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Comparative study on rituals in highland farming areas In North Sumatera and in Tohoku

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Abstract. Traditional community has local wisdom in managing the relationship between man and man, man and nature, and man and God. The Japanese tradition gives the priority the relationship between man and nature because they believe that Nature is the most important place for human beings and gods. Therefore, in the Japanese traditional community, man and gods have to guard nature against damages. In order to conserve this local wisdom, they use myths, taboos, and rules. In today's modern Japan, the Japanese still maintain their tradition so that it is commonly said that the Japanese are walking on two traditions: modern and traditional. In today's highland farming in Japan, the Japanese farmers still perform ritual ceremonies such as rituals in planting rice plants, rituals in weeding and getting rid of pests, rituals in harvesting, and ritual after harvesting. Meanwhile, in the highland farming in North Sumatera, people's tradition has changed. Today, farmers hunt wild animals such as birds, bats, and snakes because they damage ecosystem; but, as many wild animals are eaten by people, rats and pests/insects become flourish so that farmers now use a lot of chemical insecticide. In consequence, harvests become worse and farmers become poorer. Therefore, there is the difference in local wisdom between high land farmers in Japan and highland farmers in North Sumatera. In this research, the researcher did field research in Tohoku, Japan, and in Batak area, North Sumatera, in order to find out the differences. The theory of cultural comparative science was used in studying local wisdom of the farmers in these two areas. It is recommended that local wisdom be maintained for the local people's welfare. This research was financed by the Japanese related research program, Sumitomo Foundation.

I. Introduction

The Japanese archipelago ranks sixth in its surface area in the world. It is in a row of mountains which appear on the sea. Therefore, it is very close to the coastal area. Resschaur [1] points out that Japan uses only one-fifth of its land for its economic and residential activities and thus farming land has to be used as selective as possible to provide sustenance for its people that rank the sixth in numbers in the world now. [1] Japan is located in the subtropical area which has summer and winter with spring and fall in between so that in a year the land can be cultivated only from spring to fall. Meanwhile, Indonesia also has its archipelago and ranks the fifth of its population in the world. Indonesia is



located in the tropical area with rainy season and dry season and the change of season in between. Since it does not have winter, farmers can grow crops any time throughout the year.

Concerning the condition of the seasons above, Japanese farmers have the opportunity to cultivate their land only once a year or can grow horticulture crops only once a year because they have to undergo winter time which can damage the crops. Indonesia has the opportunity to grow rice twice a year and can grow horticulture crops throughout the year. There are a lot of plants that bear fruits throughout the year like bananas, papayas, coconuts, and so on.

What it means by highland farming here is farmland which is located at an altitude higher than 800 meters from the sea level. Usually, it is located in the steep areas which are specified by rocky places or surrounded by forest. In Japan, the research was conducted in Shichigashuku in the southern part of Sendai. It has an area of 91 square kilometers with many villages. It is called Shichigashuku because it used to consist of seven villages. In 1992 a dam was built in the mountainous area which surrounded Shichigashuku. The dam provides water for irrigated rice fields and becomes a water supply and a hydroelectric power plant for the town of Sendai. In this area, there are many highland farming areas, but farmers are dwindling so that many irrigated rice fields are left uncultivated. Most of the farmers who still cultivate their land are the elderly who have retired from their jobs.

Young people and those who are still productive seem not to be interested in farming their land since in their calculation they will lose 15,000 Yen per 100 square meters each year. If there are some old farmers who still farm the land, they do it as a sideline; they do not think of loss and profit; they do it because they enjoy farming their land as it is the inheritance from their forefathers. Besides that, they also get a kind of compensation from the Government in the amount of the estimated loss.

