The Anilao River in Ormoc. Improvements to the river banks were carried out with Japanese support, and the city of Ormoc installed fences and streetlights.

Support for Typhoon-Stricken Leyte Island

The Philippines is among the most disaster-prone countries in the world. The biggest disaster risk is the floods caused by typhoons and tropical storms. In 1998, Japan launched a project to support the Philippines in implementing flood mitigation measures in the wake of Tropical Storm Thelma, which devastated the island of Leyte in November 1991. The casualties occurred in the central Leyte city of Ormoc, which then had a population of around 120,000. Heavy rains caused rivers to overflow and engulf the streets, flooding the entire city. About 8,000 people died or went missing and around 14,000 residential buildings were damaged by flash floods and landslides. Most of the victims were poor laborers working for sugar cane plantations. With no land of their own, they lived in rudimentary housing near the rivers.

CONSTRUCTION OF BRIDGES, DAMS, AND DIKES

Following the disaster, the city carried out restoration work, repairing damaged dikes and replacing destroyed bridges. The local government lacked financial resources to carry out crucial riverfront flood-prevention projects, though, leaving the residents vulnerable to flooding. Eventually, JICA arrived to provide assistance. With a vision of a flood-control project for Ormoc, JICA conducted a development survey in 1993. From 1997 to 2001, JICA constructed four new bridges and built three slit dams to reduce the danger of floating trees and landslides. JICA also widened the rivers, created an entire diking system, and provided other protective infrastructure to improve drainage of the city's two major rivers.

Flooding in Ormoc in 1991 caused by Tropical Storm Thelma (above). The Pasig River on the outskirts of Manila, where work by Japan on the banks has reduced damage from flooding (right).

The bridge construction and widening of rivers required displacement and relocation of some of Ormoc's citizens. The city government acquired resettlement areas and provided compensation to those who were relocated. Japanese representatives also participated in consultation meetings to explain the project to the public.

"Land had to be reclaimed in order to widen the rivers, so we had to ask the people living there to move elsewhere. The residents were told that the project would make life safer for them, but they couldn't understand why they had to leave the place they called home," says Shuji Kaku of CTI Engineering International, the project's supervisor. City officials continued to emphasize the need to widen the rivers and the importance of flood-control measures. They explained that the work would help protect the community as well as the residents' own lives and property. After acquiring safer land, the city government offered it to the riverside residents at no charge. Once a livable environment equipped with electricity and running water was in place, the residents resettled there.

MAKOTO MIGITA STREET

The project elicited a warm response from the Philippine government and the city of Ormoc. As a gesture of appreciation, the Ormoc city council named a street after Makoto Migita, a Japanese engineer who had worked from the beginning of the project but died suddenly in March 1998, prior to its completion. Inaugurated in December 2000, the 10-meter-wide Makoto Migita Street is the main route to a resettlement site in the village of Lao, about six kilometers from the river. A monument honoring Migita's memory stands beside the street that bears his name.

In July 2003, two years after the project's completion, Ormoc was once again battered by a major typhoon equal in scale to Tropical Storm Thelma. As in 1991, the city endured torrential rains. But this time, the slit dams protected the residents from floating trees and landslides, and the city streets were only submerged momentarily. Because of the newly constructed river embankments, there were no casualties.

The city had attained a sense of security, but it was not immune to major disasters. Ten years later, on November 8, 2013, the central Philippines was devastated by Typhoon Haiyan (locally called Typhoon Yolanda), the strongest storm recorded in history, with peak winds blowing at 313 kilometers per hour.

Leyte once again found itself in the path of the storm. In the city of Ormoc, 37 people died and 8 went missing—significantly lower numbers compared to the 1991 typhoon. The most severe destruction occurred in Tacloban, the largest city on Leyte's eastern coast. The powerful storm caused massive tidal waves five to six meters in height, inflicting catastrophic damage on the city. JICA once again set about providing needed support.

A couple living and selling vegetables along Makoto Migita Street. They say life is easier now that they do not have to worry about floods.

Members of the Japan Disaster Relief medical team providing treatment in the Philippines.

THE DISASTER MANAGEMENT CYCLE

The fundamental principles underlying JICA's disaster-mitigation and -recovery efforts are derived from the Disaster Management Cycle. In this approach, mitigation and preparedness, emergency response, and recovery are seamlessly intertwined, while efforts to improve resiliency help to control risk and reduce damage. The Disaster Management Cycle guided JICA's assistance in response to Typhoon Haiyan.

