

SAICE_ICE : 2ND MIDDLE EAST & AFRICA CONVENTION

SAICE STRATEGY and INTERNATIONAL COOPERATION

Good morning The President of ICE, Prof Paul Jowitt and distinguished guests and delegates. Year 2009 has been a mixed year for the South African and greater African family. The cold chill of the world recession finally brought realism to many of us. Some plans had to be put on hold but the vision of ensuring that we create a platform steeped in traditional values still lives on and must continue to do so. We must leave a legacy that embraces all – “improving the quality of Life”. We hope that 2010 brings some respite and allows us to continue our efforts.

I will endeavour, during this time, to describe how SAICE’s strategy addresses global cooperation at multi-levels. Any strategy must recognise and understand its constituency’s needs and the role they wish to play. It must recognize its relevance and sphere of influence. Furthermore, the strategy must address present as well as future events, even if current members do not derive direct benefit but have moral and social responsibilities. With that in mind, I will now summarise SAICE’s strategy.

The strategic plan is founded on three pillars that capture the golden threads of the past and embraces the corner stone of the Institution. It looks to the needs of the institution, environment and society. It is envisaged that these are simple building blocks that will form the basis of SAICE’s strategic plan. It embodies the call for the engineer to be forthright and virtuous in his/her societal position.

The **Members Pillar** examines and defines benefits which accrue to individual members and to the members collectively. This is considered paramount as this keeps the strategic plan in line with the vision of the institution. SAICE should assist members in attaining career fulfillment and should therefore also provide the tools to get there. Career fulfillment is not a destination but a lifelong journey.

Environmental Sustainability & Social Responsibility Pillar should focus on the role civil engineering can play to improve the conditions of humankind; to strive for betterment of the bio-physical environment through the limitation or prevention of further deterioration; and to ensure economic sustainability.

Institution Relevance Pillar must focus on the long-term viability, relevance and influence of SAICE.

So what are the keys aspects?

- S** **Sustainability – The protector**
- A** **Advisor to society**
- I** **Innovation – Technological advancement**
- C** **Capacity building**
- E** **Enabler - integrator**

Sustainability

The ever increasing need for energy has lead to increased levels of CO₂ in the atmosphere. The consequential global and climatic changes have lead to many natural disasters. What does the meltdown of our cold caps means to the rise in water levels of our coastal regions and the implications for our approach to engineering and design considerations? How does Africa

approach these issues now and the imminent future? For engineers to understand the sustainable development that we are responsible for, there are numerous definitions used by many to describe sustainability but the one I subscribe to and the one engineers can relate to, is : “... Development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. This definition has been adopted by FIDIC.

“PLANET ENGINEERING” is an initiative that SAICE will embark upon as an awareness campaign to engineers, decision makers, politicians and the public that we face now to prepare our future generations to exist harmoniously.

- The lack of legislation governing and promoting low carbon developments and efficient resource usage.
- Technology advancement and research required to ensure sustainability.

Advisor to Society

As a Voluntary Association we have a moral obligation and role to serve society. We are regarded as an organization without vested financial interests and therefore are able to purport views that benefit society at large. We have a powerful platform through which we must maintain our moral high ground to ensure that our efforts to promote correct and appropriate policy and legislation is heard and heeded. We must take time ourselves to understand our value to society. We must ensure and explain to all, especially those who are responsible for making key decisions; the value of providing clean water, sanitation, housing and building infrastructure that’s fulfills basic human needs of society. We must transform the mindsets of others to propagate the right message for all to understand. Just like doctors provide medicine to the sick, we engineers provide the fundamentals of human life sustenance: clean water and access to sanitation. These are essential needs of Africa.

SAICE is embarking on putting out an Infrastructure report card. The previous one in 2006 was received at first by many, as criticism of personal performance but soon realized that this was aimed at informing public, private sector and our decision-makers of the condition of our infrastructure. It was an awareness campaign which achieved our goals – viz. publicizing facts to the public. The report card is due for publication in August 2010; post World Cup 2010, with a Report card bulletin being published in April 2010. This is one of the instruments that SAICE will use to get the message spread. SAICE through its involvement and engagement with its counterparts in Africa intend transporting these ideas into Africa.

SAICE will continue to make commentary on key legislation that affects society and the ability of our members to perform their work. Our engagement at ministerial levels is being welcomed and government has constructively embraced the idea of private sector input. SAICE will continue to engage and strengthen the debate on key imperatives for our institution.

Innovation

Creation of technology to meet future demands cannot be done in isolation and therefore global collaboration is essential to pool our combined resources to address this issue. Our northern hemisphere counterparts have historically been better equipped to examine futuristic demands that are placed on our diminishing non replenishable natural resources. To this end