

# Report of THE EARTHQUAKE experience

This report is translated into English from my Japanese site by Prof. Sawada, Kyoto University, and his colleague. I modified their English a little so as to fit my feeling. I appreciate them.

## Japanese

### The First Day

I can imagine my friends may be worried about me.

At first, I am fine.

I would like to report here what I saw and I did from the initiation of the earthquake to this moment(20:30, March 14).

The story is not edited to clear the time history. It is just order of my camera.

When the earthquake occurred, I was in my university office. Everytime when I feel a quake, I call my wife using a mobile-phone, because I know that it becomes difficult to connect after the earthquake as many people use telephone and telephone company reduces connection. However on the day, I accidentally left my mobile-phone at my house. I used a university phone. As I usually do, I moved from my desk to have a space from a bookshelf which may fall down. Shaking was increasing. Phone was suddenly disconnected. One of two computer displays was turned off. It means the electricity was shutdown. The other display worked because I have an emergency battery. As the shaking decreased after a while, I turn off the computer by operating the mouse during shaking. I kept my head at that time. However, larger shaking was coming again. I waited end of shaking watching only the steel bookshelf. I cannot say the duration of shaking, which was a mistake as an earthquake engineer. I found that about 30 books were fall down from the shelf and the steel locker moved several ten centimeters. The computer display did not lie down. The view of the desk is shown in the following photos.

✖ 2011-03-11 14:50:42

The drawer of desk opened.

✖ 2011-03-14 19:50:01

The steel locker moved.

✖ 2011-03-14 19:50:13

Some books fell down.

I went to downstairs with my camera. I talked with Prof. Yamaguchi that the M7.5 Miyagi-off earthquake, which is supposed to occur 99% in the coming 30 years, might just occur. I found we have not serious damages in and around university. Prof. Yamaguchi and I left university by his car, in order to know whether some damage at the bank of the NARUSE river where liquefaction damage have been reported in the past earthquakes during daytime. Before approaching NARUSE river, I wanted to go to my house in order to have my mobilephone because it in my pouch with my driving license and money. We drove from the university, through TAGAJYO station, reached to National Route 45. We found many cars running on the route and got the tsunami warning. We gave up to go to

NARUSE river. As Prof. Yamaguchi decided to back to his house by his car, I got off the car and walked to my house. In my house, as I will describe later, There was no structural damage but some books falling from a shelf and two computer displays laied down. As I have taught to my student, I kept water into a bathtab. Then I left my house to go back to the university with the pouch and mobilephone. It takes 20-25 minuets from my house to the university on foot. I could hardly find damages on the way.

✖ 2011-03-11 15:11:03

✖ 2011-03-11 15:11:11

✖ 2011-03-14 19:50:37

Some cracks were found on the riverbank.

✖ 2011-03-11 15:59:37

This is the only damage I found on the way; fell down of bock wall.

On the way to the univerisity, I succeeded to connected to my mother and my wife using my mobilephone, I informed them I was fine. When I was near TAGAJYO station, the public speaker said tsunami was coming. At that time I could select two choices, to go for TAGAJYO station or to go for Route 45. If I could go through the station, I would be safe because the ground height increases. However I must cross a bridge on the SUNAOSHI river to go to the station. As someone said the height of tsunami is similar with the riverbank, I must decide to go for Route 45. As Tsunami did not overflowed in fact, I should go for the station, as I write later. However I had no time to judge rightly in this emargency situation.

## Life on a Pedestrian Bridge

✖ 2011-03-11 16:06:45

Young guys, probably junior high school students, was going by bicycles. They did not know how danger the tsunami is! They were evacuated following to a fireman. The broad road is Route 45.

Within several minuets after I went up the pedestrian bridge, tsunami was coming. It came from Nakano sakae station (west) direction. I imagined it landed around central park of SENDAI port. Speed was very slow. Someone who reached to the pedestrian bridge running away from tsunami said that the speed was similar with the walking speed. Please watch the photos and videos.

