Sustainable Farming and Community Resilience

Lessons Learned in Minamata, Niigata and Fukushima

Foreword

Kaori Kuroda
CSO Network Japan
Executive Director

The events of March 11, 2011--the Great East Japan Earthquake and the Fukushima Dai-ichi nuclear power plant accident that it triggered--have provided us with a profound opportunity to reexamine our lifestyles and the path of economic growth that society has pursued until now.

This booklet was spurred by a desire to find the commonalities that exist between the ongoing nuclear disaster and Minamata disease, which emerged some fifty years ago in Minamata City in Kumamoto Prefecture and the Agano River basin in Niigata Prefecture. These disasters have been more than just "human-caused;" their disastrous impacts were multiplied as a result of information being kept in the dark. They have both resulted in divided communities. If we do not apply the lessons learned as a result of Minamata disease to the situation that is now unfolding in Fukushima, there is a real fear that the health, basic rights, and human dignity of the region's people may continue to suffer.

Apart from those who played the roles of either "perpetrators" or "victims" of the saga, or beyond a small circle of supporters or environmental administrators, the story of Minamata disease has faded over time, becoming seen as a sad sideshow, isolated from the achievements of Japan's high- economic-growth society. A half a century later, however, many now harbor doubts in the face of an unsustainable society where the economy reigns supreme, and are asking themselves what action they can take to change things. The Great East Japan Earthquake further fueled this impetus.

In the wake of the Fukushima disaster, citizen groups rushed to provide support to farmers, while researchers and companies from Fukushima and beyond have been carrying out research and offering technical assistance. Researchers, farmers and various citizens of the area have begun a shift toward small-scale, distributed renewable energy, using biogas, hydropower, and solar energy. In Minamata City, the wisdom and experience of an older generation is being passed on to a younger generation that is starting to make salt in a beautiful area where salt ponds formerly operated.

Now would certainly seem to be the right time for us to gain a renewed appreciation of the value that is generated by agricultural, forestry and fisheries activities, and to shine a light on the potential that exists to support community development through harnessing local resources and fostering local industries. There is a new sense of hope for a new era of collaboration among citizens, companies and researchers.

I would like to take this opportunity to express our gratitude for the support provided by the Japan Fund for Global Environment of the Environmental Restoration and Conservation Agency for the production of this booklet. I would also like to thank each of the contributing authors, and the many other collaborators who have helped to make this publication a reality.

Contents

Lessons from the Niigata Minamata Disease Incident and the Fukushima Nuclear Accident:

For Sustainable Farming and Local Societies Where Nature, People and Communities Exist in Harmony

Masanori Nonaka

Dean, Graduate School for Management of Technology, Niigata University / Professor, Doctor of Agriculture

As a result of the Ashio Mine pollution incident and the Niigata Minamata disease incident, we--the people of Japan--have learned the importance of constructing a society where nature, people and communities can coexist in harmony. The agricultural damages caused by the Fukushima Daiichi Nuclear Power Plant accident have a structure that is similar to these previous pollution problems. Here, we see that organic farmers in the community stood up for a sustainable community, and we can find clues to reflect upon our ways of living.

1. The Starting Point of Modern Pollution Cases: Ashio Mine Pollution and Shozo Tanaka

The Ashio Mine pollution case is said to be one of the starting points of modern pollution cases in Japan. In the process of mining operations, forests had been cut down for firewood; acidic gases were released into the air during the refining process, resulting in acid rain. In addition, rain water that fell on the barren mountains gushed down with massive momentum and washed down heavy metals from the tailing ponds into rivers. The downstream areas of the Watarase River suffered severe damages from pollution, on both farmland and crops. Moreover, a retarding pool was constructed to prevent heavy metals from flowing into the Tone River, a major river that provides water to a large proportion of the Kanto region (including Tokyo), but this resulted in further damages. This construction led to the disappearance of Yanaka Village and to many farmers leaving the area.

A member of the House of Representatives from the region, Shozo Tanaka, pressed to halt operations at the mine during the Second Imperial Congress in 1891, and

filed a formal protest against the unfairness of the proposed final settlement; he resigned from office and directly pleaded with the Emperor, and fought against the retarding pool along with affected farmers, living together with them in Yanaka Village. However, in 1911, 137 farmers from Yanaka were evicted by force to the Sarobetsu Plain in Hokkaido, and Shozo Tanaka passed away in 1913. One year before his death in 1912, which is just about a century ago, he left the following words in his diary after seeing with his own eyes the disappearance of Yanaka Village:
“A true civilization shall not ruin mountains, shall not ruin rivers, shall not tear apart villages, and shall not kill people.”

I believe that the radioactive pollution affecting the forests, farmland, and food as a result of the Fukushima nuclear accident is the worst case of pollution in history. We must make the best of what we have learned from previous pollution cases, starting with the Ashio Mine pollution case.

2. Lessons from the Niigata Minamata Disease Incident

The current damages to agriculture (damage to forests, farmland, livestock, and crops) are similar to that seen in previous pollution cases.

Chisso corporate, the company responsible for the Kumamoto Minamata disease incident, was a company under the protection of the Japanese government since World War I, under its policy to increase domestic food production. With its protected status, the company knowingly poured methyl mercury into Minamata Bay in Kumamoto Prefecture, causing the illness that came to be called Minamata disease.

In the Niigata Minamata disease incident, the first known patient was found two years after methyl mercury was officially acknowledged as the cause for Minamata disease in Kumamoto. However, the Japanese government did not take any action.

The company responsible for the Niigata Minamata Disease Incident, Showa Denko, developed as a chemical fertilizer production company in the early Showa Era and enjoyed a privileged position in a country aiming for increased food production, much like Chisso. The company began producing acetaldehyde since 1936, and through its operations, knowingly dumped methyl mercury into the Agano River.

In both cases, people who had nothing to do with the companies suffered health

effects from eating fish from the bay or river. Even after half a century, many patients continue to be victims of these harmful effects. Moreover, because there was no legal framework to oversee the companies' operations, neither company faced criminal charges for the damages they caused.

Looking at the course of events that took place from the disease outbreaks to the court rulings, we can see that the Japanese government was not on the victims' side. At first, they acted as agents for the companies. Aiming for an early settlement, the government officials persuaded the victims to accept a very modest amount of compensation. Experts aligned with the government cast false theories so that the companies could evade responsibility, and facts were falsified. To prove the truth, the already exhausted victims had to stand up for themselves. The country gave economics priority over people's lives, and did not penalize or regulate those responsible until they were 100% certain and had scientifically proven that something was dangerous. Therefore, by the time the cause was proved, many people's lives had already been lost.

In July 2011, when beef with levels of radiation higher than the prevailing provisional standard was produced at a ranch in Tohoku, the Ministry of Agriculture, Forestry and Fisheries repeatedly made statements to the effect that the ranch owner was responsible, due to having used domestic rice straw. By repeatedly making statements that pitted the ranchers and farmers against consumers, they evaded the responsibilities of government and Tokyo Electric Power Company (TEPCO).

For this accident which was the result of human error, there was no legal framework to exercise strict control over such pollution affecting forests and farmland. In other words, there was no means to take the assailant TEPCO to task for the massive spread of radiation in the first place.

Farmers were worried about the radioactive pollution affecting the mountains, rivers and soil. In many communities, people were concerned about the food grown on polluted soil. Families were torn apart and local communities were broken up.

March 24, 2011, a farmer in Sukagawa, Fukushima, who had produced safe and high quality organic vegetables for thirty years (which had been used for local school lunches) committed suicide. Once the soil was polluted, it could not be undone; that was how he felt. Crops were often damaged by cold weather in many areas of

Fukushima. People managed to use resources from local forests and mountains, combined organic farming with stock raising, and based their style of organic farming on growing a variety of crops in small quantities. They also developed methods to make and utilize fertile soil.

In the current situation, as with previous pollution cases, the victimized farmers at Organic Village (Yuki no Sato) Towa stood up and fought to be able to continue farming on their lands; they began taking measurements of radiation on their own.

3. Radioactive Pollution, Organic Farming and the Power of Farmers

In August 2011, an organic farmer in Nihonmatsu City, Mr. Shinichi Ouchi, said:
“The spring vegetables in March saved the soil from being polluted by radioactive material. The growth and spread of the leaves of spinach plants under the sun served to block the radioactive particles. I was crying as I pulled the spinach out and said ‘thank you’ one by one and buried them in a ditch within the farm premises. Thanks to these spinach plants, not one summer vegetable was detected to have been radioactively polluted.”

Nuclear power plants, needless to say, cannot coexist with organic farming that has emphasized producing safe crops in harmony with nature. But it also cannot coexist with any style of farming. Mr. Ouchi’s abilities to make keen observations and his reverence for nature are things that we were about to lose or forget. This is the power of farming. It was the same at Organic Village (Yuki no Sato) Towa. In April 2011, about 270 members of “Organic Village (Yuki no Sato) Towa Furusato Planning Council” met and shared their worries:
“Isn’t it impossible to farm this year?”
“The crops might not be edible even if we grow them.”
“Will there be anyone who wants to buy from us?”
“Can our children and/or grandchildren live together with us?”

However, in the end, they decided to go on farming. The people at this non-profit are originally farmers who opposed a golf course construction project that was planned as part of the resort development boom that took place in the 1990s. They came together, raising doubts about the benefits of their town’s merger with Nihonmatsu, and when the merger was finally decided, they founded the non-profit “Organic Village

(Yuki no Sato) Towa Furusato Planning Council" to preserve their hometown's name.

In the Organic Village (Yuki no Sato) Towa Declaration, the following words are written:
"To the east of this land are the Adatara Mountain Ranges. The waters from Kohata, Kuchibuto, and Hayama mountains flow into the Abukuma River. In this landscape, our workings with nature and our communal forests were passed down from generation to generation.…We will be kind to our hearts, be strong and healthy and foster pride and a joy for life through collaboration. We will proceed with our participatory community revitalization planning under the following slogan; 'your self-reliance and my self-reliance will lead to our town's self-reliance' . We will protect the historical and cultural environment, foster an organic relationship among people and between people and nature. Through networks of face-to-face relationships, we declare that we are a town where community resources sustainably circulate. We are Organic Village (Yuki no Sato) Towa."

Since its foundation in 2005, Towa proactively accepted 36 new farmers, and went on with their community revitalization. Even after the Great East Japan Earthquake, they accepted six new farmers.

We, the concerned members at the Academic Society of Organic Farming, began collaborating with this nonprofit organization for disaster relief and recovery efforts starting in May 2011. The local farmers are the ones most knowledgeable about the land and weather conditions at the time the accidents took place at the Fukushima Daiichi Nuclear Power Plant. The content of this disaster relief and recovery program was developed through two months of discussions with local farmers. This program was combined with one of the nonprofit's projects intended to revitalize the community, farmland and forests titled 'Satoyama (Communal Mountains) Revitalization Project,' which started in 2009. This collaborative project was titled 'Measuring, understanding and lowering radiation levels of people, soil, water and food, and bringing local communities back to life.' We at Niigata University invited the participation of faculty members from the fields of agriculture, water use, civil engineering, forestry, and nutritional sciences. A total of 300 people, including graduate and undergraduate students, participated in the research. There were even students who decided to proactively take part in the promotion and recovery of farming in Fukushima.

On February 9, 2013, members of the Organic Village (Yuki no Sato) Towa, along with ten researchers, held a public interim report meeting in Towa entitled “Understanding the pollution on farms and fields, mountains and people’s hearts, the workings of agriculture, and the promotion of farming ~ measuring radioactivity and protecting communal mountains” with the 250 farmers’ participation.

We believe that the efforts by the Organic Village (Yuki no Sato) Towa can be applied as a model case for the revitalization and promotion of farming in Fukushima. In other words, we believe recovery efforts will bear fruit when farmers and scholars overcome the barriers separating them and collaborate together.

To make this a reality, we will collaborate based on the following principles:

1. The farmers are and will be the leaders of the efforts. We are only supporters of the farmers’ efforts. Things are best accomplished when farmers get actively involved.
2. “Measuring,” first and foremost, is the origin for any recovery and promotion effort. Revitalization and promotion of farming is the final goal.
3. Local residents must feel a sense of security. Farming methods and crops that are desired by the locals should be prioritized.
4. Efforts by producers, consumers, distributors and scholars should be integrated. Opportunities for mutual understanding should be sought. All barriers that exist between the different actors should be removed and all practical know-how should be shared.

