

## Symposium

# Nature and Man: From the Perspective of Food

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In Fukuoka, besides farming I am also working for an NPO. It seems to me as though the way farmers talk about agricultural issues these days has deteriorated. The reason is that farmers themselves talk too much about farming just because they want to fit it in with the mainstream values of the world. As a result, there is little talk about those values that are not in step with today's trends and are not currently sought after. This phenomenon could represent our greatest agricultural crisis. I personally feel that it is extremely dangerous for agriculture to be focused only on food safety or to pursue a management style that encourages competition with other industries. Of course, we can't ignore these issues, but agriculture will end up being exploited by the times unless we focus our attention on more important things.

For example, everyone takes it for granted that agriculture is a branch of industry that produces food. Is it really so? Farming used to be an extension of making a living. Therefore, it seems quite unusual that farming is talked about only in the context of extension and not in terms of the production activity itself. Our research institute of agriculture and nature was founded by the investment of 200 farmers. It aims to promote dialogue about the two worlds - the one that is too obvious to be talked about in terms of science and the other that is not so easy to talk about in scientific terms - and to develop ways to facilitate that dialogue.

The red dragonfly is an example of the former case. Our research institute estimates that about 20 billion dragonflies are born across the country every year. Of these, 99 percent are born in rice fields, but almost no one knows this. Even farmers are not conscious of it because they think it is a natural phenomenon. However, if there were no rice fields in Japan, dragonflies would be at risk of extinction. We are totally unaware that the presence of rice fields creates scenery in which red dragonflies are flying in swarms. Let me say that they are a product of rice fields. As I have mentioned, the natural environment created by agriculture is too common to be talked about. Although red dragonflies in the natural environment have been richly depicted, farmers themselves do not talk about their own roles in supporting the existence of these

dragonflies and the system that ensures their repeated birth. The Japanese public is barely aware of this either.

These days we don't seem to talk about natural phenomena, even in a natural way. Then we should talk about it in other ways. If we talk about them at all, it's scientifically, like this: a certain number of dragonflies are in rice fields and other places, and if there were no rice paddies, dragonflies would not be able to live. In this far more modern way, we thus talk about natural phenomena as merely an extension or byproduct of the farmer's activities. This makes it less likely that we will become involved in competition with foreign countries and other industries. However, changing this situation is easier said than done. This is because there is another world where the harder we try to talk scientifically, the more difficult it becomes for us to do so.

It is often said that rice fields play a role in preventing floods or cooling the atmosphere. If we try to talk about this scientifically, we are likely to hit a huge wall. Indeed, rice fields help to prevent floods, but this is not because of the farmer's deliberate intentions or actions: in contrast, farmers take care to stop water from pooling in their rice fields. Rice planting and care for rice fields are not done to produce cool breezes. This means that we can't say that Japan's natural environment is sustained by farmers.

I think that the reason for this lies in a deficiency of modern technology and thought. Whereas farmers are tending their rice fields so as to harvest as much rice as possible, they are also producing cool breezes, dragonflies, and killifish, as well as a quiet landscape, but we are unable to understand and describe these phenomena in terms of present-day industrial production technology. The Japanese science of agriculture has interpreted and analyzed the foods that farmers produce from various angles and has given eloquent expression to these foods. However, science has barely shed light on the world that does not pay. What agricultural science has said at long last is limited to the remark that rice fields are useful for preventing floods or have multiple functions. Nothing has been done to explain the work that is needed to support such functions. Returning to the subject, I would say that farmers are doing this type of work steadily, although they do not seem to be making a conscious effort to prevent floods. However, modern theories of agricultural and industrial technology take the stand that the farmers' work is not considered as a support technology, since it is not designed for that purpose. The concepts of production and technology were originally brought from non-agricultural industries. Farming was previously described in words other than production and technology, which came into use later. With modern science becoming dominant, an attempt was made to represent farming in terms of production and technology. I believe that this move has driven farming into an extremely tight corner.

In essence, rice is not something that is made. Farmers do not make rice and rice plants. They just make rice fields and the rice fields produce the rice and rice plants. In the Japanese language, for instance, we do not say *ineue* (literally, “rice planting”). Instead, we say *taue* (literally, “rice paddy planting”). It seems that people have always known that human beings are not major actors in farming; as I said, rice is not something that we make—it grows by itself. The phrase “looking after” has been used because farmers have worked on nature to receive as great a blessing as possible from its abundant resources. Modesty has been the key to farmers’ work in the sense that looking after nature has helped farmers to benefit more from it.

I asked a neighborhood farmer, who was aged more than 90, how farmers in the old days performed gleaning. The neighbor promptly said, “Farmers were not supposed to do that kind of work in the rice fields. People other than farmers diligently gathered the ears of grain left in the rice fields after rice harvesting.” This practice is not understandable in terms of rights of ownership in modern times, but it was taken for granted in former days. This was a farming culture that was developed by farmers’ awareness that they should not monopolize nature’s blessings.

Who do you think uses the fallen ears of rice and fallen rice husks in the rice fields? Birds such as swans, wild geese, and cranes eat these gleanings. According to a swan specialist, a swan eats about 100 grams of fallen rice husks a day. About 10 to 50 kilograms of rice husks fall on a small rice field. For a swan, 10 kilograms of rice husks is enough food for 100 days. That is, a swan can live about 100 days on a rice paddy with an area of one *tan* (about 992 m<sup>2</sup>). Thus nature’s blessings used to be shared by living creatures other than humans. People used to consider it natural for swans and wild geese to fly down on rice paddies, and this is indeed a natural phenomenon created by farming or farmers. I believe that a true agricultural science should be one that defines such a natural phenomenon scientifically and academically, but things do not work that way. It would be necessary for agronomists, farmers, and others to reshape the way we talk about agriculture, now that so much of the natural environment has been destroyed and the role of agriculture in environmental protection has been publicly highlighted. However, these groups of people would be confronted by a great wall in their efforts.