✖ 2011-03-11 16:07:14

Someone was still standing to talk.

✖ 2011-03-11 16:07:36

They were evacuating because they realized it.

✖ 2011-03-11 16:08:01

Cars cannot move.

✖ 2011-03-11 16:08:24

Some cars were in the water.

✖ 2011-03-11 16:08:50

Tsunami reached to the line of cars under the pedestrian bridge.

Huge volume of water was coming under the pedestrian bridge. The water flowed just like a river as shown by the following videos. It was not a house-braking strong flow which is seen at the seashore region.

✖ 2011-03-11 16:08:56

✖ 2011-03-11 16:09:20

✖ 2011-03-11 16:09:47

✖ 2011-03-11 16:10:08

✖ 2011-03-11 16:10:19

The followings are videos. Note that the size is large, sometimes more than 100 MB. They are mov files.

2011-03-11 16:10:34

The flow volume was increasing.

2011-03-11 16:11:21

Cars were carried down the stream. I have some experience to see cars which have carried by flows when I visit a disaster area. I have thought the force of the flow might be very strong. However I understand cars are light when I watched how it was carried. Apparent specific gravity is small because car cabin is a void.

2011-03-11 16:13:06

A driver was in the car.

2011-03-11 16:14:35

The car rotated just under the pedestrian bridge. Someone on the pedestrian bridge screamed. The driver once rose on the car and backed in the car again. When I saw the car carried to the downstream side, I could not find him. I hope he could evacuate safely.

2011-03-11 16:16:30

The flow speed was increasing.

2011-03-11 16:20:13

The fire truck which can be seen far away was on the bank of SUNAOSHI river where the flow did not reach.

2011-03-11 16:21:43

Cars were carried to the end of flows and stacked.

2011-03-11 16:22:24

2011-03-11 16:23:46

Someone was swimming to evacuate. He reached to a building.

2011-03-11 16:24:44

2011-03-11 16:24:54

The videos are ended. The followings are photos again.

Cars were stacked.

2011-03-11 16:25:37

2011-03-11 16:25:51

2011-03-11 16:25:58

2011-03-11 16:26:06

2011-03-11 16:26:20

Road around the pedestrian bridge was completely submerged. At the same time the speed of flow slowed down.

However, the depth of the water did not decrease, which I did not expected. Snow was coming.

2011-03-11 16:36:55

2011-03-11 16:37:04

2011-03-11 16:53:07

2011-03-11 16:53:50

2011-03-11 16:53:55

A man was on the truck.

The number of people on the pedestrian bridge was about 100.

2011-03-11 16:55:21

2011-03-11 16:55:25

2011-03-11 16:55:31

The level of the water did not decrease. It was getting dark. It was after 3 hours from the earthquake occurred. I could not imagine the water was still here so long time.

2011-03-11 17:14:23

2011-03-11 17:16:45

2011-03-11 17:16:53

2011-03-11 17:17:20

2011-03-11 17:21:52

2011-03-11 17:22:50

2011-03-11 17:23:02

Fire occurred around the electric power plant. My house is in the direction. I was worried although the fire was seen far from my house. Fire in night is said to look near.

2011-03-11 17:23:30

2011-03-11 17:23:42

2011-03-11 17:27:12

2011-03-11 17:27:21

It was dark as pitch. My clothes were wet because of snow. It was very cold.

✖ 2011-03-11 17:48:38

✖ 2011-03-11 17:48:54

The parents of the child were not here. Neighbors were with her. She did not say anything although they tried to talk with her. She went sleep after a while. Someone who had a blanket wrapped her.

✖ 2011-03-11 18:02:08

The fire did not slack. I heard blasts. I thought the fire was at a petroleum refinery of JX Nippon Oil and energy Corp. because no explosion occurs at the fire of ordinary house. I felt easy because my house may not in the fire. I was also worried that the water reaches to my house, which was expected from the depth of water here.