Radioactivity measuring station in the Michino-eki (Roadside Station) Fukushima Towa

4. What We Can Do Now

The ongoing problem of environmental pollution in the form of radioactive fallout from the nuclear power plant is, in a way, an opportunity for us to rethink how our nation's food and farming should be pursued. We say "I-Shoku-Dou-Gen" in Japan. This is written in kanji characters that mean "medicine and food have the same origin." This in turn means that eating the right foods leads to a healthy body. However, because the soil was polluted, and the food grown from the soil also became polluted, this way of thinking falls apart. We, in the field of agricultural sciences, also say "Shoku-Nou-Dou-Gen," which is written "farming and eating have the same origin." By this we mean that the workings of farming, agricultural landscapes and an agrarian community lead to food safety. But this notion was also torn apart. These notions, which were so fundamental to the philosophy of farming, had been destroyed due to a social system that gave economics the highest priority. This destruction of thoughts was taking place even before the earthquake, for example in problems pertaining to the use of pesticides and herbicides, and problems related to genetically modified crops. Food and farming were already facing a crisis in Japan. Consumers and producers must collaborate to advance the concepts of "I-Shoku-Dou-Gen" and "Shoku-Nou-Dou-Gen," and to take action for a society that is better than what we had before the nuclear accident.

Now is the time to take action for sustainable farming and to nurture local societies where nature, people, and communities exist in harmony.

The Declaration emphasizes 'self-reliance' because the stated benefit of the town's merger was that the economy would not be viable otherwise. (Note by translator)

Produce and processed products, etc. made in Towa community are sold at the Michino-eki (Roadside Station) Fukushima Towa

Life-Sustaining Food and Agriculture as Seen Through the "Fukushima Miracle"

Kiichi Nakajima
Professor Emeritus, Ibaraki University

Fukushima's agriculture hit by the nuclear disaster is in process of revitalization through "Fukushima Miracle" supported by the power of soil. Although radiation from the accident settled on farmers' fields, only very low levels of radiation have been detected in the crops grown in these fields. The revitalization of Fukushima's agriculture will be achieved by having those who are engaged in ordinary farming support one another and continue to forge ahead based on self-sufficient farming and peaceful community.

About the "Fukushima Miracle"

Ever since April 2011, I have been making first-hand visits to rural areas affected by the nuclear disaster, and have come away astonished as a result of seeing what could be called the "Fukushima Miracle." Although radiation from the accident settled on farmers' fields, and while such radiation is virtually impossible to remove, the reality has been that only very low levels of radiation have been detected in the crops grown in these fields. There have been some exceptions, but these have been rare, and mostly can be explained by special circumstances.

The radioactive cesium, which had been deposited in a very thin layer on the surfaces of the fields, became mixed in with large amounts of soil as a result of plowing the fields. Thus, while radiation definitely does remain in the soil, the levels of radioactivity found at the surface are now dramatically lower; what is almost universally observed is that no more than small amounts of radiation actually migrate into the seeds that are planted and the crops produced. The soil readily absorbs the radiation and binds it, making it difficult to be taken up by the crops; the soil even acts as a shield against the radiation (gamma rays) that is further emitted.

Amid spreading fears concerning the safety of Fukushima's agricultural products, the prefecture instituted an unprecedented "bag-level" inspection for its entire 2012

rice crop. Special detection equipment was urgently developed, and inspections were carried out not merely for samples, but directly for each and every bag of rice produced. The inspections even included all broken rice and rice that was consumed directly by farming households. A total of 10,116,588 bags of rice were inspected. This was the largest-scale and most detailed agricultural product safety inspection the world has ever seen.

Table 1
Inspection of All Bags of Rice Grown in Fukushima Prefecture 2012

All Bag Inspection Results

	Below Measurable Limit (<25 Bq/kg)	25~50 Bq/kg	51~75 Bq/kg	76~100 Bq/kg	Total
Number of Bags	10,094,223	20,042	1,381	87	10,115,733
%	99.78%	0.2%	0.01%	0.0009%	99.99%

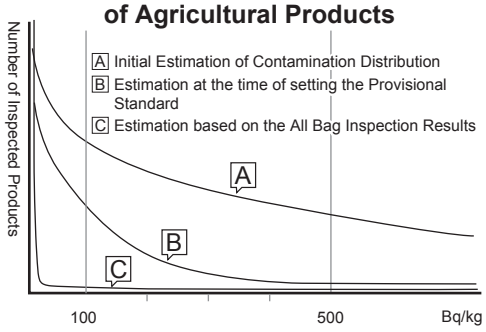
Further Inspection Results

	Below 25 Bq/kg	25~50 Bq/kg	51~75 Bq/kg	76~100 Bq/kg	Over 100Bq/kg	Total
Number of Bags	132	40	295	317	71	855
%	0.0013%	0.0004%	0.0029%	0.0031%	0.0007%	0.0085%

Radioactive Cesium means the total amount of Cesium 134 and Cesium 137

Area of Inspetion: The Entire Fukushima Prefecture
Inspection Period: August 25, 2012 – January 26, 2013
Number of Bags Inspected: 10,116,588 Bags

Figure 1 **Radioactive Contamination of Agricultural Products**



The results of this inspection are summarized in Table 1. Rice bags that exceeded the 100 Bq/kg standard numbered only 71 (representing 0.0007% of the total; these were destroyed as a matter of course). The remaining 99.9993% were found to meet the standard; 99.78% had levels below 25 Bq/kg, equivalent to one-quarter of the reference value. Further inspections of those items having levels below 25 Bq/kg also found that most of these had levels of only several Bq/kg.

Figure 1 is a graph indicating the radiation levels. The figure indicates the current legal standard of 100 Bq/kg as well as the provisional standard of 500 Bq/kg in force through March 2012. Line A in the figure shows the values which experts had feared would be found immediately after the accident; line C is based on the actual results of the bag-level inspections that have been carried out.

There is no threshold providing an absolutely "safe zone" in terms of radiation risks; the risks from radiation must be understood in terms of probabilities. Nevertheless, it is a bit much to merely state that there is no absolutely safe level; we must add that it is possible to determine a probabilistically safe level. If we do not acknowledge this, then the foregoing scientific explanation might only serve to provoke unnecessary fears.

The measurement results for the 2012 Fukushima rice crop as indicated in Figure 1 demonstrate that the rice produced in Fukushima Prefecture definitely falls within probabilistic safe zone.

To repeat, there is definitely radiation in the soil. Nevertheless, almost universally, such radiation migrates into the rice only in extremely minute quantities.

This is markedly different from the experience of Chernobyl. In the case of Chernobyl, although various measures were taken to reduce the radioactive contamination of agricultural products, it was only after several years after the accident that the levels of radiation in crops were observed to decline. It is because of this fact that I stated that what happened in the case of agriculture in Fukushima has been a "miracle."

What I am calling the "Fukushima Miracle" started to become evident about three months after the accident, in fiscal year 2011, and was quite clear in FY 2012. Fukushima's agricultural products inspection system is in fact quite thorough, with inspection results being reported on an ongoing basis. As a result, we can say that, apart from a very small number of exceptions, the agricultural products from Fukushima are probabilistically safe.

A brief comment is in order here concerning the "very small number of exceptions." These include crops such as mushrooms, which do not require soil for their production. Additionally, levels for some bamboo shoots do occasionally exceed standards, because fields where bamboo shoots are grown are not plowed. Fruit is very occasionally found to exceed standards. Trees have also been exposed to radiation as a result of the accident, and orchards can be difficult to plow; thus, despite thoroughgoing decontamination measures, some slightly high radiation levels have very occasionally been detected in harvested tree crops. In the case of field crops for which seeds are sewn and the crops harvested within the first year (and most agricultural products fall into this category), there can also be a risk of exposure to radioactive contamination flowing in from the surrounding environment, and there have been cases in which this has occurred; nevertheless, the volumes of such crops are extremely small, and it has been found that the soil quickly binds up such radiation.

About "Food Safety Policies"

The main ways of preventing food-related radiation risks fall under the two areas of "controls on food (crops)" and "controls on dietary intake."

The information described above is relevant to the realm of "controls on food (crops)," with the setting of standards under food hygiene laws being a key point in this regard.

Nevertheless, "controlling dietary intake" is also important. After the Fukushima nuclear accident, we have also witnessed improvements in this regard, in terms of consumers' food choices and improvements in eating habits.

Because of the probabilistic safety of Fukushima's agricultural products, there is no reason for anyone to avoid products "made in Fukushima." Instead, the key is to maintain a habit of eating foods that are wide in terms of variety. Because it is also becoming known that radioactivity can also be reduced to a certain extent through cooking, this reinforces the importance of cooking in the home.

These steps are nothing out of the ordinary, however. We can be protected through maintaining a normal and balanced dietary regimen.

Table 2 shows the results of a household dietary survey conducted by the Japan Consumer Cooperative Union. It indicates that even in Fukushima Prefecture, radiation intake through foodstuffs has been negligible.

However, there is actually another, additional policy area that is important in terms of avoiding risks from food-borne radiation. This relates to the management of our bodies and our health, in order to rid our bodies quickly of ingested radiation.

It is fortunate in this regard that the radioactive contamination from the nuclear accident has mainly been limited to three isotopes: iodine-131, cesium-134, and cesium-137. Because the half-life of iodine-131 is eight days, most such radiation was gone within one month after the accident. It is therefore thought that the radiation that could be problematic is that associated with cesium, which we know to be a type of radiation that does not accumulate readily in the body, and which can be easily eliminated even when ingested. Its residence time in the body is some 100 days in the case of adults, and around one week in the case of infants. Measurements

have also shown that if we compare the amount and speed of the radiation that was absorbed following the Fukushima nuclear accident with the amount and speed of the radiation that our bodies eliminate, the latter is actually greater.

As a result, with the passage of time, the radiation that we detect in our bodies (using whole-body counters and other means) continually decreases.

Revitalizing Affected Areas through Everyday Farming with Community Support

As a result of the "Fukushima Miracle" brought about through the power of the soil, farming continues in areas that had been directly hit by the nuclear disaster. Now, after efforts aimed at sustaining farming in the region have spanned two years, we are faced with the question of how to best revitalize the region's agriculture, and what path forward will lead us to the most promising future. In this connection, a variety of support measures have been discussed, and support projects are beginning to move forward.

While these developments are to be welcomed as a general rule, I have the sense that such initiatives misunderstand or overlook some essential points. The revitalization of Fukushima's agriculture will not be achieved as a result of special support policies or through conducting special projects. Instead, after working with those in the affected region over the past two years, the conclusion I have arrived at is that the revitalization of the affected areas will only come about through continued, mutual encouragement among those pursuing ordinary, everyday farming in the region.

No "special trick" will be needed to bring back Fukushima's agriculture. All that can be done is to have those who are engaged in ordinary farming support one other and continue to forge ahead. I believe that there is no other option. But I believe we can certainly do what needs to be done.

The mountain village of Abukuma has been one of the main areas affected by this nuclear disaster. It is an area with an ageing population, but one where the older generation continues to play a central role in the community's traditional, self-sufficient style of farming. After the nuclear accident, the area's farmers were of course deeply shaken, wondering whether they should remain where they were and

whether they should continue farming. Still, most of the farmers located outside of the designated evacuation zone did in fact continue on with their farming, in the face of the unknown. By continuing to farm in their traditional manner ever after the nuclear accident, they have succeeded in preserving their health and a positive existence. Central to the decision to carry on, and taking action on a daily basis, have been a number of older farmers who have been sustaining their self-sufficient farming. They have thus been able to maintain their way of life, with its self-reliant ethos rather than the pursuit of profit, and their peaceful community thereby lives on.

If the farming villages in the affected area had been more economically focused--that is, if they had been areas with a greater so-called modernization of their agriculture--this outcome may not have been possible. If the affected region had been a large city such as Tokyo, this sort of outcome would most likely have been unthinkable.

Our challenge now will be to take to heart the lesson that is offered to us by the elderly farmers in the mountain village of Abukuma, and the way that they are living their lives. Many elderly people had been living in this place--and it is this very fact which is now allowing this region, and its way of farming, to be sustained. As we ponder the future of agriculture in Fukushima, I think we should firmly grasp this truth. And so I would like to say it once again: success on the road ahead will not be thanks to any "special trick."

