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## Report on the field trip to Fukushima

The untimely earthquake that occurred on the tragic March 13<sup>th</sup>, 2011 resulted in the explosion of two nuclear reactors in Fukushima and therefore left the entire area and the surrounding locations polluted with radioactive particles. As a result, scientists and other institutions have structured a number of relief activities and actions to help restore the area through research. It was in the wake of the research aspect of the relief activity that this trip was organized for the students to experience and feel as to the situation on the ground; as an effort to improve on the requisite skills needed to effectively carry out duties on the field.

The two-day trip began on the 17<sup>th</sup> of December 2012 at exactly 7:00am from Fuchu. In our first activity, we interacted in the form of a lecture delivered by a leader in one of the organizations located in the Nihonmatsu city (Fukushima prefecture). His presentation revealed some production activities going on as efforts to restore the area for its popularity in the production of apples and other consumables. According to him, using organic farming practices such as compost and organic matter have yielded good returns so far especially with regards to Cs contamination on produce. Again, he was also quick to reveal some challenges facing them with respect to the sale of their produce owing to the perception consumers have developed towards the consumption of food produce from Fukushima. He also spoke on their cleaning and rehabilitation process to make the area a habitable environment for the future generations. Through questions, we got to know that, the contaminants levels were high in the forests since it was likely to have settled on the barks of trees, leaves and leaf litter on the surface soils.

We also visited the experimental sites of some TUAT lecturers where the contamination was known to be quite high. On those sites, the researchers were looking at the ways of reducing the contamination levels of cesium on surface soils through the use of organic matter and some cruciferous vegetables such as Komatsuna. Others also were measuring the contamination levels of some insects. This was necessary owing to importance of insects in pollination, honey production (bees) and the possible contamination they can offer to food produce. On the same fields, we also measured the radiation levels at various points using simplified devices. This was useful since we could see the realities of the contamination. In the evening, I had a personal chance to interact with one of the farmers and elicited from him some challenges involved in organic agriculture, an effort adopted to reduce the contamination on food crops. Some of the challenges included reduced production levels, high risks of disease and pest incidence owing to the protection style, time consuming method of production and finally consumers are less likely to purchase food products with come high cost. He also indicated that, production of apples requires cool and mountainous areas and such locations have a little possibility to seeing infrastructural development.

The field activity continued on the next day where we visited the restricted zone in the Fukushima city. There, we listened and participated in a number of lectures delivered by a number of individuals associated in one way or the other with organizations in the area. In the presentation, they highlighted on three major damages they have suffered and this included; loss of relatives, loss of shelter and a possible exposure to high dose of radiation as a result of the disaster. Also, they spoke on some activities being undertaken to bring the city back to its old situation. Again, they spoke on the challenges, experiences and the support they received from the government and some organizations. However, some of them expressed their dissatisfaction regarding the nature of their current situation and they were quick to reject the generation of power through nuclear means. They also indicated their commitment to join hands to restore the city to nullify the impression created by others that, it is a ghost city.

There at Minami Souma city, a representative of Minna Mirai center gave a brief presentation and the contents was basically how to rebuild the city and not necessarily dwelling emphasis on who made the mistakes. A move in my opinion was a good direction in dealing with the rebuilding situation of Fukushima city.

We also visited a cattle ranch at Odaka where the radiation was far above the normal levels and as a result, the animals were either killed or kept for research purposes. At that location, we took some readings of the levels of the contamination. We finally visited the

coastal region were the effects of the Tsunami was highly felt in my opinion. I must say that, although it was opportunity to experience what really happened in reality, it was also very emotional to see the nature of the destruction that took place in the area.

The problems observed include the following:

First, the radioactive contamination of the soils and water bodies is directly making life and other activities in the area difficult. This is because, living in the contaminated area posses a threat to the health of such persons. Soil contamination is also invariably hindering agricultural activities and therefore their economic livelihoods are endangered. Water sources from mountainous areas that could be used for consumption and agricultural purposes have been polluted with high levels of radioactive substances. Again, the farmers in the area are having challenges with stigmatization in the sale of their produce. This is because of the perception people have about Fukushima as a contaminated zone. This has drastically reduced their market since averagely most people will not be willing to purchase food products from such a location. Also, a greater number of the inhabitants even though were housed, could still not live like how they used to in the past. Finally, there are difficulties with regards to restoring the city in terms of the readiness of people to come back and live as well as finances.

The hopes are bright as far as I am concerned. This is because of the tremendous support given to them in various forms especially through research activities. With this, researchers are can to assist by providing options through findings of their study in the affected areas. I am also particularly motivated about the will power, commitment and dedication of the inhabitants towards helping address the problems and also in the building the city. I believe it is a matter of time.

The lessons learnt from the trip and my interaction with the local people include the following:

Places of residence should not be situated close nuclear power stations since in an even of an accident; the damage caused could be tremendous. According to one of the speakers, Fukushima city was not populated when the nuclear power plants were built, therefore if the population had been quite low when the accident occurred, the affected would not have been many as what happened. I also learnt that, in events such as the accident that happened in Fukushima, a dialogue with the government and the various stakeholders is one of the best ways of dealing with the situation rather than constant accusations.

For now as a research student, my research area relates to organic mulches and I am likely to set up one of my study sites in the Fukushima region.

Again, I will reach out to people especially those in my country who only saw pictures and videos of the situation about the realities in any means possible and share with them the dangers associated with nuclear power generation especially living nearer the plants.