✖ 2011-03-11 18:19:23

Still the lower part of the pedestrian bridge was under water. Just to tell you, no matter whether male or female, we excreted here.

✖ 2011-03-11 18:28:23

This was the light of the fire truck at SUNAOSHI river. With this light, it was not completely dark. I really appreciated it. On the other hand, there was a huge voices from the loudspeaker telling us that 'boats are prepared, and please wait for a while', but actually, there was no boat coming. How long did the 'for a while' mean? Many people in waiting complained about it. After a long time, a boat came. Following the rule that injured person and ladies go first, two boats with about 10 passengers departed here. A person, maybe a fireman, pushed the boat in the water. However, the boat did not come back after that. Maybe, it went somewhere in more emergency situation. But the voices were still same telling us to wait for a while, and many people complained as 'What's going on?'

After a while, a personal watercraft came. It ran very fast. Unfortunately, it skipped our pedestrian bridge. Maybe, there was another person in emergency somewhere. A little later, the personal watercraft started to pull a boat. I told them that we also had a sick person in an emergency. But, in fact, the situation around here was also really serious such as transporting a person suffering cardiopulmonary arrest.

Although the evening deepened into night, nothing happened. Any way, it was really cold.

✖ 2011-03-11 21:45:05

✖ 2011-03-11 22:32:28

✖ 2011-03-11 22:33:08

✖ 2011-03-11 23:37:36

✖ 2011-03-11 23:37:45

At last, a boat came. It is 2:20AM.

Now, they gave their full effort for us. They shuttled us back and forth using both 10 passenger boat and 3 passenger boat.

✖ 2011-03-12 02:22:54

Rowing the boat.

✖ 2011-03-12 02:23:17

✖ 2011-03-12 02:23:35

✖ 2011-03-12 02:23:56

✖ 2011-03-12 02:24:20

✖ 2011-03-12 02:29:39

At last, I arrived at the embankment of SUNAOSHI river. However, there was no warm blanket or something make me warm.

✖ 2011-03-12 02:32:46

✖ 2011-03-12 02:33:03

I was accepted at a tent once, and they gave me a blanket. But it was just a moment. When other group landed, I needed to give the blanket to them.

✖ 2011-03-14 20:10:46

I was asked to fill my information on a sheet. It was requested to put it on my neck.

City hall was the refuge. But there was the instruction that only the person who knows the way should go there because there was no light on the way. I knew the way, and decided to go back my laboratory next to the city hall. At the gateway office of the university, I heard that the chapel hall in the university was the refuge. I got a brief warm and thankfully had emergency food at the gateway office. Then, I went the chapel hall. Fortunately, I could

barrow a blanket, and had a sleep lying on a chair. It was slightly after 3:00AM.

## The Second Day

I woke up around 6:30AM. There was a lot of people.

✖ 2011-03-12 06:44:25

✖ 2011-03-12 06:44:36

✖ 2011-03-12 06:45:40

✖ 2011-03-12 06:45:49

I returned my laboratory

✖ 2011-03-12 07:35:54

A lot of things fell down inside the lavatory.

✖ 2011-03-12 07:35:59

Around 20 to 30 books fell down. I returned them to the shelf immediately.

✖ 2011-03-12 08:12:09

This was the room for students. A huge crack was on a wall. Personal computers fell down. Only 2 computers (same type) fell down. The damage was limited.

✖ 2011-03-14 20:11:45

This was the shelf for dishes in my room. Only the lower side moved.

After confirmed these, I decided to go home. It took 40 to 50 minutes for a roundtrip. Today, I made 3 times of the roundtrip between home and the laboratory. At the last time, I could barrow a bicycle.

✖ 2011-03-12 08:51:40

Rescues still continue.

✖ 2011-03-12 08:56:25

Fire also continues.

✖ 2011-03-12 09:06:05

✖ 2011-03-12 09:06:10

Public telephone, which works much more than private phone, in the university and cityhall were not working. The public phone in the station seemed to work, and a line of people was there. Anyway, I skipped and went home.

