The South African Institution of Civil Engineering's (SAICE) latest publication ‘Numbers & Needs in local government: Civil engineering the critical profession for service delivery’ by Allyson Lawless was launched at SAICE House in Midrand last night. (26th November 2007). This document covers extensive research on the challenges of service delivery in local government and the suggested interventions that will effect a turnaround, which are both feasible and achievable.

Lawless said, “There is no alternative for South Africa but to build a strong third tier of government local government.”

According to Lawless South Africa has a limited window of opportunity of five to possibly ten years to turn around the skills decline and transfer expertise. This period relates to the fact that the majority of experienced civil engineering professionals are in their late fifties and older.

South Africa must harness their expertise to transfer skills to the younger generation whilst they are still active, able and willing. Innovation and thinking out-of-the-box will be required.

South Africa's economy and the quality of life of its citizens depend on the supply and efficient management of infrastructure. The bulk of the infrastructure identified in the Millennium Development Goals (MDG) is the domain of local government. At the heart of service delivery is the civil engineering profession, which plays a pivotal role in creating, operating and maintaining infrastructure.

Local government carries the responsibility for ensuring sustainable and efficient water supply, sanitation, roads, electricity, waste disposal, health facilities, which are only achievable with appropriate engineering skills in place. Where there is no potable water or where systems malfunction, people are at risk of contracting waterborne diseases, such as cholera, dysentery and typhoid. Increasingly communities are demonstrating their frustration with insufficient and inefficient delivery of services in many areas.

Viable local government is achievable, but strategies and capacities are required to increase income, reduce losses, root out failures and ensure that delivery and growth go hand-in-hand.

Lawless provides sets of practical short-, medium- and long-term interventions, which should be initiated immediately. To achieve this she has created a model of three parallel streams of activities, including a turnaround team in engineering departments, to develop plans and grow capacity. They will systematically work through every activity, system and process to identify gaps and rebuild systems, procedures and capacity in local government. Lawless believes that the preoccupation with restructuring should be replaced with a determination to rebuild technical structures. She says that the zoom-in and zoom-out short term support currently being offered, whilst necessary to address burning issues, does little to build the long term sustainability of local government.

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Lawless offers an overview of local government, discusses the past and present, and shares ideas for the future.

**Numbers**
The status of civil engineering staff in local government was estimated to be between 1 300 and 1 400, indicating a nett loss of 70 to 90 per year since the late eighties. These civil engineering professionals are serving a population of 47 million or more. This means an average of less than three civil engineering staff per 100 000, a significant drop from the 21+ serving towns and cities in the previous dispensation. The load on those remaining is excessive. If allowed to continue, service delivery will all but come to a standstill.

**Civil engineer per population group**
In terms of the number of households per technical staff it has been found that at least one civil engineering professional is needed for every 4 000 to 5 000 households, thus implying that the current numbers should be more than doubled. A series of formulae are offered to allow municipalities to determine the level of civil engineering staff they should be striving towards. For example a municipality with 200 000 households would need at least 40 civil engineering staff. Even in a small municipality of 2 500 households, at least one civil engineering professional is required to deal with the day-to-day technical problems that arise, supervise routine maintenance, provide planning input and control development projects.

**The environment**
For various reasons experienced engineers continue to leave for the private sector or even emigrate. Of concern are the various bottlenecks, which have arisen due to the dominance in decision-making of support departments. Communities do not toyi-toyi because the finance, HR, Local Economic Development or other support departments are not performing, but rather because service delivery has failed largely as the result of inadequate decision-making, processes, systems and technical capacity to deliver them.

South Africa cannot afford to find itself in the position of the USA in the late eighties and early nineties when they reported: “We have become so obsessed with dictating how things should be done regulating the process, controlling the inputs that we have ignored the outcomes, the results!”

Skills, leadership and a turnaround strategy are urgently required to rectify the situation.

