



RESEARCH ARTICLE

INDIGENOUS KNOWLEDGE OF ENGAGING IN FARMING IN STONY LAND

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ARTICLE INFO

Article History:

Received 22nd May, 2017
Received in revised form
24th June, 2017
Accepted 29th July, 2017
Published online 31st August, 2017

Key words:

Indigenous Knowledge,
Farmer,
Stony Land.

ABSTRACT

This study tried to comprehend indigenous knowledge of engaging in farming in stony land at Burangasi ethnics in Buton hinterland. Engaging in farming in stony land has been done from time to time and from generation to generation. Engaging in farming in multi minus lands did not make farmers cease and submit to their fate but strove to relate between the hard nature and human beings through culture. The culture that was obtained through knowledge and experience made them develop the indigenous knowledge in engaging in farming. Ethnographical method was a method used in this research by employing the technique of participant observation and indepth interview. Furthermore, data were analyzed to be described as the report of research. This study was expected to be capable of finding blue print and prototype of traditional farmer in Burangasi about indigenous knowledge and wisdom in the management of the stony land. Besides, it was expected that through the track record of the indigenous knowledge of Burangasi people, it could evoke another side to participate in informing, supporting, conserving, and developing the indigenous knowledge that could give better direction in the strengthening of peasants and local food.

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Citation: La Janu, 2017. "Indigenous knowledge of engaging in farming in stony land", *International Journal of Current Research*, 9, (08), 55371-55376.

INTRODUCTION

Modernisation in a variety of fields has given an impact on the shift and change including culture. In anthropology, among seven elements of human cultures, knowledge is one of the elements that covers all aspects in the elements of culture. One of the elements of culture that undergoes threat of extinction is indigenous knowledge. According to Lubis (2005) knowledge of local culture currently undergoes threat of extinction. It is caused by the threat that comes from ideology of modernisation that is, in turn, realized in the paradigm of world development based on economic growth. The indigenous knowledge in many cultures in Indonesia seems as the diversity of group ethnics in Indonesia, and the diversity becomes the wealth of local intellectual. Indigenous knowledge can be seen in the practices of daily life of local community. One of them is the local knowledge in engaging in farming. The life of Indonesian villagers largely depends on activity of farming. Generally, the farming that is done in dry land by using the pattern of cultivating the plant in an irrigated field and of cultivating the plant in a garden. Moreover, they did it in wet land (rice-field) that is conducted by many people from Java, Sunda, Bali, Minangkabau, and other regions having relation with program of transmigration (Koentjaraningrat, 1984, 2002, and Melaltoa : 1995a and 1995b). The nature of archipelago of Southeast Sulawesi

whose topography is dominated by stony land as found in Muna and Buton island leads to the activity of farming in rice-field is less found. This is due to not only its nature situation which is in stony highland, but also the lack of the source of spring for watering the rice-field. Besides, the knowledge that is inherited from generation to generation only focuses on cultivating the plant in an irrigated field that always moves or cultivating the plant in a garden. *Burangasi* people in Buton hinterland occupy the highland in the southward of Buton island. They develop the culture of farming in pedigrees in stony land. The limited nature that is dominated by stone and low rainfall does not make them leave the culture of tilling the soil in the multi minus lands (very limited lands) in the perspectives of agricultural science. Even, they use a certain technique in cultivating land by developing and defending the indigenous knowledge in tilling the soil. In daily life, *Burangasi* people do the activity of farming primarily long-term and short-term plants. The long-term ones that are cultivated are rather limited like cashew nut, coconut, and jackfruit. The short-term ones in general are prioritized more because of family consumption especially maize, cassava, sweet potato, taro, and other local tubers. In addition, they plant vegetables that can be harvested both in long-term and short-term. The spices also become the choice in tilling the soil primarily onions. Local onions from this region have the uniqueness so that they are different from the ones from another region (Bima, Brebes, Endrekang) that are found in markets in Baubau Town. The plant of spices is used not only as the flavoring, but also as the medicine.