✖ 2011-03-12 09:27:02

The water of SUNAOSHI river was mostly gone out.

✖ 2011-03-12 09:27:20

Some cracks on the river embankment.

✖ 2011-03-12 09:29:29

The fire looks even closer.

✖ 2011-03-12 09:30:38

There are mud remained. But there was no evidence of mud on the glasses. Why?

✖ 2011-03-12 09:33:10

I do not know whether the water came here or not.

I could not go home, because it was filled with water. Anyway, I could see my house a little from the closest point.

✖ 2011-03-12 09:35:53

✖ 2011-03-12 09:36:03

From the condition of the house around there, definitely, there was the water beyond the floor level. But I think the water level was not so high.

Some people tried to go by bicycle.

✖ 2011-03-12 09:37:42

✖ 2011-03-12 09:38:00

My house can be found just right hand of this corner. But I could not go there so far.

A river embankment nearby was completely collapsed.

✕ 2011-03-12 09:40:27

✕ 2011-03-12 09:40:41

✕ 2011-03-12 09:40:58

✕ 2011-03-12 09:41:11

✕ 2011-03-12 09:41:23

✕ 2011-03-12 09:42:00

✕ 2011-03-12 09:42:10

✕ 2011-03-14 20:13:40

✕ 2011-03-12 09:42:34

✕ 2011-03-12 09:42:43

✕ 2011-03-12 09:42:59

✕ 2011-03-12 09:43:19

✕ 2011-03-12 09:43:24

✕ 2011-03-12 09:43:45

✕ 2011-03-12 09:44:35

✕ 2011-03-12 09:44:45

✕ 2011-03-12 09:46:48

This is the view from the opposite side of the river.

From there, large amount of water went back to the river. Drainage might be accelerated.

✕ 2011-03-12 09:46:53

✕ 2011-03-12 09:46:58

✕ 2011-03-12 09:47:13

✕ 2011-03-12 09:48:00

✕ 2011-03-14 20:14:10

Damages on the opposite side of the river were severe either.

Fire still continued.

✕ 2011-03-12 09:48:49

✕ 2011-03-12 09:48:56

✕ 2011-03-12 09:49:07

✕ 2011-03-12 09:49:12

✕ 2011-03-12 09:49:17

✕ 2011-03-12 09:49:22

✕ 2011-03-12 09:49:27

✕ 2011-03-12 09:49:38

✕ 2011-03-12 10:00:12

I returned to the station, and joined the queue for public phones. There was 4 phones (2 of them were dark color (international telephone available) and other 2 were green color. It looked only the green phones were working, and there were 2 lines. There were around 10 people in each line. Maybe everyone cared others behind, and did not make many calls nor a long call. I also followed this polite behavior, and registered the 171 emergency message system using the laboratory phone number. If somebody checked this message system with my phone number, please let me know.

In my experience, this 171 system does not work well. I hear nobody who succeeded to know my state from this system. Anyway, connection itself was difficult. I could not telephone 171 from my mobile phone. I also heard that from my friend who were outside the damage area that he failed to connect 171. Since the government advertised and suggested to use this system instead of using private phone in order to escape from rush of telephone call, they should make this system well. If 171 does not work, people move to private phone again. Therefore, it just increase number of telephone call.

✕ 2011-03-12 10:05:40

2011-03-14 20:14:49

Around the university, car assess was available and, there was no damage.

2011-03-12 12:08:04

I found a drinking water supply in the university.

I heard that the co-op store near the university was open. Immediately, I tried to go there. But, I gave up so far. There was a long line, and they said it will be kept open until 2:00PM.

2011-03-12 12:31:55

2011-03-12 12:32:55

2011-03-12 12:33:01

2011-03-12 12:33:14

2011-03-12 12:33:31

2011-03-12 12:33:44

Since I already started moving, I went home again. The waterlevel was lowered down this time. But still, I could not go.