In North Sumatera, the research was conducted in the highland farming areas which were inhabited by the Batak ethnic groups such as Batak Pakpak, Batak Karo, Batak Toba, and Batak Simalungun. They usually grow rice plants, horticulture, and other crops like vegetables and all kinds of tubers. Some of them also grow coffee and other tree crops like spicebushes. Most of them are permanent farmers who give the priority to farm products in earning their living. They usually do not think of how much profit they get each year since they plant the crops only to fulfill the necessity of life because they do not have any choice to do other jobs.

In the Pakpak area, for example, the farmers buy industrial goods like clothing, shoes, etc., by selling their farm products, including their livestock. Compared with the use of space in the rural areas in Japan, there is no distinction among residence/settlement, irrigated and rice fields, forest area, and graveyards in the agricultural areas in North Sumatera. Here, we can find graveyards in the irrigated or dry rice fields; we can even find a grave beside a house!

By comparing the geographical factors in Japan with the ones in North Sumatera, we can see the differences and similarities between farming areas in Japan and the ones in Indonesia. In this research, the focus was on the differences between the farming area in Shichigashuku, Tohoku, Japan, from the one in North Sumatera in order to explain local wisdom in the two countries

Both highland farming areas in Japan and in North Sumatera give the priority to growing rice as the people's staple food, including the other non-staple food crops. There are various kinds of rituals in these two areas (in Shichigashuku, Tohoku, Japan, and in North Sumatera, Indonesia) such as ritual in land clearing, ritual in planting the seedlings, ritual in getting rid of pests, ritual in harvesting, and ritual in post-harvesting. All of the rituals contain agricultural local wisdom of the highland farmers that influences their prosperity.

1.1. Japanese local wisdom

Annual Rituals and Highland Farmers In Japan, farming rituals are closely related to people's notions about gods. They believe that gods also play their role in maintaining success in harvesting. In this case, the Japanese believe in the incarnation (Rinnei junkanin). Tsuboi Youbumi [2] explains that from the Japanese point of view, a born baby gets the spirit of senzo daidai (ancestors). The spirit of a born baby is believed to be filthy since it is mixed with blood and corpse, and thus it is in an unstable condition which is considered being dangerous. In order that the spirit becomes peaceful, it is

necessary to hold worshipping rituals within 33 years or 50 years (from Ishuki to 50 shiki). After that, tomurai age ritual is held because the spirit has been purified and will dwell in the mountain. The Japanese believe that the spirit will guard people and their descendants against harm. The individual rituals that were simultaneously changed into communal. Rituals were actually becoming the performance of ritual, and the change is one of the efforts to safeguard the rituals from extinction [3].

Myake Hitoshi [4] points out that the Japanese believe that matsuri or ceremony is something which is very important. The essence of the matsuri is the worship of the ancestors' spirits that dwell in the mountain. They believe that the journey of their ancestors' spirits is related to the change in seasons in each year. April 8 (springtime or Haru) is believed that ancestors' spirits descend to villages and become the gods of irrigated rice fields (tanokami). In August, they descend to towns to cure illness; here, they are worshipped in Obon ceremony. They will go back home to their dwelling in the mountain in the fall (Aki) after harvest. October is called Kannatsuki (a month without gods) since they are believed to have gone back to the mountain [5].

We will discuss the close relationship between farming and seasons and also between farming and ancestors' spirits.

Points out that from the Japanese religious point of view there is a religion which gives the priority to gods, a religion which gives the priority to man, and religion which gives the priority to nature [6]. Therefore, from the Japanese religious point of view, man and gods are responsible for guarding nature because without nature man and gods do not have any place to dwell, while the relationship between man and man is regulated by a morality that comes from the teaching of Confucianism. The relationship between man and gods is a kind of functional relationship since ancestors' spirits have spiritual function and man who is still alive carries out economic function in the family. The job description is as follows: ancestors' spirits can be purified when children and grandchildren present offerings within 33 years so that they must have the economic power to continuously hold sacrament rituals by presenting offerings to their ancestors. On the other hand, children and grandchildren can be successful in their economy because of the protection of their ancestors. Therefore, it is believed that there is a functional relationship between the existence of ancestors' spirits and the existence of children and grandchildren [4].