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Utilization of land so far has been used a certain technique in cultivating land with traditional ways. Moreover, it is planted on with useful plants in viewpoint of their culture. The traditional ways that are conducted so far have a certain meaning and frequently contain values of local wisdom. Permana (2010) who researched the culture of cultivating the plant in an irrigated field of Baduy persons emphasized that principally the choice of engaging in farming by using the pattern of cultivating the plant in an irrigated field (*huma*) with various certain plants aims at meeting with the needs of local community and reflecting local wisdom. For example, the plants of paddy that grow in unirrigated field is not only for the food needs, but is also as the respecting to the Goddess of paddy, the Goddess that is believed as the food provider for Baduy persons. Likewise, Dayak Tunjung Linggang persons as researched by Lahajir (2001) that the choice of engaging in farming by using the pattern of cultivating the land in an irrigated field that always moves is the response towards the nature of Kalimantan that is dominated by humid soil. As a result, its fertility is less advantageous to do the activity of engaging in farming in the rice-field. Cultivating the plant in an irrigated field by way of moving with the time of waiting (*bero*) in years is actually a strategy of recovering the soil fertility. Thus, food stock especially the paddy that grows in an irrigated field, vegetables and fruits can be obtained continuously through pattern of rotation. The diversity of community's knowledge gives the response towards their environment in order to keep surviving. It describes that every community that is in a certain environment has a certain knowledge as well about their environment. Every society gives a different response according to their environmental condition. The existence of knowledge owned by every community concerning their environment arouses the presence of adaptation conduct towards their environmental condition so that they can survive.

It is not impossible that the indigenous knowledge of *Burangasi* persons in tilling the soil will be known more through indepth research related with the activity of farming in stony land. As a result, based on various phenomena mentioned above, the writer is interested in conducting a research about indigenous knowledge of *Burangasi* people in *Burangasi* village with the title "Indigenous Knowledge based Food Security, Ethnographic Study at *Burangasi* Ethnic in *Buton* hinterland". By knowing the indigenous knowledge of an ethnic, it can also be known how they view or respond their world (environment).

Review of literature

The diversity of ethnics in Indonesia has certainly had an impact on their various community's knowledges in every ethnic such as: how the perceive their self, how they behave, interact and give response towards their environment. It can be seen from the description about ethnics group or is known with ethnography (Koentjaraningrat, 2002, Melalatoa: 1995a, 1995b and Ihromi, 1999). The study of farmer community is not only researched by the experts in the field of agriculture, but has also been done since long by anthropologists. Among of them are Haviland (1985) who described around the activity of farming from the beginning of history of human's culture namely from mixing or collecting the ingredients of food in the world to tilling the soil (engaging in farming) that has no longer moven and Koentjaraningrat (1984) who described how Indonesian people with their various livelihood like tilling the

soil. Tilling the soil that is committed namely farming in field, gardening, and farming in rice-fields. Lahajir (2001) described and analyzed how ethnology of Dayak Tunjung Linggang persons respond their nature through the pattern of cultivating the plant in an irrigated field by way of moving. Ethnoscience of Tanjung Linggang persons explained how knowledge and cosmology of Dayak persons in interpreting the universe. Besides, they have knowledge in cultivating the farming land that is marked by the phases of cutting down, cleaning, planting, maintaining, and harvesting. The series of farming activity is frequently related to the rituals of farming that have symbolic interpretations concerning the relation of human and nature that is mediated by culture.