2011-03-12 12:47:29

This is the ending points of the tsunami nearby. A lot of garbage arrived here.

2011-03-12 12:51:05

2011-03-12 12:51:23

2011-03-12 12:52:01

2011-03-12 12:52:09

2011-03-12 12:52:20

I returned back to 45th National road. The pedestrian bridge on the front of the photo was the place where I evacuated. The water around here were already gone.

2011-03-12 12:57:50

2011-03-12 12:58:31

2011-03-12 16:33:52

Fire still continues.

At the third time to go home, I could barrow a bicycle from a university staff. This time, water was already gone out, and I successfully returned my home. But it was evening time already, and I could do just looking around.

2011-03-12 16:37:09

A car was on a fence on the way home.

2011-03-12 16:38:01

A lot of floated stuff stayed inside the gateway of my house, and I could not open the door.

2011-03-12 16:38:40

Mud stayed in the parking lot. A large wooden garden deck was moved. On the next day, I tried to move it with 3 other neighborhood young guys. But it was really hard and, we only succeed to make a pathway for a car. I gave up so far, and decided to wait my students become available to help it.

2011-03-12 16:39:45

The gas bottle was out of safety chain and fallen down. I made it straight, and checked it.

With returning the status of 'mi-con meter': an instrument for the safety control, I found the gas is available. The first barrier was clear now!

2011-03-14 20:15:52

✖ 2011-03-12 16:46:46

Since I had no equipment to help me, I could not go inside my house. Anyway, I went back to my laboratory.

✖ 2011-03-12 16:47:24

✖ 2011-03-12 16:47:47

Circumstances are still underwater.

✖ 2011-03-12 17:08:33

✖ 2011-03-12 17:13:59

A dark night came again when I returned the laboratory. I received the food supply (hot rice in a vinyl) at the refuge.

Today, I slept in the office of civil engineering with 2 university staff. I slept with my sleeping bag which was kept in my laboratory. I put a cardboard on the floor, and the sleeping bag on the cardboard. After dark, in the situation of no electricity and no water supply, I had nothing to do, and slept after 6:00PM. Therefore, I woke up on 3:00AM.

## The third day

I went to the refuge camp in my university after the sunrise. I got breakfast there and took out a shovel and a water paddle from my laboratory. When I arrived at my house, it was around 7:00AM.

✖ 2011-03-13 06:54:56

The mud remained along the street.

✖ 2011-03-13 06:55:31

✖ 2011-03-13 07:17:01

✖ 2011-03-13 07:17:11

✖ 2011-03-13 07:17:23

It is around my house. In general mud does not stay on road. I guess that mud stays where water stayed. In addition, I found sand remaining on the road. I wonder how this situation took place.

Then I got into my house.

First of all, I made clean up the route to the entrance.

✖ 2011-03-13 07:33:58

✖ 2011-03-13 07:34:05

✖ 2011-03-13 07:37:37

Behind the door, I found the thin layer of mud.

I was so shocked. All water I filled up in the bathtub was lost. The tsunami water seemed to come into the bathroom and the tap was taken out due to the tsunami. Anyway it was great shock for me. I lost all water I kept before.

✖ 2011-03-14 20:16:33

✖ 2011-03-13 07:38:40

✖ 2011-03-13 07:38:51

✖ 2011-03-13 07:38:59

✖ 2011-03-13 07:39:05

✖ 2011-03-13 07:39:13

✖ 2011-03-13 07:48:51

✖ 2011-03-13 07:49:04

✖ 2011-03-13 07:49:14

The clean water stayed at the center of the room while no mud remained. I thought that the water was coming up below the floor and the tatami-mats might be lifted up. My bedclothes were not wetting. They were not wet because they were in the bag on the tatami-mat which was lifted up. There is nothing to be discarded in this room. So far I was living in my house alone and my wife would move here on 15th of this March. The first floor was kept clear for household goods which my wife would bring with her. I had a kotatsu-table only in this room and the kotatsu futon and the kotatsu sheet were heavily wet. I decided to discard them. I had few other goods to be discarded.



