

From Bullock Carting to Engineering

By Zoe Phoon

IEM shows its appreciation to its sole surviving co-founder, the 96 years young Ir. Dalip Singh, whose life and times have inspired many an engineer to push the envelope.

It was both a pleasure and a pleasant surprise to meet up with Ir. Dalip Singh s/o Bahadur Singh in person. It was a pleasure because he is the only surviving co-founder of the Institution of Engineers, Malaysia (IEM) that was set up in 1959, nearly six decades ago. If its members were highly regarded even then, they are more so around the world today.

It was also a pleasant surprise because Ir. Dalip was in high spirits despite having suffered three broken ribs the day before the interview in February at his high rise residence in Bangsar, Kuala Lumpur. He appeared none the worse, not even a grimace on his face, as he sat upright, ready to begin the Q&A session. He even cracked golfing jokes, loud and clear, despite the medical condition.

"I tried to hold on to a railing to steady myself, not realising it was wobbly. So I fell," he said, recalling the incident that happened on an outing to the commercial section of Bangsar. "The doctor told me I had broken three ribs."

After the interview, he walked cautiously to the centre of the living area for a group photo session with some of his family members, three IEM officers who were paying him a courtesy call, and me.

INTERESTING CAREER PATH

Imagine how interesting it was to chat with a 96-year-young and long retired, very dedicated mechanical engineer, about how things were back then, when our nation was Malaya and before we gained independence from British rule in 1957.

Ir. Dalip's father came to Malaya from India and started bullock carting and cattle rearing enterprises. In fact, it was the Sikhs who pioneered the bullock carting industry here in the 1900s. Ir. Dalip was born here in 1919, a year he describes as an "auspicious figure".

He had primary to secondary education at the Anglo Chinese School in Ipoh, Perak. In 1935, he passed the Senior Cambridge Examination with First Grade, with exemptions in London Matric.

He recalled that it was "the big depression" at that time and jobs were hard to come by. Teachers in private schools were paid \$11 a month while clerks in government service started at \$26 a month. After Ir. Dalip left school in 1935, he worked at various odd jobs and was even a watchman once. He also had his own bullock carting business which he operated successfully until June 1936.

He was selected for a clerical post in the Perak State Clerical Service but he declined and joined the Central Railway Workshop in Sentul, Kuala Lumpur, as an apprentice

in July with a daily wage of 72 cents. "I got the technical job but my selection was overruled and I was replaced by another candidate," he said.

At around that time, he joined the Gurdwara Central Workshops as a member and participated in all its activities, never missing the Sunday "diwan" and other "jorr mela".

In 1937, he applied to the Railway Department for the post of technical apprentice. He was the only one selected for mechanical engineering from the large number of applicants. He later attended the Technical School as it was the only institution for all branches of engineering in Malaya then. He graduated with an upper class diploma in mechanical engineering and was promoted to technical assistant.

In January 1942, the Japanese Imperial Army occupied KL, so Ir. Dalip did not report for the technical assistant post. Instead, he and some colleagues helped Indian soldiers and prisoners of war collect medicines and food. Together with a few friends, he also set up a wheat-grinding mill to make atta flour for the soldiers in the compound of the Methodist Boys School near the railway quarters in Jalan Sentul.

That same year, he and a few friends from Sentul joined the First Formation of the Indian National Army (INA) as a cadet officer and was given proper military training. He later left the camp "when General Mohan Singh, who had organised the INA, did not agree with the plans of the Japanese and so was put under house arrest".

He returned to his pre-war post, this time as technical assistant to a Japanese engineer at the Sentul Railway Workshop. He built a good relationship with the engineer by doing all the calculations of the axles and springs on the wagons brought over from Java, Indonesia, "to the satisfaction" of the engineer. He encountered another stroke of "good luck" as the Japanese engineer was a rugby player and both of them played on the same team.

In 1943, he married Charanjit Kaur in Kuala Kangsar, Perak. The couple has five children who are now an economist, an arts graduate in English, a scientist, a doctor and a lawyer.



Ir. Dalip Singh

FEATURE

In early 1945, he was arrested by the Japanese Kempeitai (military police force) along with four other Railway colleagues and two from the Telecom workshop. They were accused of being "British spies" and were interrogated and tortured with beatings and water treatment.

