Local infrastructure impacted on by skills deficit, says Saice

26th September 2017

By: Anine Kilian
Contributing Editor Online

A lack of skilled professionals and maintenance has emerged as among the major issues facing most of South Africa's infrastructure sectors, according to the South African Institution of Civil Engineering's (Saice's) third Infrastructure Report Card (IRC) for South Africa.

"Efficient maintenance of infrastructure is critical. If infrastructure is mismanaged owing to a lack of maintenance, the functional life span will decline," noted the institute.

According to the report, the lives of people in smaller towns are impacted on when, for example, water purification works and sewage plants are in disrepair, as residents are exposed to health risks.

This situation arises when municipalities have no, or inexperienced, civil engineering practitioners.

The report further notes that, in the global economy, the state of a nation's infrastructure provides one of the best indicators of its likely prosperity. For South Africa, as a developing nation, its engagement in the global economy is either advanced or constrained by the state of its infrastructure capabilities.

Saice's current IRC, following on the initial 2006 and the follow up 2011 IRC's, extended the sectors it assessed to ten, including 29 subsectors.

The sectors include water supply and distribution, electricity, roads and rail, schools and universities, and sanitation management.

The overall grade awarded for the state of South Africa's infrastructure is D+.

"I believe we are one of the few institutions that carries out this particular measuring of infrastructure. We are helping government assess itself in terms of how it is maintaining and delivering infrastructure and how to improve infrastructure operations," noted CEO **Manglin Pillay**.

SANITATION

The report notes that provisional figures for 2016 indicate that, although the percentage of households without sanitation provision is declining owing to population growth, the absolute number of the unserved has remained relatively consistent since 1994, at about four-million households.

"If the sanitation backlog is to be eradicated, then additional finances combined with appropriate project management skills and effort will be required," the report says.

It further highlights that political pressure to provide full waterborne sanitation as a basic level of sanitation is severely impacting the cost of service provision in parts of the country, as well as slowing down service delivery.

"Waterborne services cannot be provided effectively unless there is adequate and reliable water supply, so further investment in that dimension will often be wasted and the untreated wastewater crisis will get worse."

ROAD & RAIL

The condition of South Africa's 750 000 km of road network, which includes approximately 17.6% of unproclaimed roads, remains variable in nature, both between spheres of government and geographical areas.

"At one end of the spectrum, the condition of the primary 21 304 km of intercity road network is, and has for several decades been, very good. The national roads however, do not achieve an A grading because of the additional 5 233 km of provincial roads incorporated into its network during the past few years."

A large proportion of the national road network is older than the 20-year theoretical design life, which reflects the quality of roads built in the past, as well as the road maintenance carried out by the South African National Roads Agency.

Currently, 11% of South Africa's roads are in poor to very poor surface condition.
South Africa's rail environment, meanwhile, can be divided into two components; the freight network and passenger rail networks.
State-owned Transnet has allocated R201-billion between 2013 and 2019 to increase rail carrying capacity and cargo volumes through the refurbishment of existing infrastructure, namely rail, signalling, depots, locomotives and rolling stock, and upgrading of rail infrastructure.
"This large spend is an indication of a backlog in rail renewal and upgrading, and needs to align with the anticipated 30-year demand forecasts for ports. The increase in funding allocation over the past five years has seen increased volumes in freight rail," the report notes.
The Passenger Rail Agency of South Africa has embarked on a R123-billion rolling stock acquisition programme over the next 20 years.
This includes the establishment of a local manufacturing facility, and a spares and maintenance contract has been entered for the next 18 years, indicating the seriousness of ensuring continuous proper maintenance.

ELECTRICITY

The electricity generation mix continues to be dominated by coal, with nuclear at 6% and gas and hydropower at 4%.
The report points out that the Department of Energy hopes to reduce the reliance on coal to 46% and increase the role of renewable energy to 21%, and nuclear energy to 13%, with both gas and hydropower generation increasing to 11%.
"To realise the targets set out in this vision, government would need to interact more with independent power producers to increase South Africa's clean energy and veer off the dirty energy pathway."

SAICE Infrastructure Report Card

http://saice.org.za/wp-content/uploads/2017/09/SAICE-IRC-2017.pdf

SAICE website; www.saice.org.za