Table 2 **Dietary Intake of Radiation** Japan Consumer Cooperative Union October 17, 2012
The Number of Participating Household by Prefecture and Results

	First half of 2012			2011		
Prefecture	Number of Households	Number Detected	Bq/kg	Number of Households	Number Detected	Bq/kg
Total	334	3	Not Detected~3.2	250	11	Not Detected~11.7
Iwate	20	0	none	10	0	none
Miyagi	54	1	Not Detected~1.1	11	1	Not Detected~1.0
Fukushima	100	2	Not Detected~3.2	100	10	Not Detected~11.7
Ibaraki	15	0	Not Detected	10	0	Not Detected
Tochigi	12	0	Not Detected	10	0	Not Detected
Gunma	15	0	Not Detected	10	0	Not Detected
Saitama	12	0	Not Detected	10	0	Not Detected
Chiba	15	0	Not Detected	11	0	Not Detected
Tokyo	11	0	Not Detected	10	0	Not Detected
Kanagawa	10	0	Not Detected	10	0	Not Detected
Niigata	20	0	Not Detected	9	0	Not Detected
Yamanashi	10	0	Not Detected	9	0	Not Detected
Nagano	10	0	Not Detected	10	0	Not Detected
Gifu	2	0	Not Detected	2	0	Not Detected
Shizuoka	10	0	Not Detected	10	0	Not Detected
Aichi	5	0	Not Detected	5	0	Not Detected
Mie	3	0	Not Detected	3	0	Not Detected
Fukuoka	10	0	Not Detected	10	0	Not Detected

*Detection limit is 1 Bq/kg for Cesium 134 and Cesium 137, respectively.
*Detected value is a total amount of Cesium 134 and Cesium 137 combined

Benefits of Ongoing Agricultural Product Testing

Makoto Ebisawa
Organic Village (Yuki no Sato) Towa Furusato Planning Council

We launched a crop radiation testing program at a time when consumers faced uncertainty about whether Fukushima's local agricultural products were safe to eat, and when criteria for determining safety were not even known. Through ongoing monitoring, however, consumer fears in the face of the invisible have been waning; having visible data has offered a certain sense of security. This monitoring program is expected to bring about a variety of ripple effects that will positively influence both producers and consumers, and it is being viewed as a model case for Fukushima's revitalization.

The "Michinoeki (Roadside Station) Fukushima-Towa," which is a community-based market and highway rest stop, operates in the Towa area (former Towa-cho) of Fukushima Prefecture's Nihonmatsu City. Earlier, when this locality was to be incorporated into Nihonmatsu City, some of the local residents banded together to form the "Organic Village (Yuki no Sato) Towa Furusato Planning Council," with the aim of preserving the special character of Towa, and to help bring a halt to the depopulation trend that was occurring in this semi-mountainous region. With the permission of the Association, where I work as a staff member, I would like to introduce the activities we have been carrying out since the Great East Japan Earthquake.

Satoyama Revitalization Project and Disaster Recovery Program

Fukushima Prefecture is a place that epitomizes Japan's special furusato ("old hometown") communities and its natural beauty. It is a place that is so much more than what has now made "FUKUSHIMA" a household word. People are continuing to live their lives there, even after the events of March 11, 2011. Those who have had to move away did not do so out of their own choice. Many of the prefecture's residents continue to grow the rice and vegetables that they wish not only to sell to others, but

also to eat in their own homes.
Someone evidently made a frightening remark to the effect that if the farmers of Fukushima were to disappear, Japan's overall agricultural production might drop slightly, but it would not have much of an impact. But the area's children continue to eat the food that is produced locally on a daily basis; they do so in order to be able to survive. Safety is not only something that is a concern to agriculture as a business sector.

In Towa, like elsewhere, the earthquake-triggered disaster at TEPCO's Fukushima Daiichi nuclear power plant stole from grandfathers and grandmothers that simple pleasure of being able to watch their grandkids enjoy eating the food that they had grown with their own hands, the food that represented such meaning in their lives. People suddenly faced a situation in which they did not know if it was safe to eat their food this year, even though the seeds had been sewn and the seedlings planted the same as in every other year in the past. They had no place to turn, and nothing that could tell them what to decide. It was in the midst of such circumstances that we began our "Satoyama Revitalization Project and Disaster Recovery Program." Its goals were to allow each of us to know the reality of our own situation, and to help us to ensure that we were not eating anything that could cause us harm.

Our activities began in May, right after the earthquake, in our region which lies only about 45 kilometers from the nuclear power station. With the help of companies and university professors we had previously worked with for promoting organic farming, we were able to obtain the information, measuring instruments and know-how that we needed. We also benefitted greatly from the insights of the older members of our community who have hard-won expertise

Michino-eki (Roadside Station) Fukushima Towa

gained over long years working the soil. At first, our monitoring activities were focused on avoiding risks and gathering data; but as the data from our measurements began to accumulate, we discovered that radiation could be detected more easily from vegetables grown in certain fields and less easily in others. We found many cases in which we could not detect cesium in post-harvest vegetables even when it had been detected in the soil, as well as cases that were just the opposite, in which cesium was found in the crops despite low levels in the soil.

Now, nearly two years later, over 90% of our area's key crops are considered "radiation free" (with radiation detected at levels lower than 10 Bq/kg). Most fields also show lower levels than had been detected in the first year. We have tested more than 3,500 samples so far; our members must have their products tested in order to be able to offer them for sale, and this achievement is a testament to the efforts of our members. And while our testing activities must be continued into the future, we wonder why we need to undertake such efforts ourselves in the midst of all of the difficulties we face.

Demonstration of a Model Case

There may be hidden powers to Japan's soil, and the soil of Fukushima. I look forward to great things that could be discovered through cooperative research with academic experts; we may discover things that that could save Japan or save the world. If so, "Fukushima" might once again be known for its original meaning, island of bounty.

Circumstances differ across the various regions within Fukushima Prefecture. Not only do radiation levels differ, but there are also wide variations in terms of people's awareness. Revitalization activities naturally should match the different circumstances in the cities, suburban plains, hilly and mountainous areas, or areas along the coast. The whole area cannot be characterized in broad-brush terms; in the various localities there may be low, medium or high levels of radioactivity; plumes of radioactive contamination fell more densely in certain places. More than half of Fukushima Prefecture's land area is considered as having medium or low levels of radiation, but it remains unclear which are the areas now suitable for farming. The specific measures that are being undertaken are limited to making use of materials to inhibit the absorption of radiation by crops, although in some cases these measures are not sufficiently tailored to the circumstances found on each specific plot of land. The prevailing view is that most agricultural plots can be dealt with through plowing well or

through spreading compost, but we can find spots where soil balance or the flavor of crops has degraded as a result of the over-application of potassium or zeolite. I think we may find that Japan's traditional style of farming can be resilient to the effects of radiation. This is the impression I have gotten from having seen a large volume of data from our measurements, but I hope that in the near future we can develop and demonstrate a model case of successful measures. My wish is that this could also provide an example that offers hope to other regions.

Data Offer a Sense of Security

Members of the Yuki no Sato Towa

Our activities also help to raise awareness. By conducting ongoing testing, we have been able to reduce consumers' fears of the unseen; visible data can help to provide a sense of security. Apparently one of our members was asked at home by her grandson, "Grandma, has this potato been tested down at the Roadside Station?" While this was unusual, it does reveal how deep-rooted the notion of "protecting through testing" has become, as well as demonstrating its value in terms of building awareness. Since one in ten of all households in our area are members of our association, we believe that our efforts are having significant ripple effects throughout the community. Even those people who do not have their crops tested are gaining an awareness of the radiation levels in the crops grown in their community, which is important.

It is said that obtaining accurate test results can be difficult, but the system that was established in the years following Chernobyl, through which schools and community centers carry out testing, has been working well, using a combined approach of conducting both simple tests and more precise measurements. This system also makes use of the strengths of the private sector. Japan should also work to put in place a progressive system such as this in the near future. There is a need for both testing aimed at reducing risks to consumers, and for undertaking efforts to work

with producers so as to reduce the migration of radioactive materials into crops. We should seek to develop an optimal mix that combines both public and private sector efforts, ensuring the needed support through the national budget.

The Results of a "Three Birds with One Stone" Experiment

There is also hope for the revitalization of our mountains. Cesium continues to lurk under bark and within the leaf mold under the fallen leaves. We conducted an experiment to neutralize this contamination with a method that uses the power of nature in a way that, in effect, kills three birds with one stone. Wood chips made from hillside trees were placed in net bags that were laid out on the forest floor; after a few months, the bags were collected to provide power for the region in specially constructed thermal power plants that collect rather than disperse the ash. While there is a need to process the reduced ash that remains after burning, this approach results both in the restoration of hillside woody vegetation and in the reduction in cesium levels found in the leaf mold. The natural workings of mycelium help to transport the cesium into the wood chips. This greatly reduces contamination within Fukushima's mushroom industry, which accounts for 70% of national production, and of the leaf mold used for composting. Governmental support for this kind of approach could result in low-cost employment opportunities for farmers in the semi-mountainous regions, making good use of the insights of those who know the mountains best. As a result, there will be reduced concerns related to the water that flows into paddy fields; also, homes that are surrounded by trees can be protected from reverting back to high radiation levels after they are decontaminated. I hope that this approach will gain recognition and will be applied on a broad scale throughout the region.

Creating an Age of Sustainable Coexistence with Nature through People Power and Farming Power:

We will still sowing the Seeds of Hope

Seiji Sugeno
President, Fukushima Organic Agriculture Network

Even before the accident at the nuclear power plant, there were people in Fukushima who were practicing organic farming in order to build sustainable communities that can coexist in harmony with nature--and where anyone, from children to the elderly, can live in peace. We must not forget those who are working hard for their communities, and for the safety of our food in spite of the effects of radiation. Only a diverse community can envision a hopeful future. For Fukushima to recover, each one of us must reevaluate our ways of thinking.

Tombo (dragonflies) in Tambo (rice paddies)

I manage a diversified farm in the Towa district of Nihonmatsu City. I have 2.5 hectares (about 6.2 acres) of terraced rice paddies (the Japanese word for rice paddy is “tambo”) in a mountainous area. On our farm, we also grow vegetables, 2 hectares (about 4.9 acres) of grains, about 0.3 acres of sheltered tomatoes, and also make processed foods like rice cakes and steamed rice. Our farm is located some 50 km (about 30 miles) northwest of the Fukushima Daiichi Nuclear Power Plant.

I was reducing my use of pesticides and herbicides and gradually transitioning to organic farming. It was my 15th year into the transition. I was managing my deep-water tambo that are 20 cm. deep, which helps to prevent weeds from growing and helps to keep the water warm in this mountainous area that is lacking in sun. One early morning at the end of June, I saw such a moving scene that I wrote a poem:

"Tombo (dragonfly) and Tambo (rice paddy)"

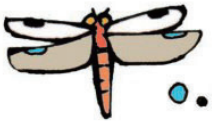
It was a lukewarm morning in early summer, at the end of June,
I was walking along the footpath to draw water into my terraced rice paddies

Then I see
New born dragonflies flying out from the rice leaves.

Not just one or two, but twenty … fifty …
Even more came flying out.

They flap their soft wings tirelessly but gently,
Basking in the morning sun, gleaming with silvery glow

I stood there with a shock and admiration,
"How beautiful!?"



©Fukushima Organic Agriculture Network

Between the rice leaves, a spider was spreading its web.
There were giant water bugs
There was a praying mantis
Frogs were hopping around.

The tambo is a world of many lives.

The dragonflies flew up to the communal mountains.
There they spend hot summer days.
And there, they fly freely.

By the time when ears of rice turn golden yellow,
The dragonflies come back to their homes in couples.
And they lay their eggs in the fields of rice.
The dragonflies are called "tombo," because they come and go from tambo.

Until then, all I had been thinking about was how to make good tasting rice in greater quantities. However, after seeing this landscape, I realized that growing rice is also about nurturing a diversity of life. The watered tambo also functions as a dam against floods. The water for tambos flows down from our satoyama communal forests. These

are trees planted by our ancestors; planted for us, and our succeeding generations. The beautiful terraced rice paddies, the blessings from our communal mountains and forests are all with us today because our ancestors continued farming on this land.