From the point of view above, the Japanese traditional farmers always give priority to:

- 1) Conserving nature by always taking care of the ecosystem so that in the Japanese traditional farmers there is the principle of living together with the other creatures (tomoniikiru);
- 2) Performing the same work rhythm with the change in seasons so that what they are doing has the same rhythm as the other people;
- 3) Considering that their success in farming is helped by their ancestors.

In consequence, the Japanese traditional farmers use as little as chemical pesticides or fertilizers and use farming devices in farming their land which is in line with the land area in order not to kill other creatures. Therefore, in these farming rituals, they can be explained by the relationship between man and nature, between man and man, and between man and ancestors' spirits in order to achieve their prosperity.

In the target which has to be achieved in Shichigashuku village, it is written as follows:

- 1) Establishing a physical and mental health family;
- 2) Advancing education and teaching;
- 3) Working hard to improve the standard of living;
- 4) Giving priority to nature and harmonious environment;
- 5) Working together to make the environment comfortable to be dwelled [7].

The target of the village administration above is only number two (advancing education) which does not belong to the local wisdom of this traditional community; it is probably because in those days it used to be no role of education in the life of the villagers.

1.2. North Sumatera local wisdom

Annual Rituals and Highland Farmers There is a ritual which is called *mananda taon* (recognizing the year) in the Pakpak area. It is a ritual which contains a ceremony to forecast the year, whether it will be good or bad. The ceremony is held before planting the seedlings [8]. The man who has the authority to lead the ceremony has to have the criteria as follows: 1) there is no death in his family members within the ongoing year, 2) he is rich, and 3) he is respected by the other villagers. This man is called *permangmang* [9].

The procedure of recognizing the year is as follows: first, after an irrigate or dry rice field has been hoed, the *permangmang* will come over to watch birds that fly over the field. If the bird that flies over the field is *ingal-ingal* bird which tosses its tail upward and downward, it is a token that planting the seedling can be started. However, if the bird that flies over the field is *tampar ardang* bird which tosses its tail toward left and right, it is a token that planting the seedlings cannot be started yet. Therefore, the *permangmang* has to wait for what kind of the first bird which flies over the field. In consequence, each rice field has different time in planting the seedlings, depending on when an *inggal-inggal* bird flies over the field which has the effect on planting the seedlings and it is not impossible that there is a harvest in a certain place while the field close to it still waits for harvesting time.

In this *menanda taon* ceremony, after the *inggal-inggal* bird comes over, the *permangmang* begins to slaughter a chicken. Its blood is dripped onto the seedlings which will be planted. The *permangmang* then does the forecast by using the chicken's gizzard.

Margondang is held in planting rice plants in dry rice fields by planting three or four grains of rice seedling into a hole which has been dibbling by a stick. Before all farmers plant their seedlings, the *permangmang* plant seven grains of the seedling into seven holes. One hole is for *wangkah* (wild boar), one hole is for *menci* (rat), one hole is for *balkih* (deer), one hole is for *wereng* (insect), one hole is for *logo* (dry season), one hole is for flood, and one hole is for *permangmang*. After this ceremony is over, the whole farmers are allowed to plant the seeds.

Planting rice plants was known by the Pakpak people later after the people from Tapanuli came to this area in the 1970's. These people from Tapanuli had been skilled in making irrigated rice fields so that many dry rice fields were changed into irrigated rice fields [8].

2. Methodology

Ethnological Study on the Tradition and Environment in Japan and in North Sumatera. The research used a qualitative research method. The research was conducted, first, at Shichigashuku, Sendai-shi, Japan, from June 22 until July 18, 2016. Secondly, it was conducted in the Batak area, North Sumatera, from August 22, until September 20, 2016.

