Unforgettable Fight against 3.11, 2011

Earthquake & Tsunami

PHOTO 1

Photo: Tohoku Regional Development Bureau archives

By Jillian YORKE

We really need a historian to make a proper record of the unprecedented disaster that hit Japan on 3.11, 2011. A detailed history of this tragic event will be the most important textbook for our descendents to prompt an appropriate reaction to cope with similar disasters in the future. These accumulated records of the incidents will lead to advances in human wisdom.

This issue of *Japan SPOTLIGHT* highlights the story of a government local branch office's extraordinary fight against the disaster, in commemoration of the first anniversary of the earthquake and tsunami of 3.11, 2011, with the purpose of contributing to strengthening the capacity for minimizing the damage that could be caused by a similar disaster in the future. We would like to share the lessons learned from this experience with our children and grandchildren.

Author Jillian Yorke

Operation Comb: "To Save Even One More Life"

This story starts with a helicopter *(Photo 1)* of the Tohoku Regional Bureau of Japan's Ministry of Land, Infrastructure, Transportation and Tourism (MLIT) taking off only 37 minutes after the earthquake and immediately before Sendai Airport was swallowed by a gigantic tsunami.

Just after the earthquake occurred, the crew of a civil airline cut off the broken shutters of a hangar, and prepared for take-off. Then, receiving instructions from the Tohoku Regional Bureau of MLIT, they took off, just 37 minutes after the earthquake struck. The live broadcasting from the helicopter clearly captured the unimaginable giant tsunami and the shocking state of damage. This information was what led to the decision that top priority must be given to saving lives and establishing escape routes.

This crucial information enabled Hideo Tokuyama, chief of MLIT's Tohoku Regional Bureau, to make an accurate assessment of the damage, and "Operation Comb" was set up to secure transportation routes to save the survivors. Operation Comb involved establishing life-saving and rescue routes by opening up several national routes, from the Tohoku Expressway and National Route 4, which connect inland areas from north to south, to several national routes that extend to coastal areas, like the teeth of a comb *(Chart)*. The giant tsunami caused devastating damage to many areas on the Pacific coastline, while piles of rubble and collapsed bridges had isolated many coastal areas. Immediately after the earthquake occurred, executives and staff gathered in the Disaster Countermeasures Office of the Tohoku Regional Bureau. They contacted transport officials and local branch offices and hurried to assess the damage and plan countermeasures. Then, immediately, they implemented Operation Comb, to open up roads to ensure some "lifelines" were in place. Operation Comb was successful in clearing the roads of debris and opening routes to save lives and deliver emergency goods to survivors.

Prefectural staff, members of Japan's Self-Defense Force (SDF), employees of local construction firms, and the Tohoku Regional Bureau staff all worked as one to push their way through the rubble. Even as aftershocks continued and there were further tsunami warnings, they continued to work steadily, with strong motivation: "in order to save even one more life." As a result, on the following day 11 routes were opened, and then a further 15 routes on March 15, making it possible for emergency traffic such as ambulances, police cars, and SDF vehicles to pass through. Medical teams were also able to get into the disaster-struck areas, and support materials could be delivered.

The team put the highest priority on the restoration of riverside embankments that were part of roads and realized transportation of emergency materials by using them. In the Kitagami River estuary area (in the Kamadani district of Ishinomaki City), embankments as long as 1,100 meters that had been part of roads were washed away. This isolated villages and made it impossible to carry out rescue operations. Tokuyama and his colleagues started by concentrating on repair work to make the road wide enough for one car to pass through. By March 14 this was achieved, with the road provisionally wide enough for one lane of traffic. As a result, emergency vehicles were able to get through and aid items were delivered, providing support for victims of the disaster. Also, restoration work was carried out on the embankments that also served as roads and had suffered the same kind of damage, with clearing the roads for traffic being the top priority.