Ethnoscience of people of Dayak *kanayatn* as reported by Andasaputra (1997) that in doing the farming activity, the farmer initiates it first with the ceremony of *nyangahatn*, that begins from the phase of checking location and that ends with that of putting paddy into the rice barn. Arafah (2004) also wrote how the knowledge of the society of Moronene in farming in field that always moves must do ritual previously. The ritual of opening new land must read natural signs to know when they begin to till the soil and the kind of plant that is suitable with a certain season mentioned above in order to get a better product. As the standard of comparison in beginning the farming activity, Hardiyoko and Saryoto in Wahono (2005) explained that the peasants in Java know the system of calculating or determining about "the good day" (*mongso*) by way of seeing the natural signs in the form of the stars if they wish to plant. In the mindset of Javanese people, paddy is believed to have a close relation with the Gods because it is regarded as the incarnation of the Goddess of rice crop (the Goddess of *Sri*), namely the Goddess of protector of paddy plant. The peasants of Java normally use the sign of the star of *waluku* (*orion*) when it appears, namely the one which resembles the picture of a plow that appears in the middle of November about eight p.m. in the east. The appearance of this star is considered as the sign of the cultivation of rice-field begins before paddy is planted on. Indigenous knowledge is a group of knowledge that is created by a group of society from generation to generation that lives collectively and harmoniously with the nature. The indigenous knowledge also denotes the continuous result of creativity and try-test by involving internal innovation and external effect in the effort of adapting with new condition or the power of self-adaptation by using the thinking-tools according to their objective (McInerney M. in Taalami, 2008). Indigenous knowledge is a set of rules and strategies owned by local citizens in the effort of natural utilization for their survival (Geertz in Arafah, 2009) Indigenous knowledge is defined as the knowledge owned by a cultural community. Its focus is on original and unique knowledge of a cultural community. Besides, in accordance with Haviland who stated that indigenous knowledge (ethnoscience) is a branch of cultural studying that strives to understand how the indigenous people understand their nature (Endraswara, 2003).

In connection with the above mentioned thing, Ahimsa Putra in Lahajir (2001) expressed that when we want to know and comprehend an environment as understood by the society researched must express the system of taxonomy and classification of category that are reflected in local terms from the community researched. This is due to the presence of the statements or ideas of the above mentioned community concerning its environment that is contained in it.

Furthermore, Ahimsa Putra in Lahajir (2001) explained that taxonomy or classification that is expressed in various local terms mentioned above usually contains the information about its environment. This is important to propound ethnoecology from the society researched. Taxonomy, classification and its referential meanings need to be described by the researcher. Afterwards, the researcher formulates the rules of behavior towards the environment that is regarded to be exact from the perspective of the above mentioned society. By virtue of the above review of literature, it can be known that the experts who describe concerning the relation between human and their environment are principally mediated by culture. The culture in a variety of ethnics groups has given rise to indigenous knowledge that contains a lot of culture and humanity values that refer to wisdom. Moreover, the response of human towards their environment where they live is not a new study. Even, the response of all sides towards this study increasingly gets a more specific attention. The study of the anthropologists above inspires the writer to hold a research on the same phenomenon in the context of Burangasi people's culture of Buton Regency especially concerning the knowledge of farming in the stony land. This is essential to be researched because the study around the knowledge of local community needs describing and informing in order to be known by the outsiders particularly academicians and practitioners in the field of culture, agriculture, and policy makers that are related to the development.

RESEARCH METHODS

This research was conducted on Burangasi people in Buton hinterland, justly in Burangasi Village, Lapandewa District, South Buton Regency. The consideration of choosing this location is due to the life of all of the societies in this village that depends on the farming effort in stony land. Local farmer has not used fertilizers and chemicals yet for the plants that are cultivated. Thus, the utilization of organic fertilizers still keeps being conserved. In cultivating the land, the farmers still employ indigenous knowledge as their guidance that is adjusted to natural condition primarily in choosing the kinds of plants, treatment towards plants, strategy of facing the change of the climate and the season, taboo in farming, and so forth. In addition, in this village, the farmers still do the rituals of farming. Thus, their indigenous knowledge is still maintained. The selection of informants in this research refers to Spradley (1997) and Benard (1994), that the informants chosen must have capability of giving deep information towards their culture. In this research, to obtain the informant that is intended is then employed technique of snowballing as expressed by Manase (1986) that to use this technique, previously the researcher must contact the side that can give the initial information. Afterwards, from this initial informant is obtained the next information that is furtherly related to those who will become as the information of research.

