian Approach to the Incorporation of Local Knowledge in Agroforestry Research and Extension. L.E. Buck; J. P. Lassoie dan E.C.M. Fernandes (Eds). Agroforestry In Sustainable Agricultural Systems, CRC Press: 245-275.
- [19] Sinclair, F.L. and D.H. Walker. 1998b. Acquiring Qualitative Knowledge About Complex Agroecosystems. Part 1: Representation as Natural Language. *Agricultural Systems* 56(3): 341-363.
- [20] Orlove, B. S. 1980. Ecological Anthropology. *Annual Reviews of Anthropology* 9:235-73.
- [21] Usop, KMA, M. 1978. *Pasang ri Kajang, Kajian Sistem Nilai di Benteng Hitam Ammatoa*. Ujungpandang: Pusat Latihan Penelitian Ilmu-Ilmu Sosial.