Furusato-Planning: Fostering a Community That Makes the Most of Our People and Satoyama

In 2005, we started a non-profit organization called the “Organic Village (Yuki no Sato) Towa Furusato-Planning Council.” Our goal is to promote development that is led by the members of the community, utilizing the rich blessings of our satoyama, our communal mountains and forests. However, by “development” we do not necessarily mean economic development. Our goal is to revitalize our community while valuing our culture, tradition and harmonious style of living with nature. With the investments of organic farmers, ranchers and local businesses, we started a community composting center to support organic farming. The center makes compost from 14 different categories of locally supplied materials, including cow manure, rice hulls, sawdust, hay, and local food residues such as dried bonito fish, as well as soybean residues that are left over from making tofu, soba (buckwheat) hulls, and candy. Rice, vegetables and fruits grown using this compost are used in making local school lunches and sold to consumers in cities through consumer cooperatives. Through these channels, we have fostered communication between the consumers and our farming community.

We also began growing mulberry trees, egoma (perilla), and figs on abandoned plots of farmland, and developed methods to process these into specialized local products. After being commissioned to operate the "Fukushima Michinoeki (Roadside Station) Towa " we opened a restaurant, an ice cream store, and a food processing facility. Together, we created jobs for 24 people. Organic farmers took a lead role in accepting and training new farmers, arranging farmland for them to work, and also lending out farming equipment, and offering technical advice. Through their efforts, over the past decade some 30 people have settled in what used to be vacant lots in the area. We want to pass on to our children our unique furusato ("hometown") landscape where red dragonflies dance in the sky. This is Furusato Planning based on the circular utilization of the resources from our local mountains.

To connect with organic farmers and their communities, in 2009 we founded the “Fukushima Organic Farmers’ Network.” And just as things were beginning to get on track, the nuclear accident happened.

Organic Farming Brings Hope for Recovery

Radioactive particles released by the March 11, 2011, nuclear accident contaminated Fukushima's mountains, forests, houses, roads, parks--just about anything--and most importantly for us, farmland. Nevertheless, we continued to plow, and to sow the seeds, and kept producing fruits, vegetables and rice.

Farmers, residents and scholars at the Academic Society of Organic Farming (e.g. from Niigata University, Ibaraki University, and Tokyo University of Agriculture and Technology) conducted collaborative research and found that soils that are rich in clay and organic matter bind the radioactive cesium in the soil and lower the movement of radiation into crops. This has meant that the revitalization of Fukushima could be accomplished through the practice of organic farming.

In the monitoring of brown rice in Fukushima conducted in the fall of 2011, 98.4% of all of the sacks of rice were found to have levels of 50 Bq/kg or lower. In 2012, after conducting a complete examination of all of the sacks of rice produced (through which over 10 million sacks of rice were examined), 99.8% were found to be below 25 Bq/kg, or even lower. This is an astonishing result. Even in vegetables, radioactivity was not detected in over 95% of the crops (meaning that vegetables are at most 10 Bq/kg; the detection limit of the equipment). Professor Kiichi Nakajima of Ibaraki University has movingly described this as "the 'Fukushima Miracle,' which came true thanks to the soils' strength and farmers' plowing efforts" (see Modern Agriculture Gendai-Nougyou, December 2012).

However, wild vegetables that grow in the mountains, and berries and fruits that grow on trees, tend to show slightly higher measurements. Mushrooms also tend to have over 100 Bq/kg. It is the mountains and the forests that are heavily contaminated. Seventy percent of Fukushima Prefecture is either mountainous terrain or forests. We must now take measures against pollution of the water that flows from these mountains and forests and into our residential and farming areas.

Participatory Field Investigations, Scientific Verification and the Recovery Process

Field investigations of the actual conditions must be promptly conducted in cooperation with local farmers who know best the geology, soil characteristics and

the local climate and weather conditions. They are also the people who will need to live with the radiation for decades to come. However, residences, rice paddies, fields, mountains, forests, and irrigation channels all remain to be tested. It has already been two years, but this is the reality. From the Futaba area, where the Fukushima Daiichi Nuclear Power Station is located, to our place in Nihonmatsu in the Abukuma Mountains, there are gently sloping mountains, which make for a complex landscape. Effects of radioactive fallout are also complex. We should not simply draw an arbitrary line at a radius of 20 or 30 km from the nuclear plant. But the fact is that this kind of ad hoc line is being used to determine who is to be compensated and who is not, and this is tearing apart communities. Last fall, when I visited the people at Niigata Minamata Disease Agano Patients' Association, I heard that the biggest problem they faced was that even after half a century, there still have not been adequate investigations into the health of local residents. They say that experts and scientists did not stand together with the residents, and have not provided proper medical certification of their health status. We need to learn the lessons from the Minamata disease incidents, in which inequitable compensation for those with health impacts led to discrimination and broken communities.

Last November, the Special Rapporteur with the UN Office of the High Commissioner for Human Rights visited Fukushima for 10 days, and issued a special report which called upon the Japanese government with the following words:

"The right to health framework requires the State to ensure the participation of all communities in decisions that affect them…I urge the Government to ensure that the affected people, particularly the vulnerable groups, are fully involved in all decision-making processes. This should include their participation, among others, in the formulation of health management surveys, designing of evacuation shelters and implementation of decontamination."

The Japanese government should implement these recommendations as soon as possible, and conduct participatory investigations into radioactive pollution and related health effects on residents.

However, on the ground, housing decontamination work is being carried out by large construction companies. In Minami-Souma, decontamination of farmland (i.e. deep plowing, spraying of zeolite, and spraying of potassium fertilizer) is also contracted out to big construction companies. Under the name of recovery efforts, farms are being transitioned to large-scale fields or large farming facilities, mega solar power plants, and plant factories. Corporate-led 'recovery' is taking place. When farms are

converted over to large-scale operations, children and the elderly are ousted from the fields, and it has been shown that such farming relies on chemical fertilizers, herbicides and pesticides.

When environmental activist Dr. Vandana Shiva (Founder of Navdanya) came to Japan for a talk, she gave us the following message:

"Monoculture leads to a society of dominance, while diversity makes for a symbiotic society."

Large-scale monoculture destroys the soil, and ousts people from their land. By making diverse crops with 'living soil' rich with the diverse microorganisms that thrive through the natural processes of decay, the variety of life becomes more diverse. In a village where people farm in such a way, communities spread wider where everyone from children to the elderly can live happily. It was a very powerful message. In a prefecture where the average age of farmers is over 65, women's roles are diverse. They support farm stands, the "Fukushima Towa Michinoeki (Roadside Station)," community farming operations, and organic farming. New farmers and a diversification of approaches by small-scale farmers have also supported our communities and protected our satoyama communal mountains. We must reflect these voices in the recovery efforts.

Food and Energy Self-Sufficiency as Key

In contrast to the scenic tambo that I shared with you earlier, the kind of scene I see today is this. An elderly farmer sighing with relief to see that his vegetables are safe to eat after radiation testing and saying, "Our grandchildren can eat this!?" It is important that we inspect our produce and our land in order to make visible what we cannot see, feel, or smell--radioactivity. And sharing accurate information is the only way we can foster trust with our consumers. What we offer to our consumers should be no different than what we eat ourselves. Therefore, we cannot, and should not, be offering crops that we cannot let our own grandchildren eat. This also includes crops sprayed with herbicides and pesticides. These are chemicals that we would not want in our kitchens.

Right after the Great East Japan Earthquake, in the spring of 2011, we had no testing equipment, but we preserved some bracken in salt. Last year when we tested its radioactivity after desalinating and washing the bracken, it showed 0 Bq/kg. Spring bamboo shoots that grew in our yard originally had 60 Bq/kg, but after washing and

cooking with rice bran, this dropped to 20 Bq/kg. I want consumers to think with us and work together to find safe ways to process the crops. This shouldn't be something that only farmers are compelled to do.

In the spring, we gather shoots and wild plants in our communal mountains and forests. By summer our vegetables will be ready to eat. In autumn, the trees bear fruit and mushrooms grow in the wild. During the winter, we eat dried radishes, pickled vegetables and fermented soybeans. Japan's relative longevity results not only from our medical system but also thanks to traditions like these of eating what is available at a given time and place. However, a reliance on imported foods and chemical additives has lowered the strength of our immune systems and the resilience of both humans and farm animals. In this sense, the nuclear accident taught us another lesson; that we should be eating what is available locally at the right time. We have found out that for the Japanese, eating traditional foods--such as Japanese root crops, seaweed, miso, pickles and other fermented products--strengthens our digestive organs and helps us to eliminate toxic substances from our bodies.

Energy self-sufficiency should be addressed along with food self-sufficiency. In Aizu, an area of heavy snowfall, hydro-electric power should be considered. In Hamadoori, where the sun shines even during the winter, solar power will be appropriate. And in the secluded mountains of Nakadoori, livestock raising is popular, so biomass power fits well; it can also make use of materials from the communal mountains and forests. Hence, these kinds of distributed, as opposed to centralized, power generation approaches, which match the circumstances in each community, should be considered. My tractor now runs on vegetable oil. The nuclear accident is suggesting to us: "if you don't transition now, then when?"

Restoring Fukushima to a Place Where Children Can Play Freely

Last spring, a group of concerned people came to help us with rice planting, and cheers were echoing in the mountains.
"Look! It's a frog!"
"The mud is so slimy!!"
They were trying their best to help out with the rice planting, which that they are not used to doing. In the fall, people from Namie who had to evacuate from their hometowns came over and we harvested rice together. Feeling the soils' warmth, and

the winds, people were smiling. Farmers don't only make rice and vegetables. We make the golden yellow autumn landscape, and we also foster open hearts and open minds.

It has been about 300-500 years since the culture of growing rice was passed on from the people of China to Japan. This culture became the basis of songs, music and dance. Compared to the long history of growing rice, nuclear power plants had only been around for 50 years. We cannot let such a thing terminate our precious rice–based culture. Our ancestors looked 30 to 50 years beyond their own time and planted trees, and sowed seeds. In the same way, we must also sow the seeds of hope for future generations. This is our responsibility, as the generation that formed the current atomic age.

It's not an overstatement to say that sustainable farming, forestry and fishing are the workings of our ancestors that built a sustainable society. We need to take food processing operations back to our communities. In addition, by promoting renewable energy production, we will create jobs. These types of job creation are needed. Waste dumps, military bases, Minamata disease, and now the nuclear power station… these were all imposed from the central cities onto other regions. The root of various modern day problems lies in the structural relationship between cities and villages, where an unbalanced structure of overcrowding and depopulation takes shape.

Is sustainability achievable in Tokyo? Energy self-sufficiency there is only one percent. Farmers from Tohoku were recruited to go to war from their towns during and before the war, and afterwards, they were used as day laborers to construct highways, Shinkansen (Bullet Train) railroads and buildings. Food is produced to be consumed in Tokyo. Even electricity comes from Tohoku. The problems of nuclear power plants should not be trivialized into problems of individual choice against radiation; whether or not to eat and/or evacuate.

Now is the time to rethink the relationship between central cities and farming villages. Scholars, businesses and people's groups should all join hands to plan sustainable communities based on organic farming. That is what we are calling for. We say, "When the paddies and fields are ruined, our hearts will also be ruined." We must engrave this thought in our minds and pursue a humane recovery plan, one that values lives and community building. We need to keep walking this path until we restore Fukushima into being a place where the joyous voices of children echo throughout the mountains and plains.

i) UN Special Rapporteur's Press Statement

UN Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Mr. Anand Grover

United Nations Information Centre Website

URL: http://www.unic.or.jp/unic/press_release/2869/

Experimental paddy field in collaboration with Niigata University

Drying rice plants on racks by members of civil society groups and villagers in Namie

What Minamata is Calling into Question: A Message from Niigata

Hideo Takano
Secretary General, Niigata Minamata Disease Unified Front Council

As time passes, damages in Fukushima seem to be deepening and becoming more complex. We are able to learn from the experience of the Minamata disease incident in many ways, including investigation and record of damages, victim certification system, and cooperation among victims. Action with scientific knowledge, compassion based on human rights principles and a little bit of courage can overcome many challenges.

Learning from the Exchange with Organic Village Towa

In October 2012, my colleagues and I visited "Yuki no Sato, Towa (Organic Village Towa)" and the people from the Fukushima Organic Agriculture Network. We found many similarities between what happened to Minamata disease victims and what is now happening with the people of Fukushima after the nuclear accident, in terms of how the damages occurred, how they affected a large population, and how the victims had been, and are being, neglected. We therefore wanted to share our experiences in dealing with Minamata disease so as to prevent similar tragedies from occurring in Fukushima.

