Local tradition of mountain farmers in Japan and Batak area in industrial era 4.0

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Abstract. Traditional societies have local knowledge in managing human relations with humans, human relationships with nature and human relations with God. Modern Japanese society recently still maintains its tradition, so it is often called Japan runs on two sides of culture, namely modern and traditional. In mountain farming in Japan, now agricultural activities are still carrying out ritual events such as the ritual of planting rice, rites weeding and repelling pests and rites of harvest and post-harvest. Japanese farmers do not kill wild animals in their fields but take precautions, so that wild animals do not come in to disturb their agriculture. Compared to mountain farming in North Sumatra, the traditional beliefs of the people have changed; they no longer carry out the traditional rites. Now farmers have hunted wild animals such as birds, bats, and snakes. Therefore, this situation is damaging the ecosystem because wild animals have been used as food so that there are many mice and planthopper pests/insects and for that, they use a lot of chemical poisons. This results in poor harvests and consequently, farmers being poor. Researchers use Fudo's theory (The relationship of climate with the way of life of Watsuji Tetsuro) and the historical development theory of Saburo Ienaga and theories of comparative culture in examining the local wisdom of farming communities in these two ethnicities. This research shows how two nations which have relatively similar natural conditions but in historical development have different ways of life.

1. Introduction

1.1. Theory description

Watsuji Tetsuro in 1935 wrote a book called Fudo / "風土" (wind and land) translated into climate and culture (Climate and Culture) as a cultural philosophy. He said that human life is influenced by the natural environment, geography and topography, climate and season, weather and humidity, land and islands, flora and fauna and so on. This all results in human lifestyles, such as food choices, home architecture, and clothing. Even more broadly is affecting the way of human life from birth to death. It also affects the family environment, community, lifestyle, and equipment technically. It can be said to affect humans from birth, life, and death. This thought was also approved that all matters of Japanese culture must lead to the study of its natural environment.

According to Watsuji Tetsuro, the climate phenomenon must be seen as a subjective expression of humanity not as the existence of the natural environment. Cold is a cold that is felt with members of the community, so they make a form of home that is in accordance with the natural environment that is
able to deal with the situation of wind, rainy season, earthquake, tsunami and so on, and they also choose clothing and food according to the season and the natural environment.

To examine the old culture, Watsuji examined from ancient texts such as kōjiki (712) and nihonshoki (720), old stories, songs, poems and myths as scriptures.

Then Watsuji divides three living environments in the world, namely: desert communities, monsoon communities, and pastoral and savannah communities. Primitive nations in Asia are classified in the monsoon community that characterized by a natural environment overgrown by forests and occupied by many spirits. Therefore, the monsoons are people who love nature very much. Myake (2009) said that concerning nature, humans and worship/Gods, the Japanese prioritize the environment [1,2]. Without nature, humans and gods cannot live. Then in the course of the history of ideology that was born from these three areas of the environment, they mixed and influenced each other.

Then in the course of Japanese history, Japan was initially entered by various ideologies from mainland China such as Confucianism, Buddhism and then also entered the Christian influence of Portuguese ties in the 16th century. But Japan had the privilege of the term Konchisuijakuron (The theory where ideology outside is subject to Japanese ideology), but then the old Shinto beliefs that are not institutionalized become institutionalized following the form of beliefs that come in from outside.

By looking at the thoughts of the scholars above, Japan and Indonesia are two countries located in the monsoon area, where if they follow the above thought, they are a nation that respects the ancestors and the natural place of residence. However, in the current development of this thought has been very much difference between the people of Japan with Indonesia. At this time, the author sees in the life of mountain farmers in Japan that will be compared with the lives of mountain farmers in Indonesia.

2. The content of the study

Japan and Indonesia are two countries located in the monsoon region like Watsuji Tetsuro in his theory entitled Fudo, which is a nation that respects the spirits of ancestors. But even so there are also differences in terms of geographical location, Japan is in a sub-tropical area and Indonesia is in trophic area, and in the course of history that is different from the influence of ideology from outside.