"After the interrogations were completed, we were sent to the detention ward in Pudu Prison but we were later acquitted and discharged in June that year," he said. The Japanese surrendered a few months later that same year.

Ir. Dalip returned to his technical assistant job. Between 1947 and 1948, the government Malayanised senior positions in various departments and started training officers, engineers, surveyors and so forth to take over posts held by expatriate officers who were mostly British. As there were no suitable facilities in Malaya then for such training, especially in engineering, most of the locals had to be sent to the United Kingdom.

For the first batch, Ir. Dalip said the Railway Department handpicked two officers, one each for civil engineering and mechanical engineering. It was only in the second batch that applications were invited and a properly constituted board assembled to select suitable candidates. Fifteen applicants were shortlisted for mechanical engineering, including Ir. Dalip. Later, a Malay candidate was also picked, making two for mechanical engineering. They had to pass part 1 of the examination before they were sent overseas. Both were seconded full time from 1950 to the Technical College (now Universiti Teknologi Malaysia) which provided the facilities. They sat for the part 1 exam in 1951 and passed.

In 1952, Ir. Dalip left for England where he did practical training at British Railways and passed the part 2 and part

3 exams. He returned to Malaya in 1954 and was posted to Sentul Works as works assistant. He gradually rose from this position to district locomotive assistant, and to district locomotive superintendent (DLS) in charge of all locomotive depots in the country.

When he was the DLS in Gemas, Negri Sembilan, there was an association of engineers when Mr. J. Sharples was chairman of the National Electricity Board or NEB (Tenaga Nasional Bhd was formed in 1990 to succeed NEB). Mr. Sharples invited him to join the association as a member.

"One of the NEB association's rules was that you couldn't qualify for a superscale appointment if you are not a member of either an institution of mechanical/civil/electrical engineers in UK," said Ir. Dalip. That spurred him and a few friends including Raja Zainal Raja Suleiman and Mr. Lau Foo San, to set up a similar institution for engineers in Malaya.

"However, to be a member of this local organisation which we planned to form, you needn't be a member of any of the institutions of engineers in UK," he said.

Later, Ir. Dalip was made production engineer and in 1958, he was promoted to works manager of Sentul Works which had 2,000 employees and a budget of about RM20 million. He was the first local to take charge of the large sophisticated engineering workshops, the only one in the country at that time.

In 1962, he was promoted to chief mechanical engineer, overseeing a workforce of 5,000 and an annual budget of RM40 million. He served in this position until 1971.

In 1962, the Railway Workers' went on its biggest strike and a train was derailed north of the Johor Baru Railway Station. The driver of the breakdown crane was on strike and



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Showing UN Economic Commission for Asia and the Far East (ECAFE) members Malayan Railway Locomotives 20 watt Diesel Electrics that gave balancing problems earlier on

that made clearing the track almost impossible. So Ir. Dalip rolled up his sleeves and personally operated the 40-ton steam crane, a task he had never done before. He managed to clear the track. This was something that no other head of department would have undertaken.

In 1971, he was promoted to deputy general manager (engineering and operations) as the number 2 man to the general manager. He retired in April 1974. He recalled an incident that happened when he was about to retire. Someone was asked to “get him for a job” in a neighbouring country but Ir. Dalip’s reply was: “I have served for so long. Now I want to serve my family.”

He said he refused the job despite being offered “dangling carrots” such as a house in an upmarket location and a lot of other perks. “I just refused. That was the biggest thing I’d ever done in my working life. I didn’t comply with the organisation’s request because I felt that it would have given me a bad name,” he said.

Outside of work, Ir. Dalip said he was glad that his connection with the Gurdwara Central Workshops, now known as the Sikh Temple Sentul, spanned more than 60 years. He also spoke of his love for golf. He said: “It’s a wonderful game. You make a lot of friends and it’s a great opportunity to crack jokes. My sons are good golfers too as they started young. I was involved in the nine-hole golf course on the Sentul site, now occupied by Kuala Lumpur Performing Arts Centre (KLPaC).” He also spends a lot of time reading, especially books on history.