Here is one picture. Section 1 at the leftmost side of the picture is 100% nature. Section 5 at the rightmost side is 100% artificial. When asked where the rice paddy is located in the picture, most farmers decisively choose section 4, because they are keenly aware of their considerable degree of manipulation and destruction of nature. Farmers feel that a rice field is a harsh place for living creatures. Agricultural chemicals are used in rice fields, grasses and animals die when they are cultivated,

and the rice plants are removed after the harvest. However, to urban dwellers, the rice paddy may look like a natural scene.

With which area of nature did you interact to develop your view of nature? I don't think it is section 1. This section is somewhere close to primeval nature, like one of the World Heritage sites. Sections 2, 3, and 4, with nature graded slightly lower, are where you have developed such views of nature as "Nature is good," "Nature is a great stress reliever," "Nature needs to be protected," and "Nature is important." Don't you think it is particularly painful for both humans and nature if we look at agriculture and nature from these viewpoints? The Japanese in the past did not have a view that exactly divided humans and nature; this is understandable, since Japanese people in the old days were immersed in nature.

My friend once said, "I love nature, but it is sad that I find myself outside nature the moment I mention it." The Japanese of the old days did not separate humans and nature; that is, they were confronted with the intricate problem of having to talk about nature without using the word "nature".

Now that we are imbued with the custom of viewing nature objectively and scientifically from outside nature and have the associated knowledge and mindset, is it possible for us to observe nature while integrating ourselves as part of it and discarding the idea of nature as a separate entity? I believe we can do it. We don't seem to have lost the two ways of looking at nature: one from outside nature and the other from within it as part of its living creatures. Of course, we are no longer conscious of the idea of nature when we are totally identified with nature, while looking at living creatures in fascination and basking in a cool breeze. I feel that the door to opening up new possibilities in agriculture is to search for the point where the way of looking at nature and the scientific approach to nature find commonality and reconcile each other.

Farmers kill many living creatures through farming. They are fully aware of it. However, I think agrochemicals contribute the most to making farmers insensitive to the sorrow they must feel for taking others' lives. In my view, agricultural chemicals are blamed for environmental destruction and food pollution, but these issues do not seem to matter much. The problem is that the agrochemicals have paralyzed the senses of farmers and also consumers. The worst result of the use of these agrochemicals is that we now have to pursue food safety as a result of these kinds of numbness. By tradition we took food thankfully, as it was considered nature's blessing. Even this practice has been destroyed. Those who glorify agrochemicals say that they have seen a rise in productivity, but they don't seem to face up to the richness of the traditional culture they destroyed. I don't mean to totally deny the promotion of

agricultural chemicals, but those who have spread the use of agrochemicals need to reevaluate the losses they have inflicted on farmers' and consumers' respect for nature. Farmers have killed living creatures, but I think there is room for their salvation, because new living creatures are born every year. Farmers have been producing stories in various ways, wishing to express and convey the richness of living creatures. However, almost no new stories have come from farmers since the end of World War II. This is an alarming crisis for the culture of agriculture. We must tell the stories about living creatures once again, because life becomes vibrant and comfortable when farmers interact with nature.

In Japan there are 17 species of frogs. Of these, 13 species lay their eggs in rice paddies. Almost all frogs gather in rice fields at the time of rice planting. Although a quite unnatural phenomenon, this suggests that the rice fields are easy for the frogs to live in. For example, tree frogs return to the rice paddies where they were born and lay eggs. What will happen to them if the rice fields are gone? The tree frogs' lifespan is 3 years. The number of tree frogs will decline if rice is not grown in these fields for more than 3 years. Japanese leopard frogs live for 5 years. They will come close to extinction if rice is not grown in these fields for 5 years. This means that the lives of frogs and red dragonflies are at the mercy of all farmers. That is why they have to continue farming.

Farmers have created a new nature by clearing primeval nature. Living creatures adaptable to the new nature have come to live there. By this means, farmers have tried somehow to overcome their sadness in killing living things. I think that the farmers have done so by inevitably taking responsibility for the nature they have altered.

I always talk to local children this way. "For whom do you eat rice?" They get back to me, saying, "For myself" or "For my mother." Then I say, "Abandon these ideas and, instead, eat rice to raise 35 tadpoles. There are about 10 tadpoles around one clump of rice plants. One bowl of rice is produced from three clumps of rice plants. If we don't eat rice, a rice field where three clumps of rice plants grow will disappear, depriving 35 tadpoles of a place to live in. Rice plants do not live independently. They grow together with various living creatures. To eat a bowl of rice is to raise 35 tadpoles." I think this is a new environment created by agriculture and a new relationship established by agriculture between nature's living creatures and humans. Therefore, it is an extremely modern approach to say that one eats rice for one's sake or others' sake. Emphasis is now on analysis of the scientific content of rice and numerical calculation of the results by discussing agrochemicals and food safety and grading rice as 90 points or so out of 100.. Agriculture has changed nature, and the culture of enjoying care for nature to draw blessings from it has been lost, because people have been too intent on analyzing and pricing, or they have strayed into such a direction. Farmers are also on

the brink of losing the pride in agriculture that supports nature. It is essential for farmers to hold on here and retell the stories of agriculture by scientifically analyzing the traditional world and making good use of scientific words. I feel it necessary for us to make one more effort.