A Passion for Fighting Floods

By: Suvarna Ooi

His experience as a flood victim has led him to a career in floodwater management. Dato' Paduka Engr. Keizrul bin Abdullah talks about his career and his new role as IEM's president.

One of the highlights of his career is his involvement in the Stormwater Management and Road Tunnel (SMART) project. Dato' Paduka Engr. Keizrul bin Abdullah, Director-General of the Department of Irrigation and Drainage Malaysia (DID), recalls many fond memories from the project.

Engr. Keizrul graduated in the field of civil engineering in 1975 from Universiti Malaya. After his graduation, he joined the DID where he remained to this day. Throughout his challenging career, he has been involved in various types of flood projects. But there is one project that is close to his heart.

HOW IT STARTED

Engr. Keizrul was involved in the SMART project from its conception. SMART started as a flood bypass tunnel to solve part of the problem of flooding in Kuala Lumpur. At that time, the then Prime Minister wanted to add value to a tunnel that was designed for major floods which would only occur once or twice a year. One of the questions put forward was, could the tunnel also be used for traffic?

Engr. Keizrul's first reaction was one of shock. He said, 'My first thought was, this is a terrible thing. Here was this big tunnel where we're putting in floodwater, yet we want to use it and want people to drive in it.' However, he admitted the idea became more feasible upon further discussion with his team.

The recent news coverage on the SMART project has been quite extensive. There has also been many positive and even negative reaction from the public. Engr. Keizrul believes that the criticisms came about because of the lack of awareness of the overall plan.

In a flood situation, 45% of the floodwater comes from the Klang river while the remainder 55% comes from the Gombak and Bunus rivers. The SMART project was designed to take the excess water from the Klang River, bypass the city centre and take it downstream. For the other two rivers, the construction of two huge ponds to store floodwaters is currently in progress.

When the motorway component of the SMART project was opened for use on May 14, many among the public had wrongly assumed that the whole project had been completed. Thus, when flash floods hit Kuala Lumpur on June 10, the public questioned, 'Has the project failed to meet its objectives?'

What the public did not realise was, the project in its entirety was only scheduled to finish end of June. Engr. Keizrul said, 'Even so, it would only have taken care of the 45% of floodwater from the Klang river, while the remainder 55% would have to wait for the completion of the two ponds which will only be finished end of this year.'

DEALING WITH FLOODS

In his position as Director-General, Engr. Keizrul also deals with floods in other parts of the country. He explains, 'We have a flood mitigation programme which has various project components. In almost every state, I have ongoing flood projects. For example, we have one at Sungai Muda which would take care of the flooding in Kedah and Penang.'

Another example he related was Taman Sri Muda, a place where just a few years ago, would get flooded each time it rained in Kuala Lumpur. The reason for this, in Engr. Keizrul's opinion, is because the 3000-unit housing scheme was located in a low lying area and was built on a flood plain.

'Now that we've put in a flood protection bund, a pond as well as a pumping station, they don't get flooded anymore. When Kuala Lumpur was flooded on Jun 10, they were spared.' He added, 'It is good to be able to look back and for people who live there to say they've gone through all the hardship and are now enjoying the fruits of the project.'

Dealing with floods on a regular basis may not be appealing to many. For Penang-born Engr. Keizrul, his reward comes after the completion of flood projects. He feels a sense of satisfaction knowing that he has made a difference in somebody's life and that flood victims are spared from future floods.

Engr. Keizrul's involvement with flood projects can be attributed to his personal encounter with floods when he was younger. He said, 'When I was younger, I was a flood victim. Back in

1971, Kuala Lumpur was flooded for three days. Today's floods are really nothing compared to the one back in 1971.'

He was with his family in their single storey home when floodwater started seeping in. Using old rags, they tried to stop the water from seeping in from under the door but it didn't work. When the water started to rise, the family tried to save their belongings by placing all the electrical items on a table to spare them from the floodwaters.

Engr. Keizrul said, 'But the water just kept rising. When you're in the middle of a flood, you have no idea how high the water will rise. When it eventually stopped, the resulting flood water was stagnant for one and a half days before it started to subside. Everything that had been underwater, such as the furniture and doors, was now spoiled.'

BACK TO THE PRESENT

Engr. Keizrul is a member of the Asean Federation of Engineering Organisations (AFEO). Recently, he assumed the position of President of the Institution of Engineers, Malaysia (IEM) for the Session 2007/2008. He said, 'We are the biggest professional body in the country. It was the engineers that brought Malaysia into the 21st Century. Everywhere that we are, we cannot discount the influence of the engineer's input.'

As the biggest profession in Malaysia, engineering should be a profession that is much in demand. However, according to Engr. Keizrul, the response from the public is lukewarm. He elaborated, 'During prize giving ceremonies of the (outstanding performance in SPM/STPM for year 2006) to children of IEM members who did well in their exams, I asked the children what they wanted to be. Sadly, very few wanted to be engineers. This is partly due to the fact we haven't been promoting the profession enough.'