Indigenous knowledge of engaging in farming

In stony land

Utilization of Land

Farmers in Burangasi Village have unique knowledge in pedigrees in responding the problems of nature. In order that the stony land can be productive, the peasants use a certain technique in cultivating the plant by transporting soil from

another location and then, it is placed on stony land. Thus, it is no more found the area of garden that is not used by the farmers to be cultivated. Through this way, the farmers keep surviving. Another strategy done by the peasants in order that the land can be productive by way of putting the feces or the rest of food of animals on the surface of empty and infertile soil. In order that the empty and infertile soil can be fertile, the way is that we take the feces of animal (the feces of goat) first. Then, we sow or spread it on the empty and infertile soil that is planted on as the substitute of compost. Besides, we can put the leaves of banana, leaves of coarse grass, and cornhusk on the surface of soil which is in turn burnt when they are dry or are let casually until they are destroyed. Thus, the content of nutrients of soil comes back like it is at the beginning.

Utilization of land on the garden owned by the farmers of Burangasi Village gives an impact on what kind of proper plant to be planted on the land of garden. If the land of garden is more dominant in stony land, so it is planted on with the tubers such as: sweet potatoes (*kajawa*), and taro (*kaladi*), potato (*gembili*), and *uwi (santa)*. Plants of spices like chilly (*saha*), tomato (*tamate*), and galangal (*langkuasi*) which are planted on the sidelines of the stones by way of being piled up with soil. Moreover, it is also planted vegetables like long beans (*kaca ku'ata*), whereas if the area of garden is soily (not stony), so it is usually planted on with various kinds of plants like cassava (*kasubia*), corn (*katela*) as the staple food and onion (*bhawa*). In planting a species of plant, the peasants adapt it with the land in the garden which they own. If the land which they have is more dominant to be stony, so the plant which is planted is not various. Conversely, if the land that they own has a little soil, so the plant which is planted can be various either it is the kind of plant of tubers, vegetables, or that of plant of spices. For the species of plant like cassava, corn, taro, mango, onion, and vegetables like pumpkin, cucumber, etc, as a rule, the land is cleaned previously by way of being yanked out. If the above mentioned land is stony, so the weeds that grows on the sidelines of stone will be yanked out (*we'eli*) by using machete, or is yanked out by employing a crowbar (*kacidhaki*). If the land mentioned above is planned to be planted with various kinds of plants like cassava as one with corn and pumpkin, so the rests of weeds that have been yanked out after being hoed to the land mentioned above, they are then burnt. After being burnt, the above mentioned land is in turn loosened and is made the piles (*wura*). The way of burning land before being planted on also prevails for the land of onions, but onion is more special namely the land must be better and larger. Then, the pebbles around the land must be cleaned well. Cultivation of land for the plant of onions is done a little different from other plants like cassava and corn. The land for onions must be cleaned well that begins from the weeds on the soil, big or small stone on the soil. Afterwards, on the land that has been cleaned, we burn the weeds. If there is much ash, so the soil for the above mentioned onions is mixed with ash and is then diratakan. Furthermore, it is made *wura* and is ready to be planted on.

Selection of Seeds

The peasants in Burangasi village when they wish to plant a species of plant in the garden, they select the seeds (*wine*) first. The selection of seeds greatly determines to be successful or not for a plant in the future. If the seeds have good quality, so the extent of productivity of a plant will be good as well. On the contrary, if the seeds do not have good enough quality, so

the product will not be too significant. The farmers in this village in pedigrees have a specific knowledge in finding and selecting good seeds and will succeed if they are planted later on either the plants of cassavas, sweet potatoes, or taros and etc.

a. Corn (*katela*)

To determine the seeds of corn which has good quality, that of corn which grows well and has good crop in the future, so it is chosen the corn which has big grains, the one which does not have any damage on one of its parts and which is not eaten by caterpillars or insects, that is called with "nokububu". by local community. The other knowledge in selecting the seeds of corn is the one which does not have rare grains or the whole part of the corn is full of the grains of corn although its measure is small. The seeds of corn that are chosen before being planted, it will be dried first by way of being hung in order to be blown by the wind so that it is durable and is not easy to be touched by the water of rain. In local tradition, generally, the corn which will be made as the seeds is the mother of corn (*kabhelai*) that is planted for the first time when the season for planting arrives. When harvested, the tree of the above mentioned mother of corn is not cut down directly, but is let casually until its tree gets decayed. Then, it is harvested and put in a space beneath the house or under the cellar (*wurawa*) of house as the prior security.