2011-03-14 20:17:55

2011-03-13 07:49:34

First of all, I need to clean up the stack of mud. There is a stream beside the next house. There is no water usually. However I could see water running in the stream. I heard later that this water came from a collapsed dam. It was not clean, but I took water from the stream. First,

2011-03-13 08:18:28

I fastened a rope to my bucket and pulled up water from the stream.

2011-03-13 08:53:19

I began to store water in my bathtub. I was afraid that water would disappear because we have no water in the stream usually.

After repeating this work many time for one hour. Finally I got my bathtub filled with water as shown in the photo.

2011-03-13 09:14:26

Mud remained on the wooden floor. The bottom drawer was inundated. Although the second bottom one was wetted, it seemed to be OK. I keep my heater but I am not sure whether it works or not. The mud remained on the first step of the stairs and this shows the highest water level during inundation.

Here I had two things to do. First I have to find a place for putting the furniture and goods temporarily before cleaning up the room. But everywhere was covered by mud unfortunately. So I began to clean up the mud in my parking space. Then I put unnecessary sheets on the ground and moved furniture and goods on the sheet.

2011-03-14 20:18:39

I pushed out the half of mud which covered my parking space. This photo shows the situation after I finished 50%.

2011-03-13 10:15:36

I lost all of my kotatsu futon set.

2011-03-13 10:15:41

The underfloor container was lifted up.

After that, I got the mud out with a water paddle.

I divided this job into two steps. First I pushed the mud with my water paddle. Then I wiped the floor with a cloth as the second step.

2011-03-13 12:07:42

I finished cleaning of the wooden floor room.

2011-03-13 12:29:27

My neighbors helped me to take tatami out from my house. I found that the mud stacked under the tatami, but it was difficult to take it out because of the non-smoothed surface.

2011-03-13 12:54:00

My favorite tools are a bucket and a bathmat. I took out the mud by the bathmat and then I went to the stream. I washed the mat there. I repeated this procedure all of the day. I kept on working until 4 p.m. It

was tough but I did not get any problem on my body fortunately.

 2011-03-14 20:19:01

In toilet of my house, there was mud. This photo was taken after I cleaned up mud slightly.

After I cleaned up mud on the first floor, I came up to the second floor.

 2011-03-14 20:19:16

 2011-03-13 16:03:59

The refrigerator was slightly moved from its pervious position.

 2011-03-14 20:19:27

 2011-03-13 16:04:25

Two computer displays on my desk disappeared.

 2011-03-13 16:04:34

All of my bookshelves fell down.

 2011-03-13 16:04:42

I found one of the displays on the floor.

 2011-03-13 16:04:50

The other fell down on the desk.

I needed two things at this time. One is a pair of slipper and the other is a pair of sandals for outside.

 2011-03-14 07:06:31

The left-hand side in the photo is my sandals I brought from my office. It did not work well because mud got stuck at the toe. I bought the right-hand side one recently before the disaster. But I lost one of the pair. I found it next day.

 2011-03-14 07:07:34

 2011-03-14 07:07:57

After taking mud out by my bathmat. Even though I wiped the floor by the bathmat many times, mud appeared again and again after dried. This is because it was difficult to make the mat clean under this condition. Anyway I have no choice.

I finished today's work. I came back to my university and got food for dinner. They were retort dumplings(gyoza) and it was first experience for me to eat them without heating up.