Numerous examples outline what can go wrong when there is insufficient capacity, expertise or experience to control development and manage infrastructure. Intended to guide leaders, the bulk of the book focuses on the required competencies, rebuilding the skills base and encouraging local government to look at innovative technical, financial and management solutions to build viable organisations. Offering insight from extensive international research and outlining weaknesses in many modern systems, players are encouraged to develop a uniquely South African model for local government.

On the issue of sustainability, Lawless lists long-term planning, the challenge of leadership and the need for authority as key areas which require attention.

**Planning**
Long-term plans must be developed for a 10- to 20-year horizon to ensure sustainability. The preparation of Integrated Development Plans (IDPs) without the long-term view invariably results in local services being provided for which there are inadequate bulk supplies, systems or capacity for long-term sustainability.

**Political leadership**
Local government leadership requires a paradigm shift from ideological agendas to sustainable service delivery as the overriding objective. This requires sound business practice including delegation of not only responsibility and accountability but authority to those tasked with delivery. Fundamental restructuring of the relationship between Councils and Administration is essential, i.e. uncoupling the business of local government from the politics of local government.

**Administrative leadership**
Municipal managers should be visionary leaders with a successful track record in running substantial
organisations and should be afforded more autonomy in terms of selecting senior staff and managing the administration.

Essentially local government is an engineering business that stands or falls by the quality of its engineering services. Senior civil engineers being some of the most highly qualified and experienced staff in the municipality and critical to service delivery must once again be part of the decision making process. A post of chief engineer should be created. Just as the municipal manager is responsible for the overall functioning of the administration, and the chief financial officer for the management of finance, the chief engineer should take responsibility for and guide service delivery. The chief engineer should attend council meetings to explain and motivate proposals and give advice when technical matters are being debated. The chief engineer must be an experienced, registered civil engineering professional with a sound track record.

Attraction, retention and employment equity
Public sector employers require knowledgeable staff to shape policy and guide development. Hence there is a clear need for experience. Contributing to the equity debate Lawless explains that the number of civil engineering staff in 1994 was already inadequate to service the entire population. By applying equity targets across the board means that only a small subset of the overall civil engineering capacity in South Africa can be harnessed, to the detriment of service delivery and ultimately, the people. Since transformation through tertiary institutions only picked up significant pace by the late nineties, Lawless recommends that different targets be applied for different age groups and levels of experience.

Technical staff needs to be attracted and retained regardless of race, age or gender as they are the custodians of civil engineering knowledge in the country. Furthermore, removing seniors prematurely will deny young people entering local government their right to receive adequate workplace training.

Salaries and an enabling environment are critical areas to be considered when developing a retention strategy.

A 'Marshall Plan'
A 'Marshall Plan' is required to rebuild adequate numbers of artisans, operators, civil and electrical engineers, town and regional planners, property valuers, building inspectors and laboratory technicians to name some of the key skills. This will require:

- municipalities to step up technical appointments and attract as many back into the sector as possible
- the public sector to offer and coordinate support and set conditions towards sustainability
- deployment of students and graduates on long-term workplace training contracts
- harnessing professional bodies to mobilise available or retired skills and to advise on professional training
- consultants to second experienced municipal staff to run departments and rebuild internal capacity
- in some instances, an 'adopt-a-town' strategy whereby the private sector is appointed on a turnkey basis to address backlogs, refurbish and rebuild long-term structures, systems and capacity per municipality

Conclusion
The time for talking is over. Practical solutions are offered to address the numbers and needs. Leadership needs to review current policies and approaches in local government, which at present are not achieving the desired improvement in living conditions and needs to drive the required changes. However, turnaround strategies cannot simply be mechanistic. Team spirit and buy-in are critical. The divides of politics, age, gender, race and sector must be put behind us, and all must be harnessed and encouraged to work together for the greater good. Said Lawless, “Let us extend the spirit of Ubuntu and work together to help ALL South Africans to achieve their dream of living in dignity!”

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