b. Cassava (*kasubia*)

Like corn (*katela*), the success of cassava is also greatly determined by the seeds chosen. According to the knowledge of local farmers, the seeds of good cassava are the ones which have the stem whose age is not too old and is not too young either, namely about six months (*nomo wula*) until one year (*ataku*). This prevails specifically on the seeds that will be planted on the stony land, whereas if the soil is good (fertile), the age of the seeds does not become a problem. The important thing is that it is coincide with rainy season and the exact way for planting. After the seeds are determined, the stem of cassava is cut into some parts (*nipasi-pasi*) that depends on the length and shortness of the stem. Each part that is cut usually measures around 20 cm until 30 cm or about one span of man's hand (*acudha*), according to the size of the peasants' span of hand concerned. The farmers in Burangasi village know several kinds of cassavas (*kasubia*) i.e. cassava of Bogor (*bhogo*), cassava of girl (*kalambe*), and boiled cassava (*kapereka*). The difference of the above mentioned three kinds of cassava lies on the color of each cassava. If cassava of *bhogo*, its stem is brownish in color (*cokolati*), cassava of *kalambe* is yellow in color (*moriri*), whereas cassava of *kapere* is yellow-red (*moriri-modhea*). The cassava of *kapereka* can directly be consumed after being boiled, while the cassava of *bhogo* and *kalambe* must be opened previously or squeezed its water because it contains toxin. To plant the seeds of cassava (*kasubia*), the farmers in this village have their own knowledge as well. It must be known first which of the top part (*kocumbu*) is, which of the middle part (*tonga*) is, and which of the bottom part (*kutarono i woru*) is. Generally, to be able to know or to differentiate the above mentioned parts, primarily the stem of the cassava in middle part, so it is usually differentiated through the model of its cut. If the stem of the above mentioned cassava is the bottom one, so it is only cut once and the form of its cut is slope about 30 degrees to 60 degrees (*bhasimbi*), whereas if the stem is the top or bottom part, so it

will be cut twice so that its form is not sharp but forms two sides.

c. Taro (*kaladi*)

For the plant of taro, the seeds (*wine*) which are chosen normally use the tubers of taro, as long as it has wide leaves and still contains at the bottom part. The way is that the tubers of taro s cut into some pieces (*cumpo'e/kebha*) and then they are planted. In addition, it can also be planted the bud of young taro (*cumbino kaladi*) that grows on the mother of taro. The way is that it can be cut into some parts and can also be planted directly in the whole part to make its growth easy. There is no specific limit about the number and bigness of the cut of taro that will be made as the seeds. It depends on the bigness and smallness of the stem of the above mentioned taro. The cut whose size is big and has been old is the best seeds to be planted on.

d. Sweet Potatoes (*kajawa*)

The farmers in Burangasi Village have the habit of planting sweet potatoes (*kajawa*) when the beginning of west season comes (*musino bhara*). Before planting, they prepare the seeds of sweet potatoes in the form of the end of sweet potatoes stem that is called with young leaves (*bhaleno*) of taro by local community. *Bhaleno* is the most common one to be used as the seeds of sweet potatoes. The farmers in this village know several kinds of sweet potatoes, namely *wauloha*, *kolencusu*, *jinni*, *bhabhana*, and *bandala songko*. The difference of the kinds of the above mentioned sweet potatoes is seen from each color and taste. *Kajawa wauloha* is marked with its white skin and its internal content is red and brown. *Kajawa kolencusu* has a rather brown skin with its white internal content. *Kajawa bhabhana* owns white skin with its yellowish internal skin, whereas, *kajawa bandala songko* has a white skin with its truly yellow internal content. From several kinds of the above mentioned sweet potatoes, principally another part that can be made as the seeds to be planted is the tubers and stem of cassava which is rather old, but generally the peasants in this village choose more to use *bhaleno* because it is faster to grow and to bear fruit in comparison with using the tubers and its stem that has been old. Every *bhaleno* that wish to be made as the seeds, at the most bottom part of branch is bound with rope in order that the tubers that grows later can be more than one (*posuncu-suncu*), because if it is not bound, so each tube can only produce one to two tubers.