Restoration of Air & Sea Routes

Restoration of Sendai Airport was also very important to restore routes to save survivors, and Tokuyama's team brought a number of pump-cars to the airport and made their best efforts for its early restoration. Sendai Airport, an important entry to the skies of Tohoku, had been inundated by a giant tsunami. In the airport building, water had reached as far as the 2nd mezzanine floor, and the first-floor area was completely destroyed. A large part of the coastal area of the airport

was flooded and suffered major damage. MLIT made concentrated efforts to bring in pump-cars from all over Japan. From March 17, 25 pump-cars worked 24 hours a day to pump out the water. The total pump-car days added up to about 250, while the total amount of water pumped out was about five million cubic meters, the equivalent of filling 14,000 25-meter-long swimming pools. By April 13, a month after the disaster, some temporary flights had started operating again.

From the same concern to secure the lives of survivors, the team started efforts to open sea routes as well by eliminating debris in port areas only three days after the disaster. After having heard the cancellation of the tsunami warnings issued on March 13, on the morning of the following day the opening of sea routes began, involving the removal of containers, cars, and fishing nets that had been swept into the ocean or sunk. With delivery of support to the disaster areas the top priority, work began first on Miyako Port, Kamaishi Port, and the biggest port in the Tohoku area, Sendai-Shiogama Port. After that, operations moved to other important ports. On March 16, five days after the disaster, ships carrying emergency supplies sailed into Kamaishi Port. By March 23, provisional sea routes to 10 ports had been secured, enabling the provision of emergency supplies by sea. Also, on March 21, the first oil tanker arrived at Sendai-Shiogama Port, alleviating the severe fuel shortage.

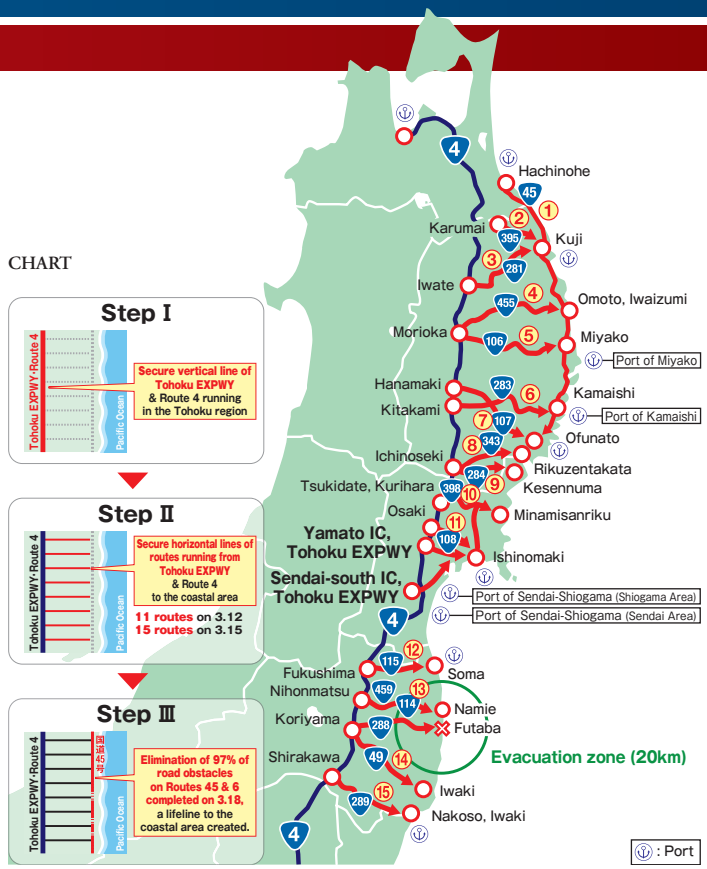
Liaisoning

MLIT also strengthened its efforts to cooperate with regional governments to get detailed information on what the survivors would need for their daily life and to play the role of mediator between the national government and regional governments. MLIT staff members were dispatched to towns, villages and prefectures that had suffered damage, where they worked within these local areas as contact persons. Dubbed "liaisons" (disaster measure, on-site information contact persons), they grasped the needs of local bodies and implemented coordination of a wide range of support groups. Being well-versed in coordination between prefecture and state, as well as the interpretation of laws, they were able to take the place of employees of local bodies, who were overwhelmed with disaster response, and served as right-hand supports for mayors, etc. The liaisons were sent to four prefectures, 31 local areas, and to the SDF; their total number reached 96 at the peak of March 23. The total number of liaisons from just after the earthquake struck until June 30 was 3,916.