He added, 'The other issue is, the engineer is someone who is happy to be, and this is a term used by engineers themselves, they're happy to be backroom boys. Put them in a small corner, give them a computer and they will happily do their work. You don't see engineers at the frontline, fighting for a cause or anything like that.'

Engr. Keizrul wants the situation to change. He would like to get IEM to play a bigger role in getting engineers to go into the limelight. At the same time, the professional body would also need to inform the public on what engineers do. He said, 'The time is due for us to change engineers from being nation builders to being nation movers.'

For this change to take place, these engineers need to broaden their perspective. According to Engr. Keizrul, he wants engineers to realise that there's a much bigger world outside of engineering. Currently, he believes there is too much emphasis on academics and credit hours. Ideally, the first step would include changes in the engineering education with the support of academicians.

He said, 'We cannot retreat into ourselves, we have to be part of society. Engineers have got to be more active and contribute to society.'

As a non-governmental organisation (NGO), he wants IEM to take the lead and to get its members to be more involved. He added, 'As a society, we are there to do the best for our members. At the same time, IEM is also the flag bearer for the profession. We have been organising talks and seminars geared towards improving the member's knowledge of the profession. But we must also move out and make the profession become part of society.'

Besides getting engineers to be more involved, Engr. Keizrul also wants engineers to become role models society can emulate. He said, 'When we have a national disaster like the tsunami, we hear about doctors rushing there to help, and yet, in the middle of a disaster, the first thing people need is water, shelter and sanitation. That's the engineer's area.'

He believes that the first professional to go into a disaster zone should be an engineer rather than a doctor. In the event of disasters, doctors are able to provide aid through organisations such as Mercy Malaysia and *Medecins Sans Frontieres* (Doctors without Borders). However, Engr. Keizrul pointed out that there is no similar setup for engineers.

Thus, together with IEM, he is setting up Registered Engineer for Disaster Relief, an NGO for engineers to play their role. He said, 'In the event of a disaster, let us sent engineers there, let us help the people.'

WHAT MAKES A GOOD ENGINEER?

Engr. Keizrul firmly believes that to be a good engineer, one has to be a good member of society. He said, 'An engineer should look at himself as someone who has been given this training or skill so he can make a difference in people's life. A good engineer is a person who enjoys life, who has a love for life and who wants to make a difference to society. As an engineer, we have many opportunities to make a difference.'

Those who choose to go into engineering tend to have a strong mathematics background. And Engr. Keizrul believes such people tend to more straightforward. He said, 'Engineers are logical, they expect that everything can be solved through an equation. But life is not like that. If we want engineers to move from being nation builders to being nation movers, we have to have people who can think beyond the box and who can look beyond the structure.'

When comparing local engineering graduates versus those who graduated from foreign institutions, Engr. Keizrul has noticed a marked difference in both. He said, 'Locally, we are more concerned with giving the engineers the right training, the skills and tools so they can do the job straightaway.' However, graduates from foreign institutions, for

example, those who graduated from the United States, undergo a training programme that exposes them to more than just engineering.

Engr. Keizrul added, 'Overseas, they are more concerned with building up a person's capability to find his way around. In a sense, there's a bit more spoon feeding here than there is overseas.' This is apparent when the graduates enter the industry as local graduates tend to accept what they are told, whereas overseas graduates tend to participate better in discussions.

A MESSAGE FOR YOUNG ENGINEERS

Each and every generation of engineers will doubtless have their own dreams and visions. Thus, for the whole profession to improve, Engr. Keizrul believes it is important to get feedback from the younger engineers and include that into IEM's planning. He said, 'When I was the deputy president, I chaired a committee which focused on what do we want IEM to be. The first thing I wanted was to have young engineers to be part of my committee.'

Young engineers should be groomed to be leaders of tomorrow. However, right now, they would need to face current challenges. Engr. Keizrul said, 'Unfortunately, the current system is such that when you're finally in the position to make decisions, you might be making decisions that you're happy with but might not be good for the people who are coming after you.'

This, he pointed out, is the opposite of what is happening in first world countries where they go back to the people and ask them what they want. He added, 'This is what I would like to see more in Malaysia. If I'm designing a building, I should be talking to the people who will be using the building.'

Engr. Keizrul would like to remind young engineers that the engineering programme is just a mechanism, a skill or a tool to help them through life. The strength of the engineering programme lies in the fact that it trains its graduates to look at a problem, analyse it and to look for a solution. Although these skills would come in very handy, he encourages them to use the skills they've learnt to make a difference in society.

Despite spending more than 30 years in the field of engineering, Engr. Keizrul has no regrets with his career choice. Although he admitted that he drifted into the field, he really enjoys his work which involves finding solutions to tough problems. In that case, if he was not an engineer, what career paths would he have followed?

Engr. Keizrul said, 'If I was not an engineer, I would be some kind of researcher or scientist dealing with this kind of things. If we have a problem, I want to discover the best way or design we can come up with to solve it.' ■