Planting

Besides the success in farming is determined by the selection of good seeds, it is also determined by the way of good and effective planting. As for the way of planting, the farmers in Burangasi village have several ways in order that the seeds of planting that they plant are not destroyed quickly and in order that the product of planting that is wanted can be reached according to what is wanted namely it grows well and is productive. In general, the plant of cassava (*kasubia*), corn (*katela*) and several kinds of tubers like taro (*kaladi*) are planted in one land of garden (*hamota*). Even though it is impressed to be intercropping, but is enough to make the society in this village has sufficient food because the knowledge that they own specifically regarding the way of planting and of using a certain technique in cultivating the land. If we wish to plant cassava, so the thing that must be paid

heed first is the kind of soil. If its land largely is stone, so the stem of cassava that is made as the seeds had better being planted with slope position (*pamirie*). Conversely, if its land is largely soil, so it may be planted with vertical-position (*putadhe*), but is not common. The secret is that if it is planted with slope position, the stem of cassava is more potential to have a lot of contents or fruits and later when the crops come is easy to be taken out. For the plant of corn, the seeds before being planted, they are drenched first for at least one night in order to easier to make the buds appear. In order to succeed well, distance of planting and number of grains in every hole is an essential thing to be known. Commonly, the seeds of corn is mixed with a little of ash and are planted with the distance of 3 to 5 foots of man or about a range of hand of man (*aropa*). This is intended in order that when the plants grow, they can be freer to grow later. The number of grains of corn for one hole of plants (*akatabusi*) is usually between 3 until 5 grains, because if it is just a little, it is worried about that there will be any damage later. Even though after a week, usually there is time of substituting the damaged plants (*ka'uloho*) and there are many damages, so the result will be small or even does not have any fruits or any contents. The depth of hole for the seeds of corn that wish to be planted is a half of middle finger or around 2 until 3 cm. This is intended in order that the seeds of corn are not destroyed by ants or other insects. Therefore, when they are planted they are usually mixed with turmeric, by way of being grounded and then is stirred into the seeds of corn that will be planted. It is different from taro, in order to be able to grow well, so before being planted, it is made hole first, then it is given the rubbish and its surface is closed with soil, and next it is planted. After being planted, it is then given the rubbish in the form of the leaves like the leaf of *libho* (a kind of tree growing in the humid places that is in Buton and Muna), leaf of *komba-komba* (a kind of grass that frequently grows in Muna and Buton that is also used to cure a certain disease like scar, etc) and leaf of coarse grass (*danangkuku*). Then, it is closed by using the leaf of banana which has been half old. In addition to be the substitute of fertilizer, the leaves also functions the barrier for the growth of weeds in the surroundings of plants.

Maintenance

In maintaining plants, in general, the farmers only keep the weeds that grow in the surroundings of plants. After planting, they clean the weeds directly that grows on the sidelines of the plants. For the plant of corn (*katela*), usually the above mentioned cleaning is done after the age of corn is 2 weeks so that it does not bother its growth, whereas for the plant of cassava (*kasubia*), there is specific time to be cleaned because it includes as the plant that can survive. It is different from the plant of tubers plant such as: taro (*kaladi*), potato (a kind of tuber whose stem is thorny, the skin of its fruit is hairy and thorny), and uwi (a kind of tuber that does not have any hair and thorn on its skin that is different from potato). For taro, it is not too busy in maintaining it, it is enough to be controlled continuously about the problem of its cleanliness. Whereas, for potato and *uwi*, this plant not only must be clean, but also must be observed its growth specifically related to the stem that spreads on the pole or tree where it spreads because if the stem and branch are in the same place (the same branch), so normally it has an impact on the extent of success of fruit or tubers that is produced. The key of success in order that the plant can grow well is that it must be diligent to clean the wild weeds that grow in the surroundings of the plant. It is given