On November 10, 2013, the Japanese government received a request for assistance from the government of the Philippines and responded by dispatching a Japan Disaster Relief (JDR) medical team. The team began full-scale medical operations in Tacloban, later going beyond the city to run a mobile clinic in Basey and other towns on Leyte that were heavily damaged by the typhoon. Two more JDR teams were dispatched in rapid succession, on November 20 and 29, respectively. Japan also provided emergency relief goods worth up to ¥60 million (around $600,000) to alleviate the difficulties of affected people in the towns of Basey and Guiuan in Samar Province, remote areas in Ormoc, and other areas near Tacloban. The goods included plastic sheets for shelters, sleeping pads, and other necessary commodities. JICA staff distributed these items directly to the people and local government units. A 1,200-member Japanese Self-Defense Force unit also dispatched teams to help transport victims of the disaster, emergency supplies, and JDR members.

On November 26, Japan sent in a group of experts consisting of representatives from the Ministry of Land, Infrastructure, Transport, and Tourism; the Japan Water Agency; and JICA. Ultimately, a team of around 20 members was assembled to advise the Philippine government and help assess the situation, provide inputs for the initial recovery activities conducted by the Philippine government, and develop plans for disaster mitigation and preparedness efforts. The team played a significant role in facilitating progress toward the recovery and restoration phase of the cycle.

In another storm-related accident, a barge ran aground on the eastern coast of the island of Panay, west of Cebu, spilling 860 kiloliters of oil into the sea. On December 4, a five-member team of oil spill removal experts from the Japan Coast Guard and JICA was dispatched to the Philippines to help deal with the spill.

After dispatching multiple teams that provided three successive rounds of assistance, Japanese officials facilitated a smooth transition from the emergency-response phase to the recovery phase of the cycle. The activities of the JDR teams ended in December, but it will take more time before life returns to normal for those affected by the disaster. The most important question is how to make this happen as soon as possible. The Japanese teams also collaborated with health-related agencies in the Philippines, international organizations, and medical teams from other countries to assess local needs and evaluate public health conditions.

The medical teams also worked with nurses from JICA's Japan Overseas Cooperation Volunteers and technical cooperation experts specializing in the medical field to provide comprehensive emergency-response services. Not only did this provide crucial support for the medical teams, it also provided a foundation for more collaborative efforts in the future.

The team of oil-removal experts investigates a spill.

RECOVERY BASED ON JAPAN'S EXPERIENCE

On January 14, 2014, the National Disaster Risk Reduction and Management Council, a body comprising 44 Philippine government agencies and organizations involved in disaster prevention, announced that the typhoon caused 6,201 deaths and left 1,785 people missing. The storm significantly affected about 16 million people, including 4.1 million refugees, and destroyed 1.1 million buildings.

In addition to dispatching medical teams and other JDR personnel, the Japanese government provided ¥3 billion (about $30 million) in emergency grant aid, which is mainly used for the relief operation provided by the UN and other international organizations, along with emergency relief supplies valued at ¥60 million ($600,000). An additional ¥2 billion ($20 million) in emergency assistance was provided in the form of an Asian Development Bank Japan Fund for Poverty Reduction grant, and approximately ¥150 million ($1.5 million) in assistance was provided by Japan Platform, a nongovernmental organization.

With the arrival of the new year, JICA turned to mid-to-long-term recovery and restoration efforts. First, a team on building resiliency headed by a JICA senior advisor was dispatched from January 6 to 13 to recommend improved designs for school buildings. Then, in preparation for recovery and restoration projects in various areas, a JICA survey team visited the Philippines from January 19 to 26. The team focused on the eastern coast of Leyte and the southern coast of the island of Samar, two areas that suffered heavy casualties and damages from the storm surge. During their mission, team members began carefully planning a focused project to achieve rapid recovery and restoration in these areas and to help build communities that will be more resilient to disasters. The project officially started in early February.

In order to share Japan's recent reconstruction experience with the Philippines, JICA asked the city of Higashi Matsushima in Miyagi Prefecture, which endured the Great East Japan Earthquake and its aftermath, to present its relevant experiences. Two city employees and two private personnel from Higashi Matsushima, which is now carrying out its own recovery plan, joined the survey team. JICA's aim is to enable people in the typhoon-ravaged regions to learn from the more accessible experience of a rural community working to recover from disaster. As a leading nation in disaster management, Japan has much to offer to Philippine communities seeking to build a more resilient, secure future.

A debris-strewn street in Tacloban, November 12, 2013.