Outside of Sentul Works, he was asked to teach final-year mechanical engineering students at University of Malaya. He was paid \$30 an hour then.

“The way I wanted to teach, I had to prepare well for the lectures. That required me to read seven to eight books for one subject alone. I also set questions for the examinations and I refused to lower the standards,” he said. “All papers set as well as the answer papers marked by me were scrutinised very closely by an external examiner from UK.”

Ir. Dalip shared some snippets of life when Malaysia was Malaya, a time when Malayan workers could turn blue in the face in their attempts to tell their expatriate bosses that they were right based on meticulous calculations and all. Yet, the bosses refused to accept the facts. He too encountered all that but luckily, those even higher up finally acknowledged his thorough, meticulous work. He said: “That saved my career”.

So it would seem that Ir. Dalip, like pioneers in most endeavours, had “done it all”. He described his work life as “interesting” at a time when “Mat Salleh expats were in control”.



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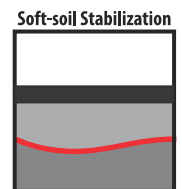
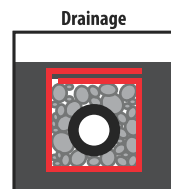
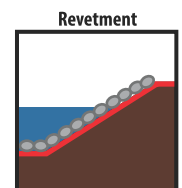
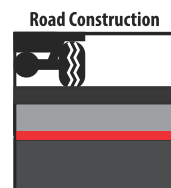
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Showing UN Economic Commission for Asia and the Far East (ECAFE) members the new methods of metal spraying in Sentul Railway Workshops to build up worn out piston rods

He relates this incident: "We bought steam locomotives of high horsepower but these gave us a lot of trouble, one by one. I wrote letters to the manufacturer with regards the problems but the British expat in charge didn't send my letters out. The troubles continued and we were suffering. I investigated the problems and finally, managed to convince him that the locomotives were not compatible with the work we were doing before he finally sent the letters out."

He also recalled how, at a conference in the UK in 1962, he proved to the people concerned that the locomotives were problematic but they wouldn't accept any of it. "I ended up telling them 'the locomotives are yours, but the problems are mine!'. It was only later that they accepted what we'd proved and reimbursed us £1,000 per locomotive and £1,500 per locomotive for the modifications. We were confident we could do it. That was a big feather in my cap," he said with pride.

But despite all this, he said, many local engineers in Malaya and their expat counterparts became good friends.

ENGINEERING IN MALAYA THROUGH THE EYES OF OUR 1ST PRIME MINISTER, TUNKU ABDUL RAHMAN PUTRA AL HAJ

Here are glimpses into the state of engineering in the country in the early years and how far it has since advanced. IEM was formed in 1959 and the inaugural dinner was held in Selangor Club in Kuala Lumpur with the first Prime Minister, Tunku Abdul Rahman Putra Al Haj, as guest of honour.

In his speech, Tunku said that "wherever you look, large new buildings loom before you. New roads, canals and bridges spring into being; everywhere engineering skills are displayed with a high standard of work".

He also spoke of being the guest of honour at a private luncheon in London, hosted by the three combined Institutions of Civil, Mechanical and Electrical Engineers. "They invited me to this luncheon because each of the institutions took a deep interest in what Malaya was doing and building and in the general trend of development projects, particularly on the technical side," said Tunku.

Back home, giving yet another glimpse into the then newly formed IEM, the Prime Minister related how "we have now built a small house at the end of a new road which we surveyed and constructed ourselves. The house is not big but at least we have our own and the standard of construction is by no means low. In other words, we now have a national institution, the entry qualification to which is no lower than the standard accepted in this country at the present time. The membership stands at 60".



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Members of the first IEM council were Tuan Hj. Yusoff Ibrahim (President), Raja Zainal Raja Suleiman (Vice President), Lau Foo San (Honorary Secretary) and Aw Yang Hong Chiew (Honorary Treasurer). Ir. Dalip, who represented the mechanical engineers, was one of the council members. Others included Chew Kam Pok, Chew Kit Lin, Chin Fung Kee and Tong Kay Chor.