2.1. Research procedure and data sources

Research procedure and data sources :

- 1) Gathering books and other writing materials which are relevant to the title of the research.
- 2) Gathering the data by looking at the locations, taking photos, and asking questions.
- 3) Asking questions to the cultural bearers in all places which met the requirements.
- 4) Doing the research after the researcher obtained funds from the sponsor.

2.2. Data Collection and research instrument

Data Collection procedure as follows :

- 1) Translating books or manuscripts from Batakese to Indonesian
- 2) Translating books or manuscripts from Japanese to Indonesian
- 3) Analyzing the data.

The research instruments were as follows: books, some notes on the condition in the research locations, regulations, and the custom of highland farmers in the two research locations.

2.3. Data Analysis

The data analysis was conducted as follow;

- 1) Analyzing the way of planting rice plants in the highland of Japan and the way of planting rice plants in the highland of North Sumatera,
- 2) Analyzing the ceremonies of getting rid of pests and cleaning off irrigated rice fields in the highlands of Japan and North Sumatera.
- 3) Analyzing the ceremonies of harvesting in Japan and in North Sumatera. 4) Analyzing the ceremonies of the post-harvesting in Japan and in North Sumatera.

2.4. Reliability and data validity

- 1) Reading the writings of experts.
- 2) Reading some data of the Administration circle in Shichiga- shuku, Japan, and the Administration circle in North Sumatera.
- 3) Taking photos of the farming areas in Japan and in North Sumatera.
- 4) Asking questions to the experts in the two research locations.
- 5) Discussing the research in a seminar before it was written as the research report.

3. Result and Discussion

3.1. Highland farming in Japan

3.1.1. Rituals in planting rice plants

Planting seedlings is usually done coincided with *higan* festival on March 22 each year. Seedlings can be planted in the irrigated rice fields in April. The ritual in planting rice plants is called *otauematuri*. In order to make the rice plants grow strong, the farmers ask for help from the god of the earth [8].

In the ceremony of planting rice plants, farmers and their family members get together, along with their children who live in towns and go back home to unite their intention and energy in planting rice plants. They seem to be proud of being farmers. They pray to gods for giving them strength so that the rice plants they have planted will be strong and produce abundantly in the fall.

The new season (spring) is the season for planting crops in Japan. However, even though spring has come, there is still snow in Tohoku so that the farmers cannot plant seedlings. The problem is that when they wait for the snow to melt, it will be too late to plant the rice plants, and when the harvest does not occur in the fall, dry winter can damage the plants [10].

The farmers in Tohoku usually spread dust on the land in order to prevent the falling snow, or they cover the seeds which have been put in the ground with plastic/vinyl so that water vapor cannot penetrate and the seeds can grow. The time for planting seedlings in Tohoku is in *shunbun* (around March 23). At this time *higan* festival is held; it is a small holiday when ancestors' spirits descend from the mountain to help farmers do their farming. They are considered as gods of irrigated rice field/*tanokami* or as gods of the rice crop/*inari*. *Higan* is actually celebrated twice a year; another one is called *shubun* which is celebrated on September 23. In *higan* the length of day and night is similar. On this date, all ancestors' spirits are accompanied to go back to the mountain with *miokuri bi* as a token that the farming activity in one year is over.

Otaue matsuri, a festival for planting rice plants in Japan, is held in almost every region or town. It is usually celebrated by young people or students. They dance and sing while they go to the irrigated rice fields. This ceremony indicates that even though Japan is a developed and industrial country, the Japanese still respect the tradition in farming.

There are some points of views which can be seen from the rice planting festivals in Japan:

1. Indicating how important food for human beings is so that they have to know the process of planting rice plants.
2. Those who never know farming will have the opportunity to get the experience of farming.
3. The ceremony is a kind of education experience for young people.

The significance of rice planting festivals in Japan was that Ten/god, Nin/man, Chi/god of the earthwork together to realize people's prosperity.