The Japanese archipelago is the sixth-largest in the world, and the islands are a range of mountains that emerge from the middle of the sea. Therefore the mountains of Japan are very close to the coast. Reischhauer (1987) said that Japan only uses one fifth (1/5) of its land for economic activities and settlements [3,4]. Therefore, agricultural land must be used as effectively as possible to be able to support the population that is recently ranked number six in the world. Japan is in a subtropical region that experiences summer and winter, which is intertwined by spring and autumn so that in one year it can only cultivate agriculture from spring to autumn. Compared to Indonesia, Indonesia is also an archipelago, which has the fifth-highest population in the world. Indonesia is in the tropics which has a rainy and dry season which is in between a transition season. Because it does not experience winter, it can plant crops all year round.

Seeing the conditions of the season above, Japan is only possible to grow rice or horticultural crops only once a year, because it will face winter, which can damage agriculture. Indonesia allows planting rice twice a year or can plant horticultural crops throughout the year. And in Indonesia, many plants bear fruit all the time, such as bananas, papayas, coconuts and so on.

Understanding mountain farmers here is agriculture carried out in an area at an altitude of 800 meters above sea level. Usually, the agricultural area is located in a steep field and was marked by many rocks, or surrounded by forests. In Japan, this research was carried out in the shichigashuku / 七ヶ宿 area south of Sendai. It had an area of approximately 91 km consisting of many villages. The name shichigashuku was called because it used to consist of 7 villages. Then in 1992, a dam was built between the mountains surrounding the shichigashuku that provided water for rice fields and also provided water for the city of Sendai and as a hydroelectric power station to the town of Sendai. In this area, mountain farming was mostly found, but the number of farmers was decreasing, so there were many rice fields which were no longer planted. Most of the farmers were retired parents. Young people and people who were still productive did not seem to be very interested in becoming farmers
because, in the calculation, the figures would show a loss of 15,000, - per year per 100 acres. But this farm can run all this time because the parents of part-time farmers do not think of profit and loss, but they felt happy working on the rice fields which was a legacy from generation to generation. In addition, it was planned that by 2018, they would still receive assistance from the local government as much as the estimated loss.

In northern Sumatra, the mountain farming area in this study is an area that is inhabited mainly by Batak people. Both Pakpak, Karo, Toba and Simalungun Bataks. People in mountain farming areas usually plant rice and horticulture and others, such as vegetables and tubers. Other plants, many also grow coffee and perennials such as incense. Agriculture in the mountainous regions of Sumatra is mostly permanent farmers or farmers who prioritize agricultural products in meeting their daily needs. Usually, they never think of profits every year, because they farm only to make ends meet, or there is no opportunity to make other work choices.

By comparing the geographical factors above, we can see the differences and similarities between agricultural regions in Japan and Indonesia. Or in this study focused on the comparison of farming areas in the Tohoku region of Japan shichigashuku with agrarian areas in northern Sumatra, to explain the local wisdom of the two nations.

In mountainous agricultural areas in Japan and Sumatra, prioritizing rice cultivation is the leading food of the people, which is added to other crops. In traditional agriculture in the two regions, there are various rites/traditional ceremony, such as rites to open land, rites to sow seeds, rites away pests, harvest rites, and post-harvest rites. All of these rites contain the local wisdom of the owner's farming community and influence the prosperity of the mountain peasant community.

2. 1. Tradition and agriculture in Japan

In Japan, agricultural rites are closely related to the views of the gods. Because in their opinion, the gods also play a role in maintaining agricultural success.

Myake Hitoshi (2009) said Matsuri or rite is an essential thing in Japanese belief. In matsuri/rite in Japan, the point is the worship of ancestral spirits living in the mountains [1]. They believe that the journey of ancestral spirits is related to the changing seasons each year. On April 8 (spring / Haru) it was found that ancestral spirits would descend to the village to become a rice field god (tanokami), and in August came to the City to cure illness, and were worshiped at the Obon event. Then in the fall / Aki, after the harvest will return to stay on the mountain. In October it is called Kannatsuki (the month of no god) because it is assumed that the gods have returned to the mountains.

In the view of Japanese religion, (Myake 2009: 79) says some religions prioritize God and some that prioritize humans, and some that prioritize nature. Japan's belief system is to prioritize nature [1]. So in the view of Japanese religion, humans and gods are obliged to protect nature. Without nature, humans, and gods also would not have a place while the morality of Confucianists governs human relations. The human relationship with the gods is functional, ancestral spirits have a spiritual function and the living person has an economic capacity in the family. By way of division of tasks as follows; Ancestral spirits can be sacred if there are offerings from grandchildren for 33 years so that the economic strength of the children and grandchildren are needed to continue to make purification rites and give offerings to the ancestors. Whereas on the other hand, children and grandchildren can succeed in their economy is due to the protection of ancestral spirits. Therefore, it is believed that there is a functional relationship between the existence of ancestral spirits and the presence of children and grandchildren.