Restoring Communication

The disruption of telecommunications isolated the disaster-hit areas, which prevented smooth rescue operations. MLIT then provided a number of satellite communication cars to save them from dropping into complete isolation. All means of communication, lifelines for the victims, were completely destroyed. There were also cases like Minamisanrikucho in Miyagi Prefecture, where the town hall was badly damaged and local bodies had lost the ability to function. From the day after the disaster, MLIT commissioned disaster response cars from local bodies all over the country, and by the fourth day had sent them to 16 local bodies. By the peak of April 15, there was a total of 192 cars. As a result, communication lines were created with every town

CHART



and village, and people were able to talk to local bodies about everything from the state of damage to assistance items needed, resulting in more support being provided to the disaster-hit areas.

In order to supplement this, Tokuyama's office opened an emergency website on its home page until the telecommunications function was completely restored. In the disaster-hit areas, means of communications had been destroyed and there were no effective ways to obtain information. There was no doubt that these areas were short of supplies, and suffering great inconvenience in daily life. Twenty local areas used this online bulletin board to transmit their urgent hopes concerning provision of supplies, which led to the provision of aid supplies from all over the country.

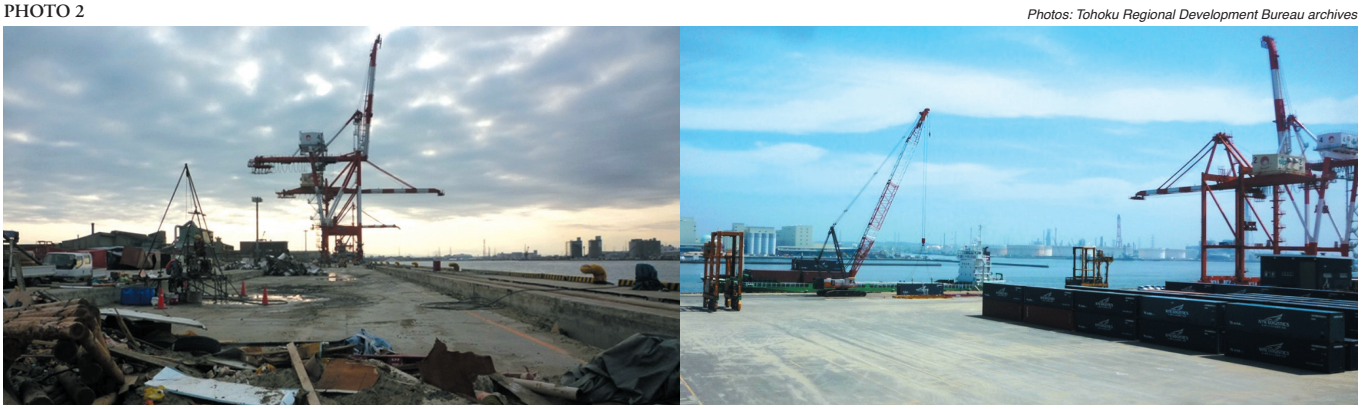
TEC-FORCE to Rescue

Early restoration of various kinds of infrastructure such as roads, bridges, and ports was essential for the benefit of the survivors. Just two days after the disaster struck, MLIT sent more than 200 technical experts to the Tohoku area to assess the degree of damage, and such prompt action for assessment enabled early restoration of the infrastructure. This emergency response team, the Technical Emergency Control Force, or TEC-FORCE, was sent to local areas to provide support, where it carried out a wide range of activities from collecting information, assisting with drainage operations using pump-cars, and coordination with the SDF, to speeding up and obtaining relief supplies and materials.

