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Title: Bridging the Infrastructure Gap

Author’s Profile

My name is Cleopatra Panganayi and I am a civil engineer from Zimbabwe who is based in Tokyo. I graduated from the University of Zimbabwe with a BSc Honors in Civil Engineering in 1999 and initially worked in a consulting engineering firm before joining a government agency involved in infrastructural development. In 2004 I joined a JICA technical cooperation training program in Tottori and subsequently enrolled as a researcher in High Performance Concrete at Tottori University in 2006. I completed my PhD in 2011 and moved to Tokyo to join the Road Engineering Department in Oriental Consultants Global in 2012. I currently hold the position of senior engineer/ manager and have been involved in several JICA funded road and bridge projects in Asia and Africa at planning, design and construction stages.

Why I Chose a Civil Engineering Career

When I enrolled in the Faculty of Engineering at the University of Zimbabwe for my bachelor’s degree, I was inspired to become a civil engineer after listening to a lecture on the history of civil engineering. As we all know, the "civil engineering" discipline was developed solely to improve the living conditions of citizens and is distinct from military-related engineering disciplines. While I grew up in an urban area of Zimbabwe with basic infrastructure, the countryside where my grandmother lived, like most of the country lacked infrastructure. The desire to contribute to improving the living standards in such communities motivated me to become a civil engineer.

Value of Infrastructural Development in Developing Countries

In the words of Franklin D. Roosevelt, "*There can be little doubt that in many ways the story of bridge building is the story of civilization. By it, we can readily measure an important part of a people's progress*." Infrastructure development projects in developing countries have indeed made a significant contribution to the civilization of communities and it is my hope

that this article will illuminate the wonderful aspects of the work done by civil engineers. In developing countries, even a small bridge can make a huge contribution to the development of a region by providing a "link to civilization" on the other side of the river such as a higher level of healthcare, a school, a stable water supply, and electricity. For example, in my early years as a civil engineer, I once worked on a small project involving a dual-lane, 100m reinforced concrete bridge project in the northwestern part of Zimbabwe. Prior to the construction of the bridge, the local community had to travel up to 100km to the nearest bridge to cross the river. Upon completion and commissioning of the new bridge, the unparalleled joy of the local communities on both sides of the river gave me a strong sense of achievement as an engineer.

This kind of work is unique to the developing world, and it could be said that the impact of infrastructure development transforms a local community's way of life instantaneously. Of course, the more complex and challenging infrastructure projects in every country have greater impact and broader significance and since joining my present firm in Tokyo, I have had the chance to be involved in such large-scale projects. However, from an individual perspective, I believe that any infrastructure project, regardless of its complexity or scale, can become a bridge to change the lives of the surrounding communities.

Why I Relocated to Japan

While I was working for a government agency in Zimbabwe, I realized that in order to make a greater contribution as a civil engineer, I had to gain experience in a more technologically advanced country. In 2004, I was given the opportunity to participate in the JICA technical cooperation program in Japan. Subsequently, I enrolled for postgraduate studies at a Japanese University before joining a civil engineering consulting firm in Tokyo in 2012. I had always known that Japan's civil engineering infrastructure was highly functional to cope with disasters such as earthquakes and typhoons, but I also knew that Japan's high population density had raised its level of infrastructure development (I was surprised to learn that although Japan and Zimbabwe are about the same size, Japan's population at the time was 10 times that of Zimbabwe). The transport system sector was particularly impressive and bolstered my belief that an efficient transport system is at the root of a well-functioning society.

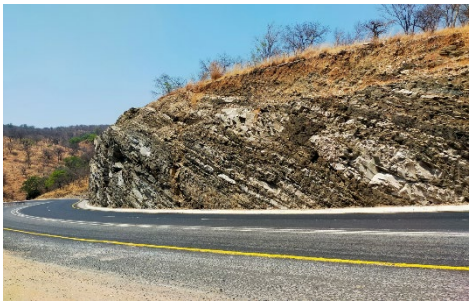
Japan excels in its commitment to meticulous planning and strategic design, and through my postgraduate studies and work experience in Japan, I have grown as an engineer. Japan has become my second home and I am learning a lot through my daily interactions with both professionals and the community at large. What strikes me about Japan is the uniform development of infrastructure throughout the country, so that even a small city like Tottori

(where I spent my postgraduate years) has comparatively better civil engineering infrastructure than some developing countries. As a result, it becomes possible to enjoy both the peaceful dunes and beautiful beaches of Tottori as well as the excellent public transport system of Tokyo. While it obviously takes meticulous planning to manage a city as large as Tokyo, I also believe the high level of civic discipline inherent in the Japanese people makes it possible.

Life in Japan

I was born and brought up in Harare, the capital of Zimbabwe, which is at an altitude of 1490m and is characterized by very comfortable weather, low humidity, and average temperatures of 27°C in summer and 15°C in winter. Some Japanese people believe that summer in Japan may be more comfortable than in Zimbabwe but on the contrary, I actually find the hot and humid summers in Japan very hard to live with. On the other hand, I love the winter season in Japan, especially the snowy weather. Of course, when it snows, Tokyo's public transport system suffers, but I still love the freshness and calmness that snow brings. Even though I developed hay fever about 7 years ago, spring with its beautiful cherry blossoms is also my favorite season in Japan. The cherry blossoms actually remind me of the light purple jacaranda blossoms in Harare (Photo 1). I often recommend to my Japanese friends that they should visit Zimbabwe in summer and enjoy the streets filled with the light purple and sweet scent of the jacaranda flowers!

Future aspirations



Since joining Oriental Consultants Global in 2012, I have been involved in various road and bridge projects in developing countries in Asia and Africa, including the Philippines, Sri Lanka, Myanmar, India, and Zimbabwe. When I left Zimbabwe in 2006 to further my studies, I knew that I would return to my country with better skills and experience. Therefore, the recent JICA project in Zimbabwe (Photo 2) that I was involved in

was very emotional for me. I hope that this project will have a great impact on the region.

Finally, I consider it a great privilege to be involved in a job that allows me to contribute to bridging infrastructure gaps in developing countries. At the same time, I am grateful to the many people who have helped facilitate my development and career progression. Collectively as engineers, let’s keep changing the world, one project at a time!