

Bridging the Generations

More than thirty years after its construction, the Matadi Bridge across the Congo River continues to benefit from Japanese technological support.

TAKASHI SASAKI

LOCATED in the Democratic Republic of the Congo (DRC) 150 km inland from the Atlantic Ocean in the port of Matadi, the Matadi Bridge is the only fixed crossing over the lower and middle stretches of the Congo River. Carrying the main highway connecting the Congolese capital of Kinshasa with the Atlantic coast, the 722-meter-long bridge plays a vital role in the country's land transportation infrastructure.

The Matadi Bridge was completed in 1983 through a Japanese ODA loan agreement with what was then

the Republic of Zaire. When civil war broke out in the country in 1996, however, Japan was forced to suspend the provision of technological assistance necessary for the bridge's maintenance. This situation continued through the many long years of turmoil in the country until 2012, when in response to a request from the DRC, the Japan International Cooperation Agency (JICA) launched the Project on Capacity Development for Bridge Management.

Engineers from the Organization for Equipment of Banana-Kinshasa (OEBK), which is in charge of maintenance operations for the Matadi Bridge, have been invited to Japan for training on three occasions under the terms of the project.

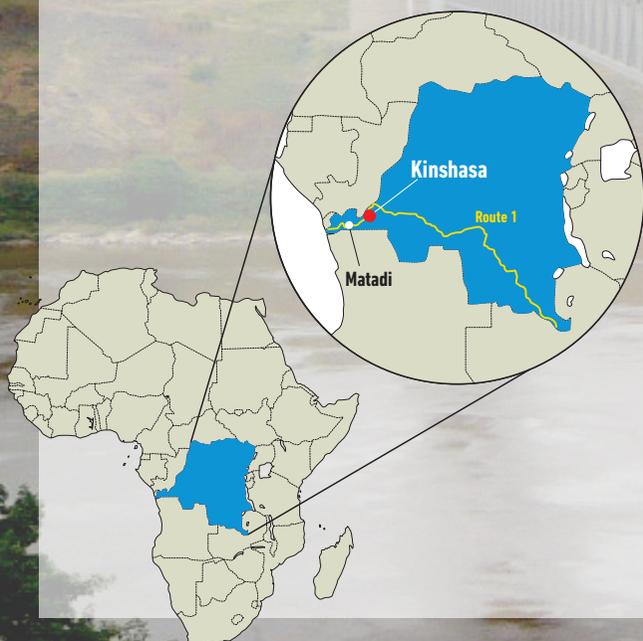
Training is conducted by the Honshu-Shikoku Bridge Expressway Company (HSBE) and comprises two courses. The first is Maintenance and Operational Capacity, in which the engineers study models for the appropriate allocation of highway revenue for long-term maintenance operations. The second is Bridge Maintenance Techniques, which covers such issues as routine maintenance, safety checks and data recording.

"I was impressed by the seriousness demonstrated by the OEBK engineers during the training session," says HSBE's Masahiko Takeuchi. "I was also deeply touched by their strong desire to maintain the bridge as a lasting symbol of friendship between our two countries."

Takeuchi has twice carried out on-the-job training in the DRC, helping the OEBK engineers to acquire the maintenance skills they need to take care of the suspension bridge.

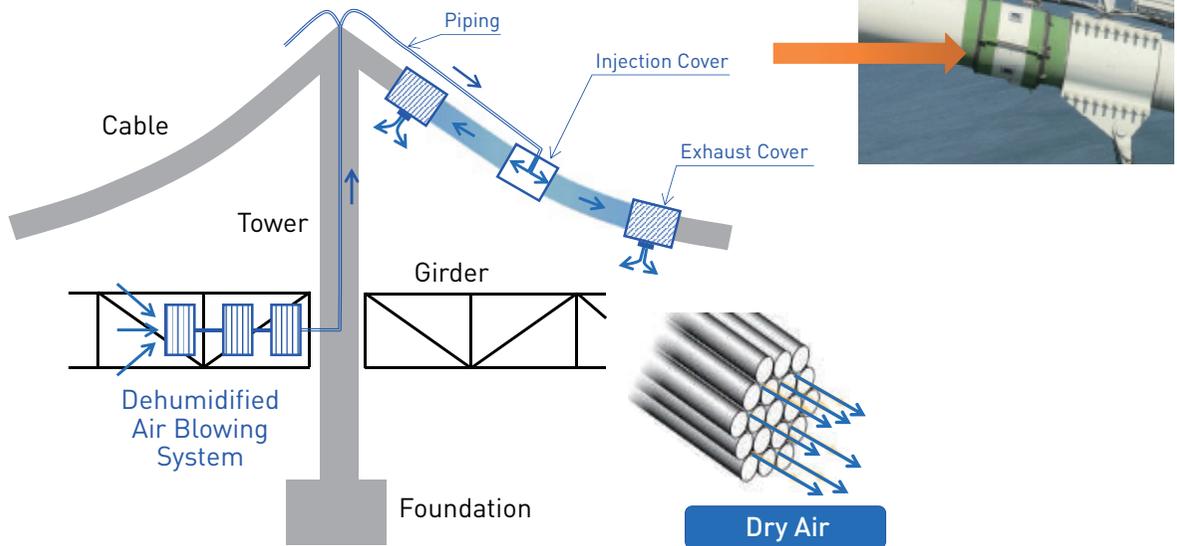
"When I saw the Matadi Bridge for the first time in June 2013, it was actually in much better condition than I had expected," says Takeuchi. "However, it was difficult to create a plan on site to tackle the evident structural problems, because OEBK lacks the facilities and background data to research the factors leading to the deterioration of the paintwork, concrete and pavement surfaces. The know-how we have built up in Japan over the years proved helpful in this respect."

Over the forty-five years of its existence, HSBE



The Matadi Bridge spans the Congo River in the Democratic Republic of the Congo
Photo: Courtesy of Honshu-Shikoku Bridge Expressway Company

Dry Air Injection System



The Dry Air Injection System for prevention of main cable corrosion Courtesy of Honshu-Shikoku Bridge Expressway Company

has been involved in a wide range of gigantic bridge construction and maintenance operations, including construction of the Akashi-Kaikyo Bridge, the world's longest suspension bridge (3,911 meters). Its accumulated knowledge and technologies are now being transferred to the OEBK engineers.

One such technology is the Dry Air Injection System which the company implemented for the first time in the world in the Akashi-Kaikyo Bridge. In this system, air is filtered through a process of dust removal, desalination, and dehumidification before it is injected into the main suspension cables. The technology prevents internal corrosion of the cables and ensures their long service life. It will soon be applied in the Matadi Bridge.

“For HSBE this project was highly gratifying,” says Takeuchi. “We were able to share our knowledge not only with two veteran engineers who were around at the time of the Matadi Bridge’s construction and who played a crucial role in its subsequent maintenance, but also with the next generation of young engineers.”

Congolese honeymooners are said to regard the Matadi Bridge as one of the most picturesque spots in the country and visit the structure from far and wide. It is hoped the bridge will maintain its beauty for many years to come. **V**



Masahiko Takeuchi of the Honshu-Shikoku Bridge Expressway Company stands in front of the Akashi-Kaikyo Bridge.

Photo: Takashi Sasaki