There are some phrases in rice planting ceremonies in Japan as follows: "I am thankful to the god of Amaterasu Japan, there is a contract of God and the person, and it will be a ceremony of rice planting from ancient times which God told from us." (otaue.pdf,201:5.

(expressing gratitude to *Amaterasu omikami* that there is a promise from gods to man so that it becomes rice planting ceremony which has been delivered by gods). This saying is always taught in the ritual of planting rice [11].

From the explanation above, it can be seen that the ceremony of planting rice plants is a sacred one which has been delivered by gods to human beings and which has been held up to the present time.



Figure 1. O tauematsuri (rice planting ceremony)

3.1.2. Ritual of Getting Rid of Pests

Weeding or getting rid of pests is done in the *Natsu* (dry season) because the rice plants have been turned into the green at these months. The Japanese believe that ancestors' spirits have descended from the mountain to irrigated rice fields in April so that they can watch the safety of the irrigated rice fields. *Inari* is the god of the rice crop that is turned into *kitsune*/raccoon.

The principle of *tomoni ikiru* (living together with other creatures) indicates that actually all creatures have their own predators in nature, and thus man has to take care of his plants if he wants to succeed. Local wisdom in the community of farmers in the highland of Japan is by presenting some offerings to the god of the rice crop/*inari*. *Inari* itself is a raccoon, an animal that preys on rats. The more offerings are placed on the irrigated rice fields, the more raccoons come to eat the offerings. When there are many raccoons come to the rice fields, rats will run away to the forest so that the rice plants in the field will be safe from the attack of rats. After harvesting and the rice plants are put in houses, offerings will not be delivered to the irrigated rice fields anymore so that raccoons will go back to their habitat in the forest. They will come back to the rice fields only to eat the remaining straws or grass so that the rice fields will be clean and the farmers will easily cultivate their land in the next year. It also happens to birds that are never disturbed by the farmers because they will prey on insects which makes insects decrease so that the farmers do not need any insecticide.

Historically, the god of the rice crop appeared the first time in Kyoto. An *Irogu* family is a rich family. The man in the family is making *mocha*; he shoots his arrow but the arrow suddenly turns into a heron that perches on the ground. Suddenly, rice plants grow on the ground where the heron perches. The *Irogu* then sets up a *Jinja* which called *Inari* that is turned into *Kitsune*/raccoon since *Kitsune* is the messenger of the god of the rice crop [12].

Many *jinjas* worship wild animals, such as *shunjitu jinja* worships deer, *nishiejinja* worships monkeys, *hachiman jinja* worships pigeons, *hachiman jinja* worships *karasu*/large-billed crow, *Ookurotenjinja* worships rats, *Benzaitenjinja* worships snakes, and so on [12], but the most

worshipped god is *inari*. According to Hasekura, there are 32,000 *jinjas* that worship *inari*; therefore *inari* is the first rank of gods that is centered in Kyoto.

The beginning of summer in Japan is in July when *tsuyu* or drizzle falls continuously day and night. The humid summer causes plants to grow flourish. Fertile plants will cause pests to come. But the Japanese believe that a living creature is not allowed to be killed because they are the incarnation from the other creatures that are most probably incarnated to human beings.

Therefore, getting rid of pests from plants is done by the customary or belief system. For example, raccoon/*inari* is believed to be the god of the rice crop so that when the planted rice has turned into green, offerings are delivered to the irrigated rice fields for *inari*. When the offerings are in the rice fields, raccoons or *inari* will always come to the rice fields to eat the offerings, or they will stay and make nests in the rice fields. On the other hand, rats will run away to the forest when they smell *inari*. Thus, because the offerings are in the irrigated rice fields, raccoons will descend from the mountain to the irrigated rice fields, while rats will run away from irrigated rice fields to the mountain. The result is that farmers will get their rice in good condition [13].