The directors at "Towa," on the one hand, seemed to be at a loss. They were unable to predict what would happen, and they were unsure how long they could endure under the situation they faced. However, on the other hand, they were constructively thinking of ways to overcome the radioactive pollution, and how to revitalize themselves as farmers. Having seen that attitude, we were the ones that became empowered. Through working with the people of Fukushima, I have learned a great deal, and have able to bring home to Niigata many things that our activism related to Minamata disease had previously overlooked. Below are a few messages in return from Niigata.

Investigate the Facts and Record the Damages

It has already been about half a century since the Minamata disease incidents took place. During this time, it has been said on as many as four different occasions that the incidents were “over”, but they are not. The case cannot be closed. The biggest reason for this is because there has not been any comprehensive health investigation of the people in the affected area.

In terms of the Fukushima nuclear accident, no one knows when the effects will start to show in humans. Residents voluntarily measuring radiation levels around them and recording those numbers are both meaningful acts. However, as the ones responsible for the damages and as the ones entrusted to protect people’s lives and health, the government, both national and regional, must systematically and continuously investigate and disclose information on radioactivity levels in residences, yards, schools, roads and workplaces as well as the effects of such exposure.

Constructing a Participatory Compensation and Relief System

In pollution cases, it is extremely important to establish a proper system to define who the victims are and who the responsible parties are.

In the Minamata disease cases, whether one is a Minamata disease patient or not (that is, whether one can be compensated or not) is determined by an administrative certification system defined under the “Law Concerning Pollution-Related Health Damage Compensation and other Measures.” But there are problems with the certification standard, the selection of committee members, and the application procedures. In brief, the system works in the following way: first, a victim must file an application for certification at city hall. Second, he or she must be examined at a government-designated medical institution (such as Niigata University Hospital in the case of Niigata). Based on the examination results, a certification committee comprised of about ten medical scientists will judge whether the victim is indeed a Minamata disease patient or not according to the national “certification standard.” This is how the system is designed. The greatest problem here is that the certification standard is so strict that it cannot possibly be applied in a manner that can help a wide range of victims. For that reason, lawsuits by rejected victims are endless. In October, 2004, the Japanese Supreme Court ruled against the Japanese government for having exacerbating the situation and compounding the damages. At that time,

the court cited a certification standard different from the one used by the government, and certified some formerly rejected victims as being Minamata disease sufferers. However, the Japanese government has not reconsidered their standard yet, and the National Diet of Japan has also not pressed this issue. In May, 2010, the Law Concerning Special Measures for Compensation of Minamata Disease came into force, and a total of over sixty-five thousand people from Kumamoto and Niigata applied for certification. But the Law still drew a rigid line according to the year and place of birth and residence of the applicants. The fight for Minamata disease victims is not over.

Fair and equitable disclosure and participatory decision-making processes that involve affected parties must be assured. Strict deadlines should not be set for applications. And it is also vital that a social environment is fostered through which victims do not have to fear discrimination when they apply.

Fostering Cooperation and Solidarity among Victims

There are several patients' organizations in Niigata. Most are distinguished by when they began their fight; generally whether they became involved through the primary or secondary lawsuits. But there are also differences in terms of their aims, policies and goals. The problem is that some victims and activists are not able to tolerate such differences, and at certain times, they have emphasized the differences to an extent that they fall into conflict.

In the Minamata cases, such conflict surfaced in 1995 when a 'political settlement' was agreed upon; and once again in 2011, when a 'political conclusion' was drawn. Even if you have different principles, it is necessary to reconfirm with one another who your common opponent is, and where everyone will agree, together, to draw the line regarding what they can accept. The assailants are the ones who will benefit from victims fighting among each other. We have learned from the Minamata cases that it is important to foster solidarity among victims, and the same can probably be said with respect to the compensation of the Fukushima victims and anti-nuclear movements.

What is Needed is “Scientific Knowledge, a Sense of Human Rights, and a Little Bit of Courage”

When pollution cases happen, and damages begin to surface, victims, their family members and the region itself face discrimination from outside. Because goods produced in the region tend to be avoided by customers elsewhere, movements occur to try to hide or dwarf the actual damages. When that begins to happen, strong ties that were present in the local society begin to fall apart. Oppression begins to surface against the victims. The problem is how to overcome this syndrome. One of the key factors is to obtain correct information based on scientific knowledge.

When we are inundated with information, we must judge for ourselves what is right or wrong. One thing we must keep in mind is what the “specialists” have said about the issue. Yukio Takezawa and the late Itsuzo Shigematsu, who debated the health effects of radiation, are also the ones who have suppressed relief for Minamata disease patients, and obstructed efforts to reveal the true extent of damages.

Currently, the health effects of low-level radiation are in dispute. Opinions are divided among specialists. We need to grasp and understand accurate information, and to share what we learn with each other.

At the same time, we also need a sense of human rights. Concerning the Fukushima Daiichi nuclear accident, what is important is whether we can put ourselves in the shoes of the victims, and recognize that the damage to affected areas are a challenge that we must face as a country; they are not a problem that the victims should solve for themselves. Without that sense of human rights and solidarity, the ongoing anti-nuclear movements will not bear any fruit. But when humanitarian sympathy is combined with scientific knowledge, actions taken with just the slightest bit of courage will begin to solve many of the challenges that we face.

Rights for Victims, and a Nation-wide Anti-Nuclear Movement as Two Wheels of One Cart

For Niigata, the Fukushima nuclear accident is not some fire on a distant shore. Niigata hosts the world’s largest nuclear plant, the Kashiwazaki-Kariwa Nuclear Power Station. In addition, the Agano River, where the Niigata Minamata disease outbreak

occurred, used to be an important trade route for both Niigata and Fukushima, and the two regions offered economic and cultural support for one another.

Until the mid-Meiji Era, Aga town in Niigata Prefecture was a part of Fukushima Prefecture. In the Agano River Water Purification Station, sludge with high amounts of radioactive cesium is being stored, and cesium can also be found near the mouth of the river.

Anti-nuclear movements are taking place throughout the nation, and there are also such movements are also taking place in Niigata. Yet, as time passes, the damages in Fukushima seem to be deepening and becoming more complex. From my perspective, as an activist who experienced the battle for Minamata disease victims, I can say that the anti-nuclear movements must also be linked to the movements to compensate the victims, the efforts to rebuild people's lives, and actions to eradicate discrimination and prejudice. Unless such efforts can be combined, like the two wheels of a single cart, they will not bear fruit alone.

So as not to repeat the failures that were experienced in the case of Minamata disease, I hope to continue drawing close to the victims in Fukushima and to maintain our exchanges with the affected people of Fukushima.

Informal gathering with people in Fukushima Towa, October 27, 2012

From Minamata to Fukushima

Kunio Endo
Managing Director
SOSHISHA
the Supporting Center for Minamata Disease

Can we not apply the lessons-learned from failures and experiences of the Minamata disease incident over the last 50-plus years to the case of Fukushima? By examining the TEPCO's and the government's attitude as well as that of citizens and victims, we are able to see similarities between the failures in the Minamata disease incident and what is happening in Fukushima. The earthquake, tsunami and nuclear accident are challenging us all to seriously reconsider how we collectively envision the future of Japanese society.

"You can see that there are all kinds of people in Iwaki right now; some have lost all their belongings and even loved ones in the disaster; some people talk big, saying they're now well-off thanks to substantial compensation money from the nuclear accident, even though they're not from Iwaki; then there are others who have lost even the slightest interest in the aftermath of the earthquake." (A Resident of Iwaki City)"Victims are partying in bars and pinball parlors" (A Resident of Iwaki City)You can also find graffiti that says "Victims go home!" These are things that remind me of what happened in Minamata.

In 1971, when Oishi Buichi, Director General of the National Environmental Agency at that time, came to Minamata, a group of concerned citizens pleaded with him to change the name of "Minamata disease," as it had led to discrimination against the town's people.Just less than 100 meters from where that plea took place, a group of Minamata disease patients were sitting in front of Chisso, the company responsible for Minamata disease, demanding recognition and compensation as "Minamata disease patients."This is when the conflict between patients and residents surfaced. Afterwards, both sides used newspaper insert ads to attack each other (this was known as the "Ad Battle") and the conflict intensified. Fear and anxiety towards Minamata disease stirred up distrust on both sides. We need to rethink who really benefitted from this antagonism.

Minamata Disease memorial monument

Notes from a Visit to Fukushima

Friday, July 1, 2011: Sunny. Fukushima City to Isobe, Matsukawa-ura and Shinchi districts in Souma.

8:00 a.m.: Depart Fukushima Station --

8:45 a.m.: Pass by Ishida Village in the Abukuma Mountains --

9:30 a.m.: Isobe District (Souma) --

9:50 a.m.: Matsukawa-ura (Souma) --

10:10 a.m.: Shinchi Power Station --

10:40 a.m.: Shinchi Station, and other areas in Souma

I felt the same way yesterday. That is, the effects of the earthquake are not so apparent in Fukushima City. As in any other prefecture capital city, there was vibrant activity, as could be seen in some of the traffic jams we encountered. However, seeing people walk out of a hotel near Fukushima Railway Station in Red Cross uniforms reminded me of the earthquake and the nuclear accident. But other than that, there was nothing different than any other major city.

Taking a turn on Route 115 from Route 4 coming out of Fukushima City, we travelled along the road, cutting across the Abukuma mountains to the city of Souma. Since it had already been 3 months after the earthquake, there was nothing unusual in terms of the condition of the

Monument placed to offer a prayer

roads. Passing Ryozen and into the Ishida District, which is probably around the peak of the Abukuma mountains, we found a cherry grove which was the origin of, and which also commemorated the Date (pronounced Dah-tay) and Souma Fiefs. We decided to take a short break there. But afterwards, the nightly news seemed to have said that the area was newly designated as an area for evacuation, as it had become a radioactive hotspot. The area was a gently-sloping hill country, and people made a living by grazing horses. From there, we descended along the Uda River to Souma at the mouth of the river. During the descent, we looked down into the river from a small bridge. The water was so clear that we were able to see the sandy, granite-rich riverbed. The beautiful landscape showed no glimpse of the "3/11" disaster.

Modou Fishing Harbor facing a rias type coastline

The Isobe District in Souma was like a wasteland. Roads were cleared for traffic, but on either side of the road were empty wetlands that looked like rice paddies on reclaimed land. Mountains of rubble smothered in black mud showed proof that the tsunami had passed by. This is something I noticed afterwards, but when you compare the view from the Route 6 Bypass which runs along the east side of Souma, you can see how far the tsunami reached. The seaward side of the road suffered significant damage. But on the other side, rice was growing in the paddies, and you can see that the tsunami didn't reach that side of the road. On the road between Isobe District and Matsukawa-ura, a fishing boat sat at a crossroads, and mountains of rubble could be seen here and there. When seen on a map, the Matsukawa-ura inlet seemed like a scenic area. However, what we saw were overturned and stranded fishing boats, buses under the water, and bamboo poles used for farming seaweed standing sadly in the middle of the inlet. The destruction on the first-floor section of shops and hotels along the beach were so vivid, I was completely at a loss for words. Yet, while there were destroyed and stranded fishing boats in the port, there were also many moored fishing boats that remained intact. These boats seemed to have pulled out all at once to pass over the tsunami offshore when the tsunami came.

Thoughts

The Fukushima accident is now acknowledged internationally, and is not something that should be dealt with by makeshift measures. If there is something to be learned from the Minamata case, it should be that it is important not only to accuse Chisso, as well as the national, prefecture and local governments for their failings, but also to squarely face the actions taken by both citizens and victims. By doing so, we can apply the over 50 years' worth of failures and lessons as a shared experience.
As a start, I will summarize the initial failures of the groups relevant to the Minamata disease incident, which the Fukushima case can learn from, as follows:

- Chisso: The company continued production activities, even though damages had been verified.
- National Government: They had evidence that Minamata disease was due to consumption of fish and shellfish, but they did not prohibit fishing in the area.
- Prefectural Government: They had the authority to prohibit fishing, but decided to abdicate their responsibility to protect the residents; they did so mainly in order to protect Chisso.
- City Government: For fear of causing trouble to Chisso, the City was hesitant to assist victims.
- Residents of Minamata: For fear of troubling Chisso, the residents of Minamata rationalized their prejudice and discrimination towards the victims.
- Fisherfolk: Legitimate protests by fishermen got out of control and justified government crackdowns, thus defeating their own purposes.
- Victims: Since the 1959 ‘sympathy money’ agreement forbade further applications for compensation, victims were completely silenced, and were not able to raise the Minamata disease issue anymore.