enough rubbish in order that the plant can grow well. The giving of manure like the feces of goat is also beneficial in order that the product of plant is more maximal. The maintenance of plant in the form of action as what has been explained above is not the only model of plant maintenance for the farmers in this village. There is still another way that they have, namely the existence of taboo that is called with "*taboo*" by local community that is believed from generation to generation. In addition to taboo, they also know the term of the taboo (*ka'ombo*) that is believed to guard the products of garden from the disturbance of the other persons like the thief that is used to taking the product of garden without being known by its owner. If the above mentioned plant has been regarded as the taboo thing, so if there is someone who takes it without being known by the owner of the garden, so it will be given any sanction in the form of disease like his stomach is swollen and pussy, his hand is swollen, and so forth.

Harvesting

Stony land is not always unbeneficial. The farmers in Burangasi Village have proven in pedigrees that they can survive by the knowledge that they own. Knowledge by knowledge arises in line with the experience that they undergo when farming. The society develops indigenous knowledge not only when they select the seeds, the way they plant and how to maintain the plant, but also when the harvest comes, they still have a lot of knowledge as well in order that the product of plant that they obtain can be beneficial and survive. The plant of cassava (*kasubia*), for example, is usually planted with a time span of 12 months (1 year), but it turns out that it can also be harvested earlier, namely at the age of six months or less than that. In order to know that the above mentioned cassava has been old or not, it can be known through the color of its stem and bigness of clump of soil (*wurano*) on the above mentioned cassava. If its most bottom stem is still light green in color, so the above mentioned cassava is classified to be still young. However, if the color of its stem has changed, it means that the cassava has been old and has been able to be harvested. The way of knowing the harvesting-time for the plant of cassava whether it has been old or is still young can be seen from the period when it is planted. However, it is also capable of being seen through the bigness of clump of soil on the above mentioned surface of soil. If the clump of soil (*wurano*) has been big, so the above mentioned cassava has been able to be taken. But, if it still looks flat with soil, it means that the content or tubers is still small or has not been able to be taken and the product has not yet been able to be produced as well. This thing also prevails on the species of tubers plant like taro (*kaladi*), potato, (*hopa*), and uwi (*santa*). After the plant of cassava has been old, local community treats it with 2 ways, i.e. 1) it is directly harvested as one; 2) it is let stand until the time to be harvested comes. To be directly harvested as one is intended in order that the ex-soil of the above mentioned cassava can be planted again with another plant or the same plant in the next season of planting. The way is that after the cassava is taken out, its skin is peeled off by the farmers collectively (*kampiri'i*). The peasants take part in helping collectively (*pohamba-hamba*) until the activity of peeling off finishes. After being peeled off, the cassava is dried on the cottage or small houses (*wale-wale/kambanu-mbanua*) until it is dry. Normally, it is done between 2 and 3 weeks if the dry season arrives. After being dry, it is put on or under the upper story of the house to be smoked and in order that it can be durable.

It is different from the plant of corn (*katela*). This plant has been able to be consumed since it ages 70 days (*muririmo*) and has been harvested if it has been at the age of 90 days or 3 months (*tolu wula*) or has been exactly 100 days (*ahacu alo*). At the age of 70 days, corn has turned yellow and if it has been 90 till 100 days, corn has really been old and has been ready to be harvested.

Conclusion

Burangasi people occupy the highland in the southward of Buton island. They develop the culture of farming in the stony land from generation to generation. The limited nature that is dominated by stone and low rainfall does not make them leave the culture of tilling the soil in multiminus land in the perspective of agricultural science. They must fight hard to maximize their self potential based on the system of indigenous knowledge that is inherited from generation to the next generation. Burangasi persons have the knowledge in farming in stony land covering the way or technique of farming in stony land. The way or technique of farming in this stony land comprises the cultivation of land, selection of seeds, planting, maintenance, and harvesting. This thing has been carried out since long ago from their ancestors and has been proven to make them keep surviving in hard or stony land.

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