From the above thought, Japanese farmers will always prioritize: 1) Nature conservation by always protecting the ecosystem. So that in traditional Japanese agriculture there are known principles, living together with other creatures (tomonikiru), 2) doing the same rhythm of work with the change of seasons so that it is the same as others 3) considers the success of agriculture as a result of cooperation with the ancestors.

So they do not kill other creatures in managing agriculture, as little as possible using chemicals in the form of poisons or fertilizers and using agricultural tools that are suitable for the land.
2.1.1. The ritual of planting rice. Sowing seeds in the nursery is usually done in conjunction with the celebration of the higan which is on March 23 each year. In April the seedlings can be planted in the paddy fields when planting there is a ritual of planting rice called otauematuri. Rice that is planted to grow strongly needs help from the land god.

At the rice planting event, farm families usually gather, both their children who are in the city will return to the village to unite the intention and energy in planting rice. They are very proud as farmers and pray that the gods also give strength so that the rice they plant, has the power to grow and produce a lot of fruit in the fall.

Entering the Haru season (spring) is the planting season in Japan. But there are times, even though it has come spring, but in the Tohoku region it is still snowing, so it cannot sow the seeds. Meanwhile, if you wait until the snow does not fall/stop, it can result in late farming. Because if you don't harvest in the fall, dry winter can damage crops.

Therefore, in the Tohoku area, there is an attempt to keep snow away by spraying dust. Or the seeds that have been made together are covered with plastic/vinyl with the aim that water vapor can be retained so that the seeds can grow. The deadline for sowing seeds in the Tohoku area is during the shunbun period, which is around March 23rd. At that time the higan was celebrated, a small feast during which the ancestral spirits were believed to come down from the mountain to help the family who was working on agriculture, and they came down as rice paddies / tanokami or as paddies/inari. This higan is celebrated twice a year, and the other one is called shubun, which is celebrated on September 23rd. In this higan the length of day and night is the same, at this time all the spirits of the ancestors were delivered back to the mountains with miokuri bi, which all indicate that agricultural activity in one year has been completed.

Otaue Matsuri (rice planting celebration event) in Japan is held almost in various regions or cities. Usually in this celebration followed by young people or students. That is a dance program and songs, and they go down to the fields. This program shows that although Japan is now an advanced industrial country, they still respect the tradition in agriculture.

Some thoughts can be seen from the celebration of rice planting in Japan: 1. Demonstrate how important food is to humans so that every human being feels the need to know how the process of growing rice. 2. Even people who have never known agriculture have the opportunity to get farming experience — more education for young people.

In the thought of celebrating rice planting in Japan, the point is Ten / god, Nin / Man, Chi/land all work together to realize the wishes of the people's prosperity. From the preceding, it appears that a rice planting program is a sacred event which is conveyed from the gods to humans until now still being run in Japan.

2.1.2. The ritual to repel pest. Weeding or repelling pests is done in the Natsu (summer) season because in these months the rice has turned green. In Japanese belief, ancestral spirits had come down from the mountains to the rice fields in April, so ancestral spirits had been watching over the safety of the areas. Inari is a rice god who is manifested as a kitsune/raccoon.

The principle of tomoni ikiru (living together with other creatures), in fact in nature itself all creatures already have predators, but humans must protect their plants if they want to succeed. Local wisdom in mountain farming communities in Japan: In terms of giving offerings to the god of rice/inari. Inari itself is a raccoon that is a rat predator. If many offerings are delivered to the rice fields, many raccoons will come to eat these offerings. With so many raccoons coming in the fields, the rats are frightened and will run to the forest. Therefore, the rice in the fields will be saved from the rat attack. Then after the rice is cut and stored at home, the offerings are not delivered to the areas again, resulting in forest raccoons returning. If the raccoon has returned to the forest, the raccoon will return to the fields to eat the remaining blocks of rice or eat grass. So that the areas become clean, this helps farmers to cultivate the land the following year. Likewise, birds are never disturbed by farmers, because birds will eat insects so that insects are reduced and do not need to be eradicated using poison.