Today, according to IEM President Dato' Ir. Lim Chow Hock, the Institution, which has been holding the fort for Malaysian engineers for more than half a century, has made a name for its 40,208 members not just within Southeast Asia but also around the world. As always, IEM strives to ensure that

the education, training and qualifying standard for professional engineers are on par with the world's best.

As the saying goes, a journey of a thousand miles begins with a single step. For IEM, that single step began around the time that Malaya gained independence from the British in 1957. Its co-founders, including Ir. Dalip, came up with the idea to establish an institution for engineers to promote and advance the science and profession of engineering in all of its disciplines in the country, similar to what the engineers had done in the UK. The rest, as they say, is IEM's history – and Dalip's history – still being written. ■

ERRATA

Error on **FEATURE – IEM Employment Survey 2014 Report** published on page 18 to page 24 in **JURUTERA March 2016** issue.

We wish to attach the corrected Figure 6 and the missing captions from Figure 7 to Figure 22.

Figure 6: Current Employment Sector

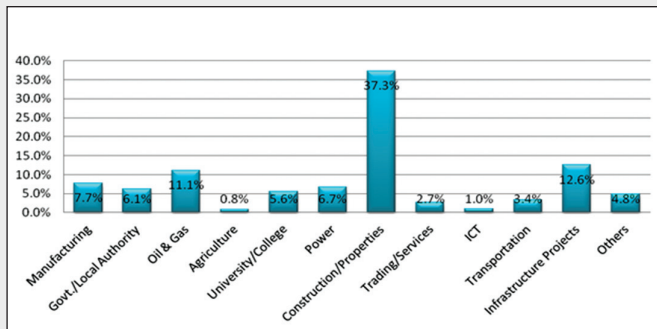


Figure 7: Total response = 99.5%

Figure 8: Reasons of Choosing Engineering

Figure 9: Annual Remuneration for Year 2002, 2004, 2007, 2008 and 2014

Figure 10: Annual Remuneration to Years of Experience by Gender for Working Engineers/Corporate Members

Figure 11: Annual Remuneration to Years of Experience by Qualification for Working Engineers/Corporate Members

Figure 12: Annual Remuneration to Years of Experience by Qualification for Graduate Engineers

Figure 13: Annual Remuneration to Years of Experience by Employment Status for Working Engineers/Corporate Members

Figure 14: Annual Remuneration to Years of Experience by Employment Status for Graduate Engineers

Figure 15: Annual Remuneration to Years of Experience by Location of Employment for Working Engineers/Corporate Members

Figure 16: Annual Remuneration to Years of Experience by Location of Employment Graduate Engineers

Figure 17: Response to Progression Rate of Career

Figure 19: Response to Universities Programme

Figure 20: Green Building Involvement/Contribution and Awareness

Figure 21: Achievement of the Purposed Green Technology

Figure 22: Green Building Technology

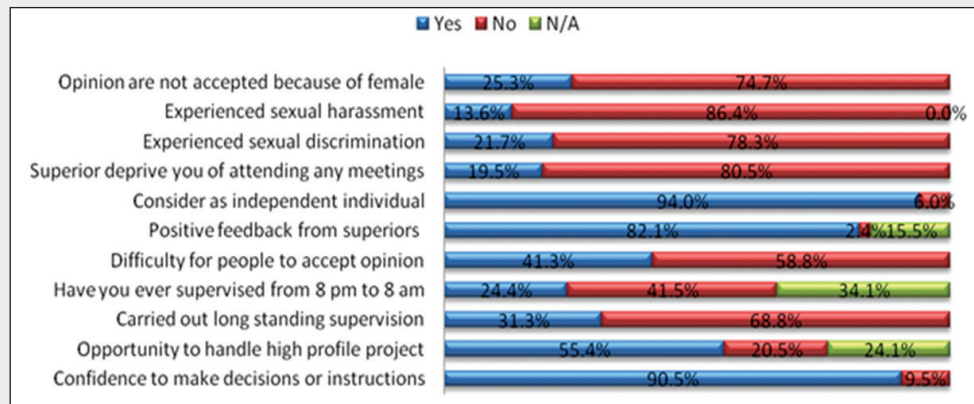


Figure 18: Discrimination to Woman Engineers

The error is much regretted.