I stayed in the same room as last night. However I was alone because the two staffs stayed with me last night had gone to their home. So typical I got sleep soon after the sunset and then I waked up around 10 p.m. I read a book under the light of a candle. I had no alternatives. I finished Nikkei Business magazine. After that, I spent a time sitting on a chair and falling into a doze several times. Then suddenly I got a message on my mobile phone. It said

"You have a new message". No service was available before this time. (Mobiles phones had been out of service since the first night because base stations were damaged.) The icon of an antenna appeared on the display of my mobile phone(only an antenna mark). The battery of my mobile got empty already in the first day. I charged it by connecting to my laptop PC. I tried to download the messages but I couldn't. I got an idea and moved to my office on the third floor. Three vertical bars beside the antenna icon came up on the display. I got mails finally. The public phones in the station were out of service today. I heard that they worked yesterday. However, people said they could call outside of this prefecture but failed to call inside even yesterday. I called my wife by my mobile although I knew it caused a trouble to her. We talked so long time and asked her to cancel my flight to Korea on 18th of this March. After that I wrote a long mail and sent it to most peoples whose email address was stored in my mobile phone. I failed two times but succeeded at three times. In addition, I replied to messages which I thought I needed to reply. I could send all messages within three trials for each.

I think this is because many people donot use their mobile phone in midnight.

## The 4th day

On the way home from the university, I stopped by at a refugee camp to get a breakfast(instant noodle with curry favor).

I firstly removed the mud filled over my garage in order to park my car.

✖ 2011-03-14 07:48:38

✖ 2011-03-14 07:48:47

✖ 2011-03-14 07:48:54

✖ 2011-03-14 07:58:41

Next, I thought to wipe up the floor with the water in the bathtub. The water in the bathtub was clear on the top, but dust was filled on the bottom. Therefore, I changed my mind to use the water in the river.

I cleaned the second floor for a start.

✖ 2011-03-14 10:06:55

The refrigerator and shelves were returned to their original position after I've moved them a little distance.

✖ 2011-03-14 10:07:00

I decided to use this room as a stock room.

✖ 2011-03-14 10:43:23

The desk also returned to the original location.

✖ 2011-03-14 10:43:30

✖ 2011-03-14 10:43:37

When I finished returning the bookshelves and the exercise machine back to their original locations,

I heard the tsunami warning from the public loudspeaker. Because I also heard the warning from the radio, I decided to escape and went to the top of the pedestrian bridge. The fire truck passed saying that the tsunami was coming in 5 minutes. I waited and waited, but the tsunami did not come. After 15 minutes from the warning, some people started to go home saying that the tsunami wouldn't come. I told them to stay, but they didn't listen and left. After a while, the radio said that the Meterological Agency cancelled the tsunami warning. What on earth was that warning, "The tsunami is coming in 5 minutes."?

Maybe, they intended to inspire our fears to let us evacuate, but many people went home after waiting for 15 minutes. Does the Meterological Agency take responsibility when the tsunami comes after their leaving? Also, after they cancelled the tsunami warning, they gave us no information as to whether we could go home or not. I think it is a lack or responsibility that they forced us to escape when the tsunami warning was announced and they left us with no information when the warning was cancelled. I wanted them to give us the information that we did not have to escape any longer.

✖ 2011-03-14 11:16:38

✖ 2011-03-14 13:33:08

At a damaged site of an embankment, a dump truck placed soil to fix the ground. How many times does the truck have to carry the soil?

Finally, I found that I'd done everything what I could do at home. There was still mud on the floor, but I thought that I could not wash them out without clear water. I had to wait for the water system to recover. I thought once it recovers, I could make it in a day. Finally, I returned to the university at 4pm.

2011-03-14 16:03:35

Many people were waiting in line to get water from a water truck. What they had in hand were mostly plastics containers, which was completely different from the situation after the 1978 Miyagi-ken-oki earthquake(at that time, they carried kettles and buckets).

2011-03-14 16:23:55

It was quiet in the refugee camp.

Getting back to the university, I found the electricity recovered. The internet service also recovered afterwards, therefore I started to report my experience.

Since the electricity and water supply is cut of at my house, I think I can not go home until they are recovered. The water supply is also cut off at the university, so I've not taken a bath since the earthquake. I know I have to be patient for a while.

At the moment, I can get the information only from the radio. As an evacuee, I have the following opinions against radio broadcasting.