The story of the rice god initially occurred in Kyoto, where Irogu's family was a rich man when he made mochi, the person released his arrows, when the bolts were released suddenly became cranes and perched on the ground, after being inspected there the rice grew, then in that place Irogu established a
Jinja called Inari. Then why it is manifested as Kitsune / Raccoon, is because Kitsune is an order from the God of rice.

Many Jinja who worship wild animals as gods, shunjitu jinja worship deer, nishiejinja worship monkeys, Hachiman jinja worship pigeons, Kumano jinja worship Karasu / crows, Ookuromenijinja worship rats, Benzaitenjinja worship snakes, and so on. But the most widely worshiped is inari jinja according to Hasekura in all of Japan there are several 32,000 jinjas who worship inari. Therefore, inari is a first rank deity based in Kyoto.

Early summer is June, in Japan tsuyu or continuous rain day and night. So this very humid summer results in lush vegetation. Fertile plants will attract pests. But in Japan, there is a belief that living creatures should not be killed because it is believed to be the reincarnation of other beings and includes the possibility of human rebirth. Therefore, to get rid of pests from plants sometimes done with a belief system. For example, the fox/inari is believed to be the god of rice, and so that when the rice planted has begun to turn green, then offerings are delivered down to the inari. When offerings are always delivered to the fields, the raccoons or inari will always come to the fields to eat offerings or will stay and nest in the fields. On one side, rats will be frightened when they smell the trail so that the rats will run into the mountains. So because there are offerings in the rice fields, the raccoons will come down from the mountains to the fields, and vice versa the rats will run from the fields to the mountains. This certainly has functional consequences for the safety of their rice.

Likewise, birds as insect predators are never disturbed so that the balance of the ecosystem is always maintained. However, there are also other ways to avoid wild animals that interfere with plants or the weather that can damage plants, by means of confining plants with finches or with houses. Besides, there is also a way of Kakashi or making a scarecrow in a rice field.

2. 2. Annual ritual of the mountain agriculture in Sumatera
The climate in Indonesia is different from Japan, which does not know summer and winter. In Indonesia, all year long can plant and all year round can harvest, not depending on the season. So that the implementation of agricultural rites in Indonesia does not depend on the month or cycle of the season, agricultural rites can be done in any month.

As for the main characteristics of mountain farming today, it is rice fields or fields that must be clean, therefore killing all grasses and eradicating all animals as pests that destroy plants. Therefore there is always hunting wild animals such as wild boar, bats, birds, monkeys and snakes and even meat is traded on the market, and of course, this can disrupt the ecosystem.

In the Pakpak area, there is a well-known mananda taon rite (know the year), is a rite that contains an event to predict whether the year is good or not. This event was held before the nursery [5].

People who can do this event are the villagers who have the following criteria, 1) for a year there is no misfortune, 2) a well-off family, 3) a respected family in the village, this person is called parmangmang [5].

How it works to get to know the year is as follows; first of all, after the rice fields or fields have been completed in the hoe, the person (parmangmang) will come to pay attention to the birds that come to the field. If the one who comes is inggal-inggal bird, where the tail is flung up and down, it is a sign that breeding can begin. However, if the one coming is the tampar ardang bird, whose tail always moves left and right, then it means the nursery cannot be started. Therefore, parmangmang must wait in the field to see the arrival of bird species. This means that each time will be different land in the birds II and will result in non-uniformity in rice nurseries. Therefore, there is a possibility that rice in one place is ready to be cut while the rice next to it is still green or is still newly planted. At this Menanda taon event after the arrival of the inggal-inggal birds, parmangmang cut a chicken, the chicken blood was dripped into the seeds to be planted. Then parmangmang predicts the chicken envelope.

For planting rice on land is done by mangordang, which is three or four rice seedlings put into the soil that has been installed using wood. Before all the farmers planted seeds, parmangmang planted seven holes. That is one hole for wangkah (wild boar), one hole for MEnci (rat), one hole for Balkih (deer) one hole for leafhoppers (insects), one hole for logo (dry), one hole for floods, and one hole again for parmangmang. After that, the other workers were allowed to plant rice.
In the Pakpak area, planting rice in the paddy fields became known later, when people from Tapanuli entered the Pakpak area in the 70s. People from Tapanuli are already good at making rice fields so that many lands are transformed into rice fields [5].

