

Disaster and Biodiversity - What we learn from the Great East Japan Earthquake -

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1. Introduction

We are here to urgently hold this forum to exchange views on disaster and biodiversity for a possible future based on the reality we face today, bearing in mind that those who hit by the disaster are still under difficult circumstances. The Biodiversity Network Japan has been dealing with the "disaster and biodiversity" issue for a long time before the Quake, as we have a chapter for consideration of biodiversity at disaster recovery in a publication prepared for the last year's Biodiversity COP10. A person questioned me when the planning of this forum came up in conversation if it is intended to making use of the disaster for the promotion of biodiversity. It is not the case. This forum has been planned following a series of relevant seminars in this context, after the disaster and its subsequent incidents have occurred. I believe you do not take such an odd view. Now let me introduce you the overview of the overall picture of the relevant matters we are going to discuss today before other speakers present you the details.

2. Challenges and Long-term Outlook

First of all, we must examine what effects this disaster has provided to the Japanese people. The ancestors of Japan lived in the Japanese islands for 40,000 years or so, mixing with other people who migrated thereafter, and formulated the Japanese people as we know it today. The people in the Japanese archipelago, while being blessed with a wealth of biodiversity, suffered countless disasters and overcame them. Towards the bottom of the Japanese culture we have inherited, we find our nature-views developed through the interaction our ancestors experienced in the Japanese archipelago and we cannot ignore them.

The word "disaster" contains the meaning of artificial disaster as well as the meaning of natural disaster. We cannot overlook that "disaster" includes a portion of those which may be called "accidents." It also applies to the Great East Japan Earthquake. In addition, we should accurately understand that human activities have mitigated damages in some cases and unfortunately increased damages in other cases. Whatever the causes of damages, those with emergency nature should be dealt with immediately. The recovery from disaster requires accurate analyses on what really happened.

Naturally, emergency responses need to incorporate recovery perspectives on a long-term outlook. Otherwise we may face inconsistency in the following days. There are significant human interventions against the nature, so the fluctuation that occurred in the nature would have an impact on the current Japanese archipelago with artificial structures instead of the one in a pristine state.

If we focus on the Great East Japan Earthquake and biodiversity, the following challenges seem to

be raised specifically:

- (a) Major damages in the biodiversity-related facilities including the specimens and other materials in museums and the capacities in research and learning support for biodiversity;
- (b) Direct damages to animals and plants, such as destruction of vegetation, fluctuation in regional biofacies, and impacts on sustainable use of biodiversity; and
- (c) Potential effects of radiation on biodiversity caused by the nuclear accident.

3. Responses at Disaster and their Assessment

The transition of press coverage in the past four months tells us a variety of issues. Upon the accident at Fukushima Daiichi, the US government seemed to be too sensitive and demanded its residents in Japan to evacuate out of 50 miles zone from the nuclear power plants with seemingly alarming information even Japanese did not know at the time, while the UK government made no actions on its residents based on the accurate information provided by their scientists. France, a promoting country of nuclear plants, prohibited to lend art objects and dispatch curators to Japan for a while. Those facts tell us that how limited each party could grasp the information with potential misunderstanding.

Our museum held a press conference for the fifth year report of fossil excavation on March 15th and lifted the embargo of the information on March 30th. Some people criticized us, through telephone calls, claiming that we should not continue our ordinary operations and waste the precious press coverage in such a state of emergency. We heard similar incidents in other places. What I felt uneasy was that some people, including those in major mass media, claimed to leave behind biodiversity or global warming for a while and concentrate on emergency relief such as lifesaving. Of course, lifesaving is of utmost importance, but it does not imply that all Japanese should and could go to the devastated areas and be involved in relief activities. We have to review what happened after the disaster including those involved such irrationality.

And then after about one month later, the issues with pets and livestock began to surface on the media at last. It was quite contrasting that those evacuated from twisters in the US were interviewed by ABC or CNN holding their own pets in their arms. I am wondering if Japanese as a whole tend to collectively lose a sight of peripheral issues other than the central focus. That's why I think each of us should verify what happened in the various areas in responding the disaster.

4. Science Literacy and Disaster

There is one thing I cannot help but think of. It is the expression that the scale of tsunami was "unexpected." Surely, the disaster was beyond the relevant parties could imagine. Even the research teams for earthquake prediction who are supposed to prepare carefully did not anticipate it, they say. But there is always a chance of new record in natural phenomenon, such as the heaviest rain fall in recorded history. Nobody can claim a certain scale of natural disaster would never happen because such thing did not happen in the past decades. Those who does not expect it is cheating himself and others because he thinks he will be screwed up if it happens. Those who may make excuses by saying an "unexpected" thing has happened should not be involved in such operations that potentially put people at risk.

There is no such thing as 100% safety in science and technology. The situation that responsible persons often claim "safety is secured" in Japan seriously reveals the lack of science literacy among some Japanese. What is required is to move the risk closer to zero and to make thorough preparation in responding once such a crisis unfolds.

5. Specimens and Biodiversity

The damages to cultural properties have been accurately recorded and aggregated. It is very unfortunate not a small amount of them are lost, though. At this point, we only expect to restore what are left and make them in original state as far as possible. The laws and regulations in Japan stipulate how to deal with cultural properties and the budgetary steps have been actually taken.

As for specimens in natural history, we were informed their conditions about one month after the disaster. Several museums cooperated to restore the specimens and other materials of the Rikuzentakata City Museum. The activities at the Natural History Museum and Institute, Chiba and The Museum of Nature and Human Activities, Hyogo, and the outreach activities through them will be reported separately in the forum. We must closely verify these activities and how the museum network in Japan can function at emergency.