News : Useful. Even if you are the only one suffering terrible situation at your town, if you find that there are many other people in the same situation outside, you are encouraged to stand up to get over the situation.

Explication of the earthquake : It's hardly useful (I'm not sure it is because I am an Earthquake researcher). I feel annoyed when they exaggerate the obvious things. They ask the audience to calm down, and I think I am one of the calmest person, but they never say what to do with the calm mind. Unsettled people cannot calm down just by being asked to calm down.

In addition, I don't want them to inspire our fears to an unnecessarily extent. I assume the media tried to pick up the expression on the safe side, but watching the people around, I feel they are scared to an unnecessarily extent. People tend to think everything the specialists say sounds like a truth, so I hope the media to make it clear what is the truth and what is the prediction.

## Postface

I am a serious victim to the tsunami, suffering from the cut-off of electricity and water supply. Even so, I think I was very lucky.

First of all, the earthquake occurred before my wife moves to the damaged house (I had taken up a professor post here without my family).

Secondly, I lived close to the river, so I managed to use water even though it's not clean. The river is located next to the house next door, and the distance between my house to the river is short. If the river is located two doors or three doors from my house, I think the situation was different. I was very lucky in this point, too.

Moreover, I was in a good environment cause I could get water and food at the university, and also I could get drinks at my laboratory. In addition, I've had two visitors from Tokyo before the earthquake, and they've brought a large amount of snacks for my laboratory students. My students also left snacks as souvenirs from the graduation trip.

Therefore, I had no problem for drinking water nor food. Furthermore, I had an oil stove at the university, so I didn't feel cold even at midnight.

From the reasons above, I could use all my energy to recover my house.

By the way, I wrote an article for a waterworks-related newspaper just before the earthquake. It is not published yet, but I show it the below.

I specialize in seismic behavior of ground and structure, and I've been involved in many damage surveys inside and outside of Japan. Based on my experiences, I'd like to discuss about a role of the water system. The water system is one of the most important parts among the lifeline systems, and it's essential for our daily life. However, earthquakes sometimes cause damage to the water system. Recovery of the water system sometimes takes longer than a week. To cope with this situation, the waterworks company has stock of water. I think that the company and user have different understandings at this point. It is known that one person needs 3 liter of water per one day for drinking purpose or something other. The waterworks company seems to decide the amount of water in stocks from this value. However, I found in the damaged area that people could receive necessary water from the day after the earthquake. They seemed not to have problems on drinking water, but they were lacking the water for the other purposes. To maintain the lifestyle as civilized people, they needed water for cooking, bath and toilets. The lack of water for these purposes is a big problem. With the current water-stock system, however, it is maybe impossible to keep the additional water for these purposes. Therefore, another countermeasure is necessary. From the fact that damage to earthquake-proof pipelines is few in the past earthquakes, replacement to earthquake-proof ones could be one solution. I hope people can keep their lifestyles unchanged in the future earthquake with this countermeasure.

Having experienced this earthquake, now I know I was wrong in this article. We also need water for other purposes. For example, we can't wash our hands without water. Luckily, I could wash my hands with the river water since the river is close to my house.

I think the electricity is less than necessary, but water is necessary by all means.

Before I experienced this earthquake, I'd understood from the past earthquakes that the electricity system needs 1 day, the water system needs 1 week, and the gas system needs 1 month to recover from damage, and I'd taught this to my students. In this earthquake, however, 4 days passed already but the electricity is still cut off not only at my house but also in the broad area. I think this time the water system won't recover in a week.

By the way, if we go to hot-spring areas, can we take a bath? I really want this type of information. I also want the information where we can get gasoline. I think the information whether a supermarket is open or not is difficult to catch. We can only know by going there by ourselves or asking the people carrying the shopping bag. There are no organizations who provide these kinds of information, but I believe that what we really want to know right now is these kinds of information.

Of course, people want different information depending on their situation, and I understand that. However, after 4 days, I feel the situation is something like a saturated one. How to announce these kinds of information is an issue remained to be solved in the future.

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