

# Too much work for too few engineers

## Failure to retain experienced professionals, and school system, largely to blame for shortage

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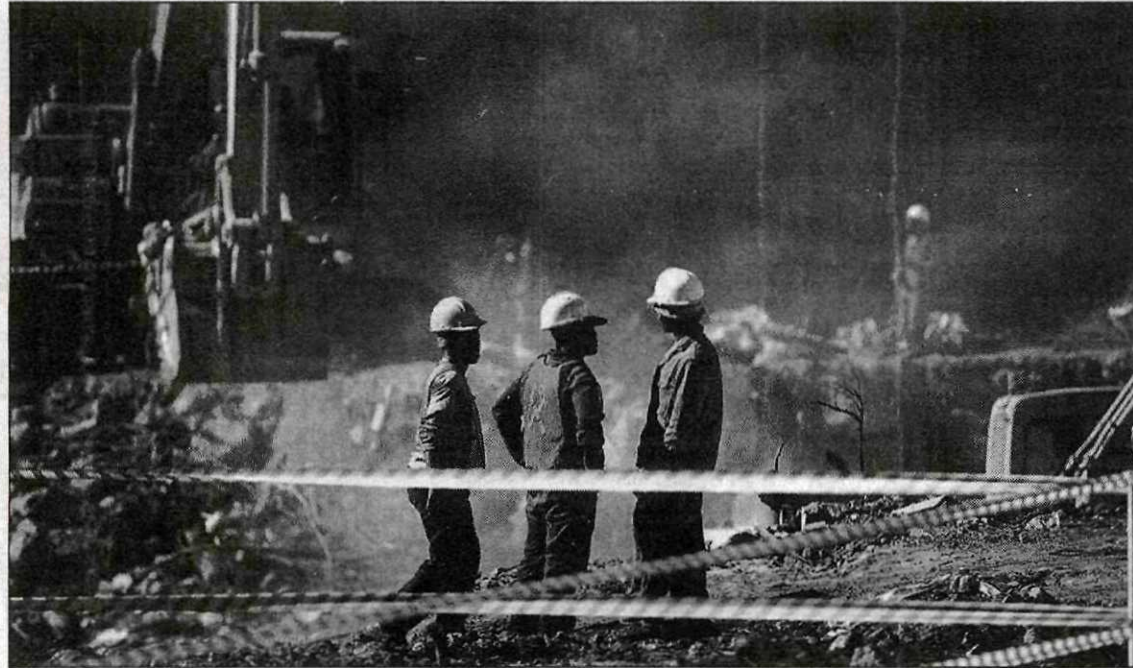
SA's severe shortage of engineering professionals is putting a strain on the country's infrastructure growth programme, according to research by the Human Sciences Research Council (HSRC) published this week.

The report supports what similar studies have indicated: that SA is facing a chronic shortage of qualified and competent professionals such as engineers following a surge in investment in infrastructure development in recent years.

Interestingly, the HSRC research found that a good number of local engineers ended up in the financial and business services sectors, where they hardly used their skills, and not in infrastructure development where they were desperately needed.

"The fact that a lot of our municipalities do not have a single technician or engineer indicates that we have a very serious problem. Municipalities are supposed to be at the forefront of delivering services and infrastructure," said Joan Roodt, one of the researchers.

The study shows that SA had an annual average growth rate over the last 5-10 years of 18,7% in the employment of engineering professionals in the financial sector. This was compared with very small



**SKILLS SHORTAGE:** SA has too few engineers for handling big construction projects, and this is putting a strain on the country's infrastructure development programme. Picture: MARIANNE SCHWANKART

growth in the transport, storage and communication sector (1,2%), community, social and personal services (1,7%), and slightly better growth in mining and quarrying (3,4%), electricity, gas and water supply (3,6%) and wholesale and retail (3,7%).

Despite the demand for engineer-

ing skills in construction, employment in this sector grew by only 4%.

Many experienced engineers also left the country because "of a combination of crime, transformation policies and the worldwide demand for engineers", Roodt said.

She said that while SA had

enjoyed positive growth in the numbers of engineers produced in the past 10 years, the main problem was that the country was not producing them fast enough to meet demand.

"SA has only 473 engineers per million people while Japan, which co-hosted the World Cup in 2002 along

with South Korea, has 3 306 per million. Even compared with other developing countries, SA is vastly undersupplied. With the recent big focus on infrastructure, we have to rely on foreign engineers."

Roodt said the country's failure to keep experienced engineers for training newcomers, and the schooling system, were largely to blame.

"There is a small pool of matriculants to choose from, and that is where the whole problem starts. We need to increase that pool from where engineers can be trained, and the country hasn't done well in that regard," she said.

The study notes that at tertiary level, about 60% of engineering students passed their degrees. "Such throughput or pass rate at universities is also a problem, and this is not good enough to meet the high demand," Roodt said.

She highlighted the lack of experiential training for young graduates. This was because most companies did not have either the capacity or the time for mentorship programmes.

Roodt blamed the lack of mentors on transformation policies that had led to the departure of experienced white professionals. Many had left as there was a great demand for engineering skills internationally.

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