Besides that, birds as predators of insects are not disturbed by the farmers so that the balance of the ecosystem always exists. However, there is also a way to prevent wild animals or weather that will damage the plants. The farmers cover the plants with vinyl or toy houses or by using *kakashi* (scarecrows) on the rice fields.



Figure 2. Vegetables are planted in the plastic houses in order to prevent insects and coldness

in the highland farming place in Shichigashuku, dry or irrigated rice fields have to be put iron fences around in order to prevent from wild boars and bears. See the picture below:



Figure 3. Farm in Shichigashuku has put fences around to prevent from wild boars.



Figure 4. Irrigated rice field on the foothill of Shichigashuku



Figure 5. Houses of highland farmers at Shichigashuku

3.1.3. Rituals in harvesting in Japan

Rituals in harvesting or *shukkakugirei* are held in September, in the fall. The farm products in Japan are rice, *hie*, *awa*, *kibi*, *dongguri*, *kuri*, and *yama imo*. However, rice is the principal farm product. After the rice plants are cut off, they are dried and stored in barns as the food for a year. This season is also called the season for gathering mushrooms and *dogguri* as forest products in the highland. The first rice harvest is eaten with the *senzo*/ancestors and presented to *kami* (gods) in the temple and to *kamidana* (god of the shelf) at home.

September 23 is the day of *shubun* which is celebrated as *higan* in which the length of day and night is similar. Ancestors' spirits are going home to the mountain so that the people hold *miokuri bi* ceremony. In this month, since the wind blows hard, *kaza matsuri* is held; it is the ceremony for praying in order that the crops are not damaged; therefore, the farmers ask for protection from *kazakami*.

3.1.4. Rituals in the post-harvest

Ritual in the post-harvest is held to express gratitude to God of the earth for passing the harvest and praying that the next harvest will be blessed by gods.

In order to guarantee that vegetables and all kinds of tubers in winter are available, the Japanese use the term of *Tsukemono* (vegetables which are preserved with sugar, salt, or chilies). Meanwhile, in facing the next winter, the leaves and the sticks of all kinds of tubers are cut up and the storage stems are still in the ground covered with snow. They are functioned as the storage in 'earth refrigerator'.

The target which will be achieved at Shichigashuku is written as follows:

- 1) Establishing a healthy family physically and psychologically;
- 2) Advancing education and teaching;

- 3) Working hard to improve the standard of living;
- 4) Giving priority to nature and harmonious environment;
- 5) Working together to make the environment comfortable to be dwelled [14].

The target of the village administration above is only number two, advancing education, which does not belong to the local wisdom of this traditional community; it is probably because in those days it used to be no role of education in the life of the villagers.

3.2. Highland farming in North Sumatera

3.2.1. Rituals in highland farming in the Batak areas of North Sumatera. The climate in Japan is different from that in Indonesia which does not have any summer or winter. In Indonesia, farmers can grow crops and harvest throughout the year; they do not depend on seasons. Therefore, rituals in farming in Indonesia do not depend on months or season cycle; it can be held any month.

Generally, Indonesian people believe in monotheism, the one God. Everything which occurs in the world is God's disposition; therefore, it depends on the human interest whether the other creatures can be eliminated or not. In those days, however, the traditional belief in Indonesia used to be influenced by Hinduism. The people worshipped many gods which resembled the belief of the Japanese. Therefore, nowadays the rituals which tend to worship gods of fertility and the belief in myths in farming have almost been extinct. Nevertheless, in this research, the researcher would search for rituals in farming in rural areas where the influence of religion is not strong enough. The highland farmers in North Sumatera used to farm their land at the foothill of a mountain while the area which is not fertile is used for graveyards, and nowadays graveyards are found anywhere; they are even found in the middle of the irrigated rice fields. The same is true to the residential area which can be found anywhere. This condition is far different from what is found in Japan in the case of using area/space. In Japan, protected forests are very wide. The Japanese do not use the land for residential areas or graveyard haphazardly.