Looking at things this way, one can see many similarities between the failures of the Minamata incident and what is taking place now in Fukushima. The situation in Fukushima Prefecture is being dominated by the fact that it is an unusual situation because a nuclear accident occurred. In this situation, the residents are trapped in a mindset of holding their breath and trying to avoid conflict. Unless one takes a careful look at what is really happening, it may look like business as usual, just as appeared to be the case when I visited Fukushima City. But if people outside Fukushima continue turning a blind eye to the situation, acting in effect as though it is a fire on some distant shore, the future of Japanese society is doomed. The earthquake,

tsunami and nuclear accident are calling into question not only how to recover and rehabilitate the region, but also how we should steer Japanese society as a whole into our future. And this is everyone's problem.

Our Life in Minamata

Soji Takakura
Avaconne

A future for "MINAMATA:" it is something that we will weave together, with various different strands contributed by those who bring to it their own rich individuality. A new generation has joined together in Minamata, and is now taking action under the name "Avaconne." It is in a sense an experiment--one conducted by a group of young people who have simply wanted to work together, to get to know the "real" Minamata, to develop new ties to the community, and to sketch out new connections with their world.

We call ourselves "Avaconne." We are a group led by those in their twenties and thirties who are living and working (or is it "playing"?) in and around Minamata. Some of us have always been here, while others have returned after some time away, as well as those who found new jobs and homes here moving from other (big) cities.

"Avaconne," in the Minamata dialect, means "Come on Over!" or "Will You Join Us?" As the name implies, we want a lot of different people to "feel free to come visit Minamata" or to "learn Minamata's true colors." If they feel inclined to linger a while--and we would of course love it if they can stay for good--we will help them to feel at home and give them folks they can play with. We only ask that "we who are here really get to know and enjoy Minamata".

While one thing we may have in common is living in the vicinity of Minamata (although our active members can currently be found also in Kumamoto city and even Tokyo), we are varied in terms of our origins, occupations and outlooks. We are often asked about this, but we also have different views about Minamata disease and related events. We want to respect the different possibilities for people, things and ideas that emerge organically as the result of connecting together a diverse collection of individuals. Through listening to different perspectives and witnessing different approaches to life, we can activate and bring to life the values we hold deep inside, which can bring forth new things within each of us. This may be difficult to achieve, but this is what we seek.

At the same time, we do tend to share similar views on a number of things. For one, we do not want our activities to be constrained under any given organizational structure. We want to maintain our flexibility. People join together with us when they have that moment when they are doing something and they find themselves saying, "Aha--so this is Avaconne." We want to weave together the linkages between people, creating an atmosphere in which it is easy for anyone to propose something new; people can share the ideas that come to them, and those who share their interest naturally form a team to make a plan and carry ideas forward.

Another commonality we share is that we all want to make links and interconnections. We feel that it would be a waste to have the good things in our community happen in isolation. We want connect these dots together and make new spaces and areas of action. These new structures could serve as the foundation for the activities of the generation that comes after us--and the generation after that, and then the following generation. We don't believe that what we are doing is, in itself, something great and which will have immediate effects. But we at least want to do what we can, and we want it to be something that contributes to the next connection that can be made down the line.

What matters most is individuality. The individuals who make up "Avaconne" are all engaged in work and activities. There is a woman who loves the Kugino village (just one of the places in Minamata) and is working to protect it. One young man does calligraphy and organizes a youth book club and traditional poetry recitals. There is a falconer who is planning a U-Stream broadcast series about "Avaconne." There is a young businessman who is racking his brain to figure out how to increase sales of the local variety of amanatsu pomelo fruit. The deputy director of a nursery school that aims to bring smiles into the lives of Minamata's children has another life leading an outrigger canoe group. There is the couple that runs a construction company with a side business trying to sell Minamata's specialty agricultural products throughout Japan. There is the guy up in the mountains producing pesticide-free tea who travels around the country enough for three people all at once. There is a single mother, who has taken it upon herself to transmit the history of Minamata disease to the next generation. Then there is Mr. Samurai, who visited us by walking all the way down from Kyoto (he's trying to determine the shape of Japan by walking its entire length by himself). These are some of the people who have come to spend time and play with us in recent years.

These are the folks who come together once in a while to hold a "meeting" (drinks are served). There is also a small open-air market for those who wish to join in. Some folks have planted daikon radishes in some previously unused fields, and are attempting to bring back Minamata's special style of pickled radishes. Others are making scrapbooks so that people can bring the lovely scenery of Minamata back to their homes.

Formerly, Minamata had extensive salt ponds, and salt was one of its products. The salt was carried to Oguchi in Kagoshima, over what was known as the "salt road." But with the coming of modernization and industrialization, nature has reclaimed the old "salt road". However, starting more than ten years ago, some local people created a "gang" to revive local salt-making. Their activities may not amount to much, but one or two times each year they are out there making salt. We decided to carry on their tradition, and, through trial and error, have been making salt under the guidance of that "gang". To make the salt, seawater is pumped from a place that the local fishermen call the "Yu no Hana;" this is a place where the area's copious groundwater, which has filtered down from the mountains through the ages, comes bubbling up out of the sea floor. This place, where the blessings of the mountains and the sea join together, is a very "productive place". The blessings of the sea are connected to those of the forests and mountains. So we boil down this salt…this salt that gives us a new way to see the sea that meets Minamata…this salt which we hope will lead people to think back to the mountains and forests from whence it came.

Local Salt-making

Drying

Boiling

Rough Boiling

Every one of these actions is small. But they can add up to a movement, something that gradually grows a little stronger, something that can shift Minamata's settled landscape. Nothing would make us more proud than if we could prepare the ground where future generations feel they can live happily.

The tapestry that is Minamata's landscape is laid out before us. Each of its many strands must carefully be taken in hand. We should ask ourselves, what are the many colors that together paint this scene? Surely, gray and black are among them. But we must acknowledge them all, absorb them all, and express them in our own words. We cannot break the mold unless we can see its shape. Now, the more we are able to move, the more we can sense the presence of "walls" that surround us. Sometimes we face conflicts and contradictions, but we forge ahead all the same. We propose no alternatives, offer no criticisms; the way we live our lives will stand as what we have to offer. We have no desire beyond the multitude of connections we can make with people. You, too, can be a part of our plot, and we would happily welcome you; will you join us?

A Biodiversity-Based Approach to Community Development

Makiko Imai
Biodiversity Network

Can the concept of "biodiversity" really become something that is deeply rooted in our lives? Perhaps it is the political and academic worlds that need to get closer to language of the citizens.. Participating in international conferences has taught me the importance of understanding the sense of living-in-harmony-with-nature which has been developed in local community, and bring its reality to the policy-making field.

"Global Issues" Grounded in the real life

I first encountered the term "biodiversity" at the beginning of 2009, as at that tiime I happened to be living in Nagoya, the host city of the Convention on Biological Diversity's COP 10 (10th Conference of the Parties) and I joined the secretariat of an NGO network, Japan Civil Network for Convention on Biological Diversity (JCN-CBD).

As someone having no experience as an environmental activist, participating in COP 10 was like an encounter with a different culture. The air in the meeting hall was filled with jargon, and the issues being discussed seemed very distant. Although I participated as an NGO who was involved in the t process, and needed to work on the awareness raising of biodiversity issues, I nevertheless had a sense deep inside that I'm not so sure if I understood biodiversity myself. It seemed something away from my sense of living.

Creating an Interconnected Society Supporting the Interconnections of Life

After the COP 10, I had a chance to give a talk at an environmental educational facility back in Tochigi Prefecture. There, I showed an aerial photo of the watershed of the Kinugawa River which flows through the city of Utsunomiya, where I was born and raised. Searching for the words to express myself, I pointed out how there were

no borders that could be seen from the air--and yet, we have all somehow come to pay attention to what are just artificial lines that have been drawn by governments. The river that flows through Utsunomiya eventually flows into Tokyo Bay. The river's route must pass through many different administrative districts; the thing that creates the "interconnection" between these places is none other than biodiversity. After my talk, an official responsible for environment issues in a local government office shared with me that when they held a study session on biodiversity, local citizens had made the very same point. I really came away with the feeling that for awareness raising, a key challenge will be to somehow overcome the compartmentalized thinking which exists at so many levels.

Biodiversity is a word that conveys the interconnectedness of life and livelihoods. But those things which may be seen as being naturally interconnected by the people living in their communities somehow end up being treated in a disconnected manner when it comes to things such as policymaking and budgets. This naturally leads to the question of which of these approaches is the strange one.

Listening to the Voices of Community People and Learning from their Wisdom

What can be most persuasive in influencing policies is the voice of the people in a community and their views which are grounded in their real lives. So I then went out and visited various places first-hand, in order to find out just what "biodiversity" really means to people within their communities.

In Suhara, a town on the shore of Lake Biwa in Shiga Prefecture, the area's rice farmers and fishermen have been working with local officials to develop the "Fish Cradle Rice Paddy Project." This area once had a rice paddy landscape where fish regularly traveled back and forth between the lake and the surrounding rice fields--but this interconnection was completely lost since the area's agricultural lands became developed over a span of decades, and the height of the paddy fields was raised above that of the local waterways. This kind of "development," which at first had been welcomed for the "convenience" it brought, had stolen from the fields and the lake the area's rich diversity of species. The fishermen of the region rose up to "bring back Lake Biwa's bountiful nature." When they learned about the importance of protecting the area's forests, which serve as the source for the water that flows down from the mountains into the lake, they then also became involved in forest conservation. I

People in the region voluntarily preserve Aster kantoensis Kitamura

heard about the quiet but passionate efforts of local people to preserve the special flavors of the region, such as by one member of the community who launched a "mini tour" of the area and which includes meals of carp sushi and other regional cuisine at a price which average people can afford, saying "we want to bring back to our dinner tables the Lake Biwa's fish, which once were plentiful."

I heard people say things such as that "the choices made in the past may not have been the best," and "is it right that something that everyone once took for granted is now some special thing that is out of reach for the community people." Biodiversity can even be something vital that can shed light on the past, and even leading us to reconsider what in our lives truly has "value."

My father is working to protect nature in the Utsunomiya area. He is also an environmental counselor--but he claims that his motivation has never been to "protect the environment." Rather, he says, "what I want is to pass on to future generations the beauty of our hometown." When one thinks in this way, it becomes obvious that one should want to conserve nature and protect biodiversity. Although nature conservation organizations and farmers may not always agree on everything, even as they both are working in their own ways to build communities that coexist with nature, I did learn about how these different groups do in fact collaborate to conduct "winter paddy field flooding." My father, who is also a part-time farmer, said that he learned from first-hand experience just how difficult it is to pursue both nature conservation and farming

within our society as it currently exists, which focuses so much on how things "ought" to be. Hearing this really made me realize how there are things related to biodiversity that we simply cannot talk about with just a logic-oriented, urban mindset.

What should we do when find ourselves in a situation we cannot fully express? How can we reconcile the boundaries that people have drawn with those of the natural world? I strongly believe that in order for us to find the answer to such questions, it is essential to ensure that policies created to protect and nurture biodiversity be based on an appreciation of the viewpoints of people in their communities, along with the indigenous knowledge that they can offer.

The Choice of Life is Ours

I heard the following from some people who had moved from the Tokyo area to Fukushima in order to become organic farmers: "We chose to become farmers who were self-supporting; then we learned we needed to be self-reliant--and ultimately we will need to be self-governing." I think this can be expressed in other words as "building and preserving our own lives and livelihoods."

The term "biodiversity" has come down to us from the worlds of public policy and academia. If we tried to redefine this concept from the perspective of people's lives, I think that it means "democracy that is rooted in the community." What many of the representatives from civil society have been saying at international conferences is that, in fact, "the biodiversity crisis is a crisis of democracy."

While it can be useful to attain a perspective that transcends a specific time or place, what we need to do is to live our lives consciously, aware of the real interconnections that exist between what we produce and what we consume. I think that the key to having our policy decisions support biodiversity lies in regaining this sort of "life-sized" sense of who we are and the impacts that we have--which is a sense that we seem to have lost somewhere along the way. What will make this possible will be to bring ourselves back to real lives as they are lived in our communities. It may well be that where people have lost their affection for where they live, and when their connections with the others in their community have weakened (in other words, when they lack that "life-sized" sense of reality within their lives), democracy has difficulty taking root.

For the sake of biodiversity, it is vital for everyone to consider things in light of their

own circumstances. With the spread of the Internet, each of us may now find it a simple matter to connect with others. Our challenge, however, will be to ensure that those connections retain and carry with them the language of the local people which is real and alive. Thinking in terms of my own situation--that is, being someone who works with words--I feel this to be a particular challenge that I face.

Creating a Society in Harmony with Natural Cycles: A Diverse Economy Based on Natural Capital

Koyu Furusawa
Chief Executive,
Japan Center for a Sustainable Environment and Society (JACSES)

Our fossil fuel-dependent civilization, which has been built upon mass-production, consumption and disposal, has already reached its limits. What is required now is the creation of a society that is rich in diversity and focused on life and natural capital. On its path of rapid industrial development ever since the Meiji Era, and especially since World War II, Japan has experienced a history of environmental destruction and pollution, as well efforts to rise above these problems. As we now experience the aftermath of the March 11, 2011 nuclear disaster, there are hopes that Japan can develop a new type of civilization.

Questioning Our Modern Society and Lifestyles

The grave situation that has arisen as a result of the earthquake and nuclear accident of March 11, 2011 provides us with a warning which fundamentally calls into question the meaning of the development path we have taken until now. The events triggered that day can be said to have deeply shaken the confidence that we have had concerning the approach to development and growth taken by modern society, liberated from the constraints of nature, through which we had gained a certain degree of prosperity.

In the little more than one hundred years since the Meiji Era, and in the half-century of the Post-War Period, Japan succeeded in traveling a path of modernization that had taken the countries of the West several centuries. Japan experienced first-hand not only the benefits of such modernization but also its dark side: the tragedies of nuclear weapons, severe pollution problems, and now the Fukushima nuclear disaster, which embodies the contradictions and tragedy of our modern system. Japan's experience as a country serves as a microcosm bringing into sharp focus both the light and the dark sides inherent in the history of the development path that modern society (civilization) has followed.

Japan's growth-oriented society peaked in 2005, when its population began to decline; it is rapidly becoming a highly aged society. The economy in recent years continues to stagnate, ever since the end of the bubble economy of the late 1980s; Japan's experience seems to have presaged the economic downturn seen in Western countries since the 2008 financial crisis. While the Japanese names of "Minamata" and other places hit by pollution may have become household names around the world, other places in Japan have also become known as the starting points for concrete efforts to address global environmental problems, including as the 1997 "Kyoto Protocol" under the international climate change convention and the 2010 "Nagoya Protocol" and "Aichi Target" under the Convention on Biological Diversity.

Twenty years have already passed since the 1992 United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil (the "Rio Earth Summit"), which in June 2012 also hosted the UN Conference on Sustainable Development (known as "Rio+20"). Given the many difficulties facing modern society, the Rio+20 conference should have been an event of great interest, but it received an unexpectedly low level of attention from the international community. There were two main themes of this meeting; one was the creation of a "green economy" that could lead to sustainable development while at the same time reducing poverty, while the other was reviewing the framework of the international system, including reform of the United Nations. In the background to these discussions was the reality that a number of international environmental agreements had been adopted since the time of the Rio Earth Summit, but their operations were becoming increasingly specialized within their different fields, without sufficient mutual coordination. The Rio+20 meeting was expected to result in consolidated frameworks integrating such efforts.

Transitioning from a Fossil-Based Civilization to a Life-Based Civilization -- The Significance of the Convention on Biological Diversity

Economic development since the Industrial Revolution has resulted in material prosperity through the large-scale consumption of various mineral and energy resources, especially coal and oil, which have allowed for dramatic expansion of industrial production, built upon the foundation of mass production, mass consumption and mass disposal. Production has expanded rapidly in keeping with the increasing reach of the market, resulting in a globalized economy that now envelops the entire Earth, and which has led to environmental problems, especially global warming,

which are altering the environment on a global scale. The use fossil fuels increased more than ten-fold during the hundred years of the Twentieth Century, while the scale of industrial production increased by a factor of more than 20 times. It is projected that if these trends continue, serious problems will emerge in multiple ways, including through the worsening of environmental problems, declines in biodiversity (species extinctions), and the depletion of resources.

In former times, because of limited natural resources (boundaries), societies developed and were sustained in various different geographical regions and which were characterized by their sustainability and recycling of resources. Having developed the abilities to conduct large-scale development and use of underground resources, modern society grew, breaking the cycle of resource recycling and accelerating exploitative destruction of nature, creating the world we know today. This has led to resource depletion and environmental destruction on a global scale, which now requires us to move in a different direction.

The two new international environmental agreements adopted at the Rio Earth Summit (the Framework Convention on Climate Change and the Convention on Biological Diversity) should be seen as twin treaties marking a key turning point in humanity's modern civilization. While the previous development approach had been dependent on the large-scale consumption of fossil fuels (non-renewable resources), the Framework Convention on Climate Change signaled major changes and possibly an end to the "Fossil Fuel Civilization" (the non-cyclical, throw-away society). At the same time, the Convention on Biological Diversity served as a warning about the fragility of an approach in which mankind alone is allowed to flourish, indicating a path toward a "Life-Based Civilization" (a society based on enduring re-production). While the substance of the Convention on Biological Diversity remains far from adequate, we should turn our attention to the great untapped potential that it holds.

This context, of the momentous transformation of civilization that is occurring, illuminates the historic significance of the potential contained within these two treaties, and provides a vital perspective that should not be lost in the ongoing and future debates concerning the substance of these two treaties. In particular, in light of the birth of a new Life-Based Civilization, the Convention on Biological Diversity can provide fresh perspectives on the opportunities offered by agriculture and other primary industries, which may have been seen until now as old and out-of-date industries.

At the 2010 Conference of the Parties (COP 10) meeting of the Convention on Biodiversity Diversity held in Nagoya, Japan proposed the launch of the "Satoyama Initiative." This initiative opened new horizons for the Convention on Biological Diversity, in keeping with a recognition of the important opportunities offered through the conservation of human-tended secondary natural landscapes, such as those found in agricultural lands and in fishing villages, not only through preserving nature in a untouched state. Maintaining areas where people and nature have interacted to form a stable relationship, as exemplified by Japan's "satoyama" (in contrast to the Western view that sees humanity as separate from nature), is of particular importance in the context of the densely populated landscapes of Asia. The importance accorded to areas currently facing decline and the loss of their traditional culture and lifestyles can be enhanced through recognizing that the cause of biodiversity can be served through preserving traditional plant varieties and farming practices in those areas. This recognition further leads to an appreciation of the close interrelation between cultural diversity and biodiversity. In this way, the Convention on Biological Diversity holds within it the potential to illuminate the ways in which things which may have been seen as outmoded can actually be at the forefront of the transition to a new civilization.

Green Economy and Community Development Based the Cycling of Nature and Life

"Sustainable Development" has now become a key phrase on a global scale; but in order to realize environmental sustainability, activities must be based on the "three principles of sustainability" as offered by those such as environmental economist Herman Daly and the Natural Step program. In particular, sustainability cannot be achieved without ensuring that: (1) renewable resources are utilized at a pace that is within their capacities for renewal; (2) we work toward a transition from the use of exhaustible resources to resources which are sustainable; and (3) contaminants are released only within the limits of what can be cleansed.

Not only should the unregulated use of non-renewable resources (concentrated energy sources formed in former geological epochs, that is, mineral resources including coal and oil) not be allowed, but taxation systems on their use, which give consideration to sustainability and equity, should be put in place. In this connection, it is significant that in July 2012 Japan introduced a feed-in-tariff system favoring renewable energy, which establishes prices based on a distinction between fossil

energy (stocks of energy that have formed over geological time-scales) and naturally renewable energy (dispersed flows having low density).

Into the future, humanity is being called upon to create a society that is based on sustainability, and renewable energy must therefore become the basis of our energy supply. This can also bring about fundamental realignments to support the creation of industries that support society and economy.

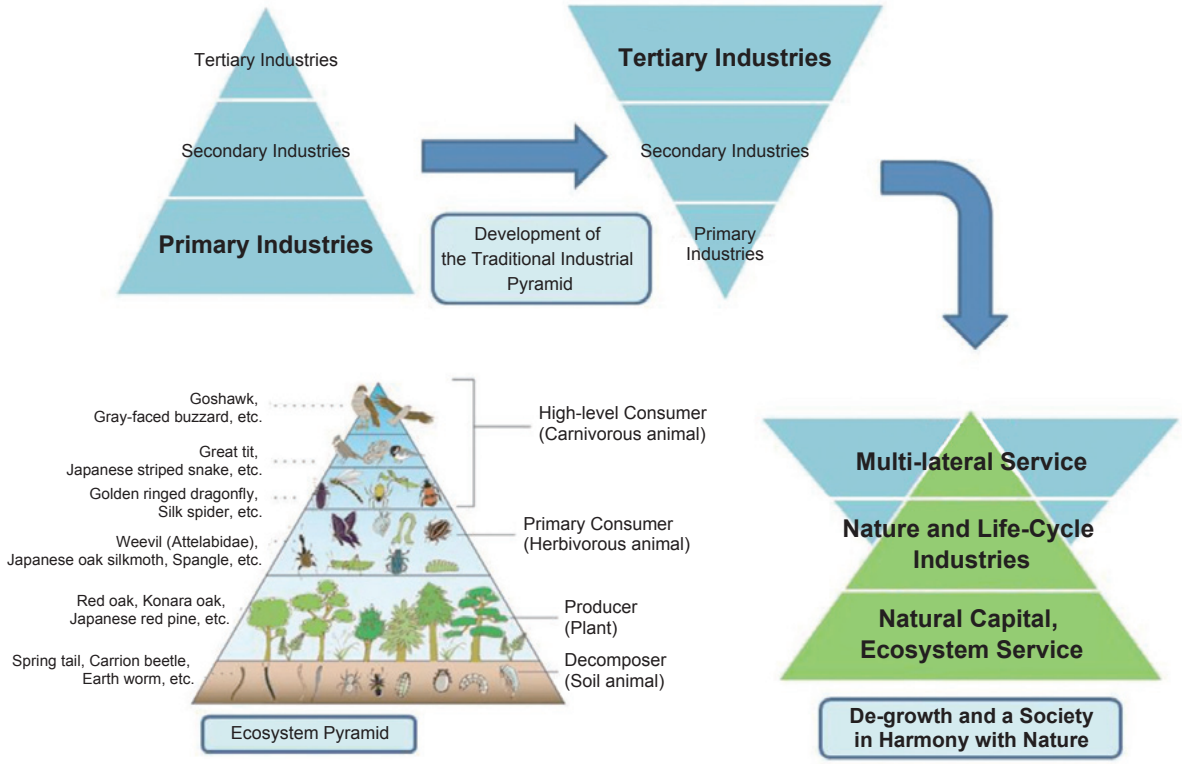
Until now, the path of economic development has been based on growth and development through a transition away from the primary industries that are closely related to nature (industries dependent on natural capital) toward secondary industries (industries dependent on man-made capital and fossil resources) and tertiary industries (commerce and service industries). The so-called "Petty-Clark's Law" sees economic development as a path from primary to secondary to tertiary industries. The following figure depicts these as forming a pyramid; we can clearly see how this view of the development of human society is in contrast with the "ecosystem pyramid" of nature, which forms an inverted pyramid. The formation of this inverted pyramid can be attributed to the large-scale consumption of fossil fuels and other forms of concentrated energy. What society needs to do now is to correct this unreasonable state of affairs.

Humanity's socio-economic system has developed as if it existed with no connection to the limits of the natural environment and ecological systems. But as the current situation of today demonstrates, the expansion of human production capacity has exceeded environmental limits and has reached the point where our interrelationships with natural ecosystems (the web of nature's cycles) have broken down. Our challenge is to now reorganize our systems of production that have mushroomed in size into something that will exist in harmony with natural ecosystems. I think we must therefore achieve a green economy, one based not on artificial industrial capital but rather on the preservation of natural ecosystems; this will foster industries and a socioeconomic system that is based on nature's capital.

A simple conceptual diagram that could be drawn to illustrate this change would depict something like what is shown in the figure labeled "De-growth and a Society in Harmony with Nature," which fixes the inverted triangle. The constraints of the pre-modern structure of society and industry (with productivity being dependent on nature) were overcome through the utilization of resource deposits such as fossil fuels

(that is, energy sources which were accumulated and concentrated through time), which allowed for the large-scale production of the industrial revolution; the market economy, with its formation of networks for the division of labor, further spurred on large-scale development; as a result, the industrial society of the Twentieth Century gave birth to mass production, mass consumption and mass disposal. In the case of Japan, a pre-modern farming-centered society (in which the majority of the population had been engaged in primary industry) experienced a period of high-level economic growth as a result of modernization and industrialization (with the rise of secondary and tertiary industries); Japan's current post-industrial society is centered on the information and service sectors (primary industry accounts for only a few percent, with under 30% engaged in secondary industry, and about 70% engaged in tertiary industry).

(Figure) Development of Human Society and Economy



The Gross Domestic Product (GDP) has been seen as a useful economic indicator of a country's production capacity, but GDP is ultimately problematic for the society of the future in that it does not account for the special role played by the energy and resource-recycling processes that form the very foundation upon which economic activity depends. If we are to operate in accordance with the principles of sustainable development, we must create economic incentives which reduce consumption activities that deplete exhaustible resources (legacy stocks from the past) or that adversely affect ecosystems; instead, we should incentivize activities which increase reliance on natural resources that can be used in perpetuity (renewing flows such as found in renewable energy and biomass) as well as the cycling of ecosystems.

Applying this to the development of industrial structure as explained above, we will need to reconfigure the industrial structure which has prevailed until now and as depicted in the inverted-pyramid, creating instead a system that adapts its structure from the ecosystem pyramid. Such an approach would have some overlap with the "six-level industrialization" approach to agriculture (the notion of fostering synergies among primary, secondary and tertiary industries) that has recently entered the mainstream, but will require developments to be based on the cycling within ecosystems not just some formalities. In the coming age, which should be based on nature and life-based industries, the fundamental place of primary industry will be restored within the economy; and through creating qualitatively valuable systems that are built on renewable energy and pursue organic production placing a value on natural materials, we can realize a society and economic system that will support the flowering of regional diversity.

This, in other words, is the achievement of a human society which finds expression much as we see with the diversity of nature--what we might call "a world woven together through the complex, kaleidoscopic workings of ecosystems." We are thus called upon to create a future, with its mosaic of elements embodying advanced and sophisticated systems of appropriate-scale production, processing, distribution and consumption (including the greening of the information and service sectors), which will, in a sense, build a society and economy that value indigenous cultural and artistic expressions.

Member of La Via Campesina, the international movement which brings small-size farmers to the Rio+20

Postscript: Farming to Change our Communities

Tadaaki Oe
Co-President, Pacific Asia Resource Center

In the 1970s and the 1980s, political scientists such as Keiichi Matsushita called for "people's governance." Other people, such as then-Kanagawa Prefecture governor Kazuji Nagasu, called for an Era of Local Communities. Both have affected many people. Ideas and movements emerged in in various fields, such as participatory city planning, welfare, culture, environment and international cooperation, and have become the basis for many policies. However, in my memory, not much was said about farming. I was working at a publisher, where I had worked on publishing a series of 15 books entitled "Making Governance Work." But in the 180 or so papers published in these volumes, not one was mainly about farming. For those who were interested in civic participation and urban problems, farming was not in their field of vision and interest.

From those times, I had always thought about and addressed issues concerning farming and local communities. By 1989, as an editor, I began asking myself, and Japanese society, how we might carry out "city planning with a focus on farming." Therefore, the subtitle of this book "Sustainable Farming and Community Resilience" is deeply moving. I feel that the times have changed.

On the one hand, movements for the promotion of organic farming had been gradually gaining momentum, especially among urban consumers since the 1970s. These movements have emphasized food safety, cooperation and face-to-face relationships between producers and consumers. However, as many readers may already know, the people most affected by radiation from the Fukushima Daiichi nuclear accident are organic producers--not only those practicing in Fukushima, but also those in the wider Northern Kanto region and elsewhere.

Many of the consumers emphasizing food safety and strong ties with producers, even many elderly people (who do not need to worry much about the health effects of radiation in comparison to younger people), have distanced themselves from these

producers. Some consumers, including NGO staff members and social activists, have moved out of Fukushima Prefecture. Some have even decided to leave the Tokyo area. The majority of those who left were consumers of organic produce.

Originally, the Japanese concept of “Teikei (tie-ups)” was characterized by a close relationship between consumers and producers. Families visited the farms many times to help out. In the spring, they held meetings to discuss what to grow (however, the disinterested men in the household rarely participated). They say that they felt close to the producers, and families chatted over dinner about the farmers that produced their food. Nowadays, however, in many “Teikei” relationships, consumers seldom visit the farms. In most cases, consumers only show up for harvest festivals once a year. I do understand that young producers who have just started farming are too busy with their farm work, and that they are not able to find time to reach out to their consumers. However, as a matter of fact, the relationship between consumers and producers has become weakened. I don’t think it’s an overstatement to say that consumers have nearly lost their earthly ties. We used to say “Shin-Do-Fu-Ji.” literally meaning the “earth and body are indivisible;” this Japanese idiom means that what we eat, which ultimately constructs our bodies, cannot and should not be separated from the ground or earth that we live on. This then meant that eating and farming are inseparable. This is what “Teikei” relationships aimed for. Yet, in practice, “Teikei” relationships have shifted into a simple division of labor.

The committee on the promotion of organic agriculture from Japan Organic Agriculture Association describes “Teikei” relationships as follows:

“The currency exchanges that take place in ‘Teikei’ relationships are not ‘payments’ for organic produce. In a typical trade of merchandize, payments are made to settle the deal. Another way to put this is that payments are made to 'terminate the relationship and communication'. In contrast, the currency exchange in ‘Teikei’ relationships take place as an honorarium to the farmer and mother earth. It is something that guarantees the farmer and his or her family’s costs for living and producing. It is essentially 'matchmaking money'; something that begins a relationship between consumers and producers and between people and nature, whereby produce is exchanged as a medium.” (i)

Nevertheless, networks of 'strong ties' as emphasized in this statement are seldom seen in actual “Teikei” relationships these days. When “Teikei” relationships are

constructed solely for the purpose of “eating safe vegetables” on the consumers’ side, it may be natural that "relationships are terminated" when that purpose cannot be met. In such a relationship, there is something decisively missing. The consumer has no consideration for the situation that the producers are facing. In that sense, they are no different from someone only looking at a narrow aspect of the overall situation, or the bureaucrats and politicians who have no thought for the feelings of disaster victims. Without any producers farming, there is not even a chance for access to safe food. The very foundation for food security will fall apart if we continue turning a blind eye to the situation faced by producers.

In reality, as Kiichi Nakajima mentions in this book, 99.8% of the rice grown in Fukushima in 2012 measured 25 Bq or less. This was not a randomly sampled inspection but a complete inspection of all sacks of rice produced. Most vegetables were also below the measurable threshold; meaning it would be just a few becquerels or less (if any radiation could be detected at all). This is thanks to the efforts of farmers and the blessings of the earth. However, such information does not spread that easily. In some cases, measurements released from the government are simply not trusted. So when some Fukushima schools reintroduced locally grown produce for their school lunches, many NGOs criticized the decision. Some people still say “I don’t eat fish from Minamata Bay because it’s dangerous.” The same discrimination is taking place against farmers in Fukushima.

Tetsuo Akemine has questioned the outcomes of organic farming movements, stating that, “Movements for the promotion of organic farming succeeded in creating a robust class of producers, but I question whether it succeeded in creating a robust class of consumers.”(ii) This is an incisive argument against organic farming movements, but there is no way that a group of people who only think about "consumption" can construct a robust body and mind. They don’t have a sense of imagination for the producers, and that is why they easily cut ties and distance themselves from the producers.

On the other hand, those who grow even a small proportion of their own vegetables in kitchen gardens or community gardens work with the earth on a daily basis. Their earthly ties are closer than those who only live on a consumption-based “Teikei” relationship. In the Tokyo metropolitan area, most such people were worried about the radiation fallout, but they still planted, harvested, did their own radiation tests, and in the end, ate what they produced. They probably had a sense for the joy and

meaningfulness of producing and working with nature.

I borrow a rice paddy in Yasato (City of Ishioka) in Ibaraki Prefecture with some colleagues and make rice without using any pesticides, herbicides or chemical fertilizers. It's a place 150 km. away from the Fukushima Daiichi nuclear power plant. I was upset with the nuclear accident, but for me, not sowing the seeds was simply not an option. I wanted to make good rice for myself as I had done in any other year. After harvesting, we inspected our crop for radioactive cesium and found none. This was fortunate, but I would have eaten the rice anyways even if it showed contamination of several dozen becquerels. I put a lot of effort into my crops.

These days, new concepts and slogans are spreading, mainly among young people. "Han-Nou-Han-X" for example, literally means "half-farming, half-something else," and is a notion where one earns a living partly by farming and the rest by something of their choice (such as part-time jobs, writing, art, etc.). Another notion, "Hei-Kin Kyu-Nou" is a lifestyle where one works fulltime on weekdays but farms on weekends and holidays. Urban dwellers who also farm are not minorities anymore. Some two million people use community gardens. If you include various styles of kitchen gardens, there are quite a few people who make some portion of their food for themselves. These "quasi-farmers" learn from nearby farmers or they educate themselves through their own experiences. Through that learning process, they sympathize more and more with farmers and with farming as a job. When that takes place, it is no longer easier for that consumer to distance themselves from the blessings of a farm.

The individual powers we have to farm, and the powers we have as citizens to voice our concerns, can come together. Farming for our own food casts a message. It says something about what we want in our communities. 'Farming consumers' and the farmers themselves can cooperate to construct an alternative community. We can change the present high-economic-growth society which depends on nuclear energy and fossil fuels, into a sustainable one based on the use of renewable energy and with an emphasis on primary industries. This is how our communities ought to be.

i) The committee on the promotion of organic agriculture of the Japan Organic Agriculture Association (2013.2) "Fusyoku ga Tsunagu Mori, Sato, Umi no 'Teikei' Network wo Tsukurou – 'Ryuuikijikyuu' to 'Teikei' kara Hirogaru Yuuki Nougyou" (Let's Build a "Collaborative" Relationships between Forest, Village, and the Sea through Humus, - Organic Agriculture developed by "Self-Support in a Basin" and "Collaborative Relationships") *Tsuchi to Kenkou (Soil and Health)*

ii) Tetsuo Akemine (2013.2) “Fukushima” kara Yuukinougyou Undouron no Saikouchiku wo (Rebuilding a theory of Organic Agriculture movement from “Fukushima”) from Symposium “Genpatsujiko to Yuukinougyou” (Accident at Fukushima nuclear power plant and Organic Agriculture)

一般財団法人CSOネットワーク
CSO Network Japan

CSO Network Japan aims to contribute to achieving a just and sustainable society in which individuals can earn a dignified living and the disempowered can participate meaningfully in decision-making, by way of linking up different actors beyond boundaries and sectors. In collaboration with Japanese and overseas CSOs and with a focus on multi-sector partnerships, CSO Network Japan works on action-oriented research, information dissemination, and holding events and seminars. The current priorities of its activities are (1) promotion of “social responsibility” and “sustainability”, (2) research on new trends of international development, (3) information dissemination about MDGs (Millennium Development Goals) and post-MDGs, and (4) efforts to support sustainable local community building.

In order to support reconstruction from the Great East Japan Earthquake, CSO Network Japan carried out a feasibility study for recovery of dairy farming and organic farming in Fukushima prefecture. Based on the relationships generated by the study, CSO Network Japan is providing an on-going support for the Fukushima Agricultural Revitalizing Network (FAR-Net), the Fukushima Organic Agriculture Network and others, especially in information dissemination of their community restoration activities. This booklet was produced as a part of the project that aimed to build relationships between people in Fukushima and those in Kumamoto and Niigata who experienced a serious human-made disaster from the Minamana disease incident.

Sustainable Farming and Community Resilience
Lessons Learned in Minamata, Niigata and Fukushima

Editorial Support: Makiko Imai
Translation: Richard Forrest and Shigeru Tanaka
Illustration provided by Shingo Inoue and Fukushima Organic Agriculture Network

Designed by Kawase Printing Co.,Ltd.

CSO Network Japan
Avaco Building 5th floor, 2-3-18 Nishiwaseda, Shinjuku-ku, Tokyo, 169-0051
TEL: (+81)(0)3-3202-8188 FAX: (+81)(0)3-6233-9560
Email: info@csonj.org URL:www.csonj.org

地球環境基金

This booklet was made by the Grant from the Japan Fund for Global Environment of the Environmental Restoration and Conservation Agency.

Cover photograph: restored terraced paddy fields and mulberry field in Towa, Nihonmatsu, Fukushima