2. 2.1. The ritual of planting rice in the mountainous regions of Sumatra. Rice planting in Sumatra is not determined by the season. In Sumatra, there is known as the rainy season which is usually at the end of the year ie, September to December. Then the next season in April, May, and June this season is between the transition season. However, planting rice and harvesting can be done in any season.

In the Pane Tongah area of Simalungun district, the program for sowing seeds is usually determined by the headman. With the specified date the seeds have been put into the water (Mangengge), after that the farmers make peace. After three days the rice seedlings were engined, then left on land for two days and then sown in peace. After the 40-day-old rice seedlings, then marsuan (planting rice in the fields). Women usually do rice planting by marsalapari (Collaboration in turn with other mothers). The purpose of marsalapari is (1) to prevent mothers from being lonely at work, (2) so they know the news in the village so that friends are competing to plant so that the work is more quickly completed. After the rice has been planted, with the maximum design so that the rice will turn green faster then the rice fields will be dried.

2. 2.2. The rituals of weed and repel pests in the Sumatra Mountains. In Pakpak farmers 'community, there is the term aroen and in the term of simalungun marsalapari is working alternately in the aroan members' fields. Batak society in general weeding is the work of mothers because it is considered not too heavy. Therefore usually the aroan are mothers. Usually, there are six members of the aroan, so in one week their fields are all clean. The advantage of aroan, they are not lonely when working, but they are in groups so there is no fear and they can work while socializing. Whereas during this weeding, the work of fathers is to make a tool to repel pests in the form of puppets or make poisons to kill animals as plant pests.

In the mountain peasant community in Pakpak, there are times when the rice does not turn green but instead turns white like burning. In treating this, they collect sand to sow in rice with the following prayer;

Sidang sri page, isen kupepulung kami ngo kersik lako menaburi kene memaing tambar dhene. Bagima sumangan ni empung nami karina si enggo perlebbe menjunjung mengeratorahi mo ke karina asa mborogh mo sängara, malum mo si milas-milas dos mo ke karina rebak nggomok deket meratah dekket rebak selloh karina [5].

When the rice has greened until harvest, the rice must be adequately guarded, called Muro. Land rice enemies are usually boar, monkeys, and birds, while the enemy of rice is usually rats, birds, and planthopper pests.

Farmers are usually packaged to have to make a house / sopo in the field. Because when they return to the village, there are times when they will be attacked at night by wild boar. So that wild boar do not attack their rice, they must light a fire in their fields. Besides, because land fields are sometimes far from home, they must make a sopo / house in the field as a place for agricultural equipment. Sometimes if the days of work season they have to stay in the fields. For example, the hoeing season until the harvest season, they only return to the village on weekends to sell their crops and livestock and shop for daily necessities. After they harvest rice, they will usually return to the village to participate in social events in the village.

3. Conclusion
1) Mountain farming in Japan is very concerned about nature and season, so farmers must submit to the passage of seasons and natural conditions. On mountain agriculture, in the shichigeshuku area, most farmers are part-time farmers. The permanent farmers are retirees who work for entertainment and tradition to continue the farming of the previous parents. Therefore, they do not care whether the loss or profit.
2) Mountain farming in northern Sumatra does not pay attention to the season, so they plant crops indiscriminately, and therefore a field of rice is ready to be harvested while beside it the rice is
still green. Farmers are mostly permanent farmers, while part-time farmers are those who work as civil servants.

3) In human relations, Japanese farmers work alone, but they do work simultaneously because they have to follow the seasons. However, mountain farming gets control of the city or village office.

4) In human relations, many mountain farmers in northern Sumatra work alone or work together with others by taking turns in their fields.

5) Human relations with the gods, mountain farmers in Japan believe that the success of their agriculture is the help of the gods. Wild animals such as raccoons are considered to be sent by gods to look after agriculture, so they give offerings. From this thought, mountain farmers in Japan did not kill sentient beings but were left to natural enemies.

6) Mountain farmers in northern Sumatra mostly do not believe in myths and gods, so they kill and eat wild animals. To control the development of pests, they use poisons or chemicals.

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