The main characteristics of highland farming, especially irrigated or dry rice fields, in North Sumatera today should be clean and farmers have to eliminate grass and all animals that damage crops. Therefore, wild animals such as wild boars, fruit-eating flying foxes, birds, monkeys, and snakes are hunted, even their meat is sold. This condition can damage the ecosystem.



Figure 6. Bats which will be burned up (23 May 2016)



Figure 7. Snakes and leopard cats (23 May 2016)

The main farming in Batak highland is rice, along with non-staple food crops such as cassava, yams, corn, taro, and other vegetables. It is also well-known for its coffee and incense trees.

Karonese area is well-known for vegetables and fruit, Simalungun and Toba areas are well-known for rice and vegetables, and Pakpak area, which is the newest area for the outside world, still does its old tradition in farming.

In Simalungun and Toba, planting irrigated field rice plants is the main occupation of the villagers. They usually plant their rice plants simultaneously in one village in order to cope with the attack of pests. When planting and harvesting are done simultaneously, pests will hardly damage the crops. When harvesting is over in the whole village, there will be no rice left in the rice fields so that it can break off the chain of food for pests so that their development can be controlled. If rice planting is done partially, it is possible that the rice fields will be attacked by pests, especially by rats, *wereng*, and birds. The pests will move from one rice field to another which has not yet been harvested.

In Pakpak area, farmers farm their land in dry rice fields. In consequence, they cannot plant their rice plants on a big scale; therefore, they still use traditional ways and traditional rituals in farming the land.

3.2.2. Rituals in planting rice plants in the highland of North Sumatera. Planting rice plants in North Sumatera is not determined by seasons. In Sumatera, there is a rainy season which usually occurs by the end of the year, from September until December. The dry season usually occurs in April, May, and June. The two seasons are separated by the change of season in between. However, planting and harvesting rice plants can be done in any season.

In Pane Tongah, Simalungun Regency, the ceremony of planting seedlings is usually determined by *penghulu* (village head). When the date is determined, seedlings are soaked in water (*manggege*), the farmers put the seedlings in the ground. After the rice seeds are soaked in water in three days, they will be let on the ground in two days; after that, they are spread. After the rice seeds are 40 days old, *marsuan* (planting rice plants in irrigated rice fields) is done. Rice planting is usually done by women in *marsalapari* (working together by taking a turn with the other women). The aim of *marsalapari* is that 1) the women do not feel bored in working, and 2) spreading the news of rice planting throughout the village so that many women will join and the work will end quickly. The irrigated rice field is then dried in order that the rice plants will turn into green soon [13,15–18].

3.2.3. Ritual in weeding and getting rid of pests in North Sumatera. There is the term of *aroen* in Pakpak farming community while in Simalungun there is the term of *marsalapari*. It is in-turn working among the *aroen* members in rice fields. In the Bataknese farming community, it is the women who do the weeding since the work is considered not too hard to do; therefore, *aroen* is usually done by women. It usually consists of six women so that their irrigated rice field will be cleaned up soon.

The advantage of doing the work in *aroen* is that the women do not feel bored. Since they work in groups, they will not feel scared, and they can socialize with one another. During the wedding, men make scarecrows and/or insecticide which will be used for getting rid of pests.

in the Pakpak farming community, the rice sometimes does not turn into green; it sometimes turns into white as if it were burned up. The farmers then gather sand to be scattered on the rice by praying as follows:

Sidang sri page, isen kupepulung kami ngo kersik lako menaburi kene memaing tambar dhene. Bagima sumangan ni empung nami karina si enggo perlebbe menjunjung mengeratahi mo ke karina asa mborgoh mo singgara, malum mo si milas-milas dos mo ke karina rebak nggomok deket meratah dekket rebak selloh karina [8].

When the rice plants have turned into green until harvesting, they have to be guarded correctly; it is called *muro*. The rice plants of the dry rice field are usually attacked by wild boars, monkeys, and birds, while the rice plants of irrigated rice field are usually attacked by rats, birds, and pests.