Destroyed bridges were the main obstacle to smooth traffic flow. Construction of a temporary bridge by MLIT made it possible to achieve smooth traffic flow at an early stage. National Route 45, which runs along the Pacific coast, was blocked at many places because of the giant tsunami and had received enormous damage including

PHOTO 2

Photos: Tohoku Regional Development Bureau archives



Port of Sendai-Shiogama (Left) 2011.4.18 (Right) 2011.6.23

bridges being swept away. Starting from the places where road-opening work had been completed, emergency restoration was undertaken, including setting up alternative routes or temporary bridges in areas where bridges had disappeared. At the Kisen Ohashi Bridge in Rikuzentakada City, Iwate Prefecture, where a provisional bridge had been set up and extended to 201.6 meters in length, after clearing away the debris in the river, work was begun on building a temporary bridge, which was completed in only 61 days, with two-lane traffic across the bridge becoming possible on July 10.

Rebuilding Embankments, Restoring Shipping

Prevention of secondary disasters was as important as the restoration of damaged areas. Accordingly, MLIT made its best efforts to restore the completely destroyed embankments as an emergency operation. The earthquake and tsunami brought tremendous damage to rivers. Of the rivers under the jurisdiction of the Tohoku Regional Bureau of MLIT, at nine rivers under five waterway systems there were 1,195 places where there was damage to embankments, sluice gates and sluice pipes. So, along with tackling emergency restoration immediately after the disaster to prevent secondary damage, in 29 places where there was especially severe damage emergency reconstruction was carried out by piling up earth on the embankments and putting concrete blocks in place. Starting with the completion of construction of the Eai River on April 2, by July 11 all of the emergency reconstruction work had been completed.

Restoration of freight shipping distribution is also crucial to restoring regular industrial activity as well as people's daily lives. The early restoration of the damaged port facilities achieved this. There is a huge amount of marine shipping to the Tohoku area, transporting items such as fuel necessary for maintaining electricity, foodstuffs essential for livestock, and raw materials and items needed for the manufacturing industry, especially iron and steel production. Items for use in daily life are also shipped there in containers, so marine transport has an extremely close relationship with the lifestyle and economy of local areas. Therefore, rapid emergency reconstruction was carried out, aiming for the restoration of the functioning of ports as quickly as possible, In September 2011, six months after the disaster, the marine distribution that had been destroyed was restored, and the amount of freight being handled had recovered to as much as 70% of the previous year's *(Photo 2)*.

Lessons for Future Generations

Correct assessment of the damage at a very early stage of the disaster and the prompt actions based on it and also the wide cooperation among the different administrative entities led to such early restoration of the damaged infrastructure. Tokuyama and his team and MLIT certainly achieved incredible things in a very short period. The lessons that their restoration activities brought us should definitely be delivered to future generations.

However, these lessons are not the only thing to be passed on to our children and grandchildren. The horrible experiences of the residents affected by the disaster should also be told to our descendents to warn them to be better prepared for such calamities in the future. *Photo 3* shows some stone memorials standing by the side of National Route 45, in Ryomeicho, Kamaishi City, Miyagi Prefecture. They evoke the terror of tsunami: the stone in the middle and the one on the right are from 1896, while that on the left is from 1933. The terror of the shaking of a magnitude-9 earthquake, the misery caused by damage from the resulting giant tsunami: we must not forget this disaster, but must pass on the terrible experience and the lessons learned to our children and grandchildren, so that they live on in history, and so that the valuable information we provide to future generations, by helping them to prepare better, will reduce their potential sadness. JS

Jillian Yorke is a freelance translator, writer and editor who has lived in Japan for more than 30 years. She is currently planning the establishment of a Japan Library in New Zealand.

PHOTO 3

Photo: Tohoku Regional Development Bureau archives