The specimens and other materials in natural history are not stipulated equivalent to cultural properties. It has been understood that they are accumulated under researchers' hands, with the historical background that the registry scheme of materials in natural history were not clearly stipulated. Though their registration as electronic data is in progress now, but they are yet to be recognized as cultural properties. The restoration of specimens would be covered with the government budget this time, but at the discretion of the officials in charge. In order to make such arrangement permanent, we have responsibility to properly grasp the reality of low recognition among the Japanese people and to salvage the situation.

6. Responses to Humans and Other Lives

Emergency responses includes lifesaving, but the mental care is also indispensable. The Museum of Nature and Human Activities, Hyogo has conducted a traveling class for kids in a caravan in early July. We visited the children's houses in Rokugo and Shichigo in Wakabayashi Ward, Sendai City and were welcomed by children and the City Mayor. It is our privilege to bring pleasure to proactively learn through the activities of museums swiftly.

However, we took more than a month to pay attention to the lives other than humans. The livestock kept by the evacuees of the nuclear disaster have been left behind without care for a while. The wild lives were not even mentioned. They are almost completely ignored even today.

In addition to the information how natural disaster influence the transition of nature, we need down-to-earth researches how the radiation from the nuclear accident would cause effects on wild lives as well as the humans.

7. Recovery from Disaster

It is reported that even the inland regions are not yet recovered from the earthquake. Main transportation lines are reintegrated, logistics is secured, and the reconstruction seems to be ready. I wish the specific measures for reconstruction to be formulated and the ordinary lives to become normal again soon.

The tsunami left devastating damages that would require a wide variety of directly-related recovery measures from the disaster, including the handling of wreckage. Unlike us who only accept the stories produced by the media, many people in disaster areas make their efforts to build up daily life in a proactive manner. The industries in Tohoku region bear an important and cutting-edge role in the global supply chain, even impeding worldwide car production for a while after the disaster. I believe Tohoku will achieve an ever-more-vitalized region overcoming the catastrophic disaster and its people will certainly pursue a way of life in which down-to-earth people are supported in a corner of the earth.

Meanwhile a remark that it would be better to temporarily leave behind measures such as for global warming at an emergency situation made me uneasy. A measure at emergency should not put another measure at risk. We have explored anew the meaning of sustainable use of biodiversity with a wide variety of people at COP10 held last year in Nagoya, Aichi. We have supposedly recognized the responsibility to seek sustainable use extensively in order to enjoy the benefits we have today in future. Then the unfortunate disaster has hit East Japan. However, the emergency escape from the disaster which may destroy the earth in future is not an emergency escape at all. We would like to make sure that emergency responses that do not forget the abundance of the earth tomorrow is what we want.

There is not enough room to go deeply into the nuclear plant issues. But let me raise an issue of conflicting interests in governing bodies. It is criticized that the Nuclear and Industrial Safety Agency is set up under the Ministry of Economy, Trade and Industry. Now, a similar arrangement is proposed in transferring the conservation and management functions of national parks to local governments to promote "eco-tours." If a governing body for development is given the authority in conservation that often puts restriction on development, the check-and-balance function would be compromised in a way or another. Sound reconstruction can only be achieved through taking advantage of what we have learned from the disaster. That is an act of commemorating the people who lost their lives at the disaster, in a true sense. To share our experiences we have learned globally and make use of them should be the act we would carry out in addition to recreating the past life in the Tohoku region.

8. Conclusion

It is reported that we are regarded from overseas that, upon observing the disaster responses in Japan, the Japanese people are of first-rate, the Japanese economy is of second-rate, and the Japanese politics is of third-rate. Conceivably, those Japanese media who had repeated stereotyped reports may be of fourth-rate. It is increasingly apparent at this time four months after the disaster. It is also ridiculous to judge them collectively. During this period, a number of excellent programs were broadcasted. Sadly, many of them did not achieve high ratings. It is also frustrating to hear the contributed donations are yet to reach the hands of those suffered the disaster. However, it is same

Japanese people who vote for politicians and watch the television.

We have suffered massive misfortunes from the natural disaster. That's why we have to learn from our experiences and create a decent living in the Japanese islands. To this end, we have a lot of things to learn. They should be reflected in the daily activities in the efforts to recover from the disaster. Even if you are not in a directly affected area, you have a mountain of things to tackle.

An earthquake of magnitude 9 would seldom happen. Though another great earthquake may not happen soon in East Japan as it has released its energy, a Tonankai Earthquake is said to hit at any time. We understand that highly reliable prediction of when an earthquake really strike is not available. Then we should prepare to minimize the risk. Our ancestors in the Japanese islands have been enjoyed the benefits of abundant biodiversity by masterly staging the coexistence of human and nature, being backed up by their experiences with frequent disasters, at least before we took in the material/energy-oriented way of life from the West after the Meiji Restoration and the defeat of WWII.

We agreed that the sustainable use of biodiversity is one of the major issues for the earth with the participants of COP10 in Nagoya last year. We have proposed the "Decade of Biodiversity" at the meeting, and its activities have been put on the move mainly through the United Nations. Major disasters requires a variety of emergency responses. At the same time we do not want to have another catastrophe from the mishandling of the emergency responses.

The Great East Japan Earthquake might be an occasion which reminded us of the befitting life for the people in the Japanese archipelago, getting back to the starting point once again. It is a chance for the Japanese people to soundly reconstruct the Japanese islands and the earth for tomorrow if they are really of "first-rate."

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