The farmers in Pakpak usually have to build *sopo* (shelter in rice field) and spend the night in it in order to watch their rice fields in the night because wild boars usually attack the rice field. They usually light a fire so that wild boars do not attack the rice field. Besides that, since their dry rice fields are far from their houses, they put their farming equipment in the *sopo*. During hoeing or harvesting, they usually stay in the rice fields. They only go back home to their village in market days to sell their farming products and their cattle; they also buy anything they need for their household. After harvesting, they usually start their life as usual in the village to participate in the social activities in the village.

3.2.4. Ritual in harvesting in North Sumatera. There is the term, *mamona-mona* (cutting off the rice plant to be tasted) in Simalungun/Panei Tongah. Usually, the rice plants which are not ripe enough are cut off, dried up, and pounded. The rice smells nice because it has just been cut off. It is usually eaten with chicken.

Rice harvesting in Toba/Tapanuli and in Simalungun is usually done by working twice, *manabi* and *mabanting*. Since irrigated rice fields in Toba and Simalungun are very wide as at Tanah Jawa and at Panei Tongah, the farmers usually harvest their rice plants by cutting them with sickles, gathering them in the form of *luhutan*. Two days later they are beaten and *purpur* in order that the rice will be separated from the rice plants. In Panai Tongah, 1 *rantai* (400 square meters) can yield 30 cans (\pm 600 liters) of rice plants.

Meanwhile, in Pakpak, harvesting is usually done by using *ketam* (handheld blade used in rice harvesting) since the rice fields are not wide enough. Many farmers in Pakpak earn their living by selling forest products so that they farm the land only in small scales (about half hectare per family). Farming production in Pakpak is less than that in Simalungun or in Toba.

The activity of *manabi* (cutting off rice plants) is usually held in one day; therefore, the farmers usually hire daily workers with lunch prepared by the owner of the rice field. Beating rice plants is also done only in one day and the rice is brought home on that day. Therefore, farmers usually hire seven daily workers. Besides paying their wages, the farmers usually prepare their lunch and dinner in their houses.

3.2.5. Ritual in the post-harvest in North Sumatera. In Toba and Simalungun, there is the term of *gondang naposo*, a folk art for young people by beating drums. In this *gondang naposo*, young people from various villages come over to *manortor* (dance). The activity is aimed to make young people know one another and to get married later on. Since harvest is over and there is no work to be done in rice fields, the parents usually want their children to get married.

4. Conclusion

Highland farming in Japan pays much attention to nature and seasons so that farmers have to comply with seasons and the condition of nature. In the highland farming at Shichigeshuku, most of the farmers do their work as a sideline job. Permanent farmers are those who have been retired. They do their work as amusement and tradition to continue their parents' job. Therefore, they do not care whether they get profit or not. Highland farming in North Sumatera does not need seasons; therefore, the farmers can plant their crops at any time. It is found that one rice field has been harvested while the other rice field has not. Most of the farmers are permanent farmers, while sideline farmers are those who work as government employees.

In the relationship between man and man, Japanese farmers work by themselves, but do their work simultaneously and have to comply with seasons. But, highland farmers are controlled by municipal administration office or village administration office. In the relationship between man and man, many highland farmers in North Sumatera work by Aroan, work together with other people in turn in the rice fields. Many of them are not controlled by the Government; therefore, many graveyards are located in dry or irrigated rice fields.

In the relationship between man and gods, highland farmers in Japan believe that their success in farming is by the help of gods. Wild animals like raccoons are considered as gods' messengers to guard their land; therefore, they place offerings. Japanese farmers, therefore, do not kill living creatures but present them to the enemy of nature. Most of highland farmers in North Sumatera do not believe in myths and gods; therefore, they kill wild animals. They also use chemical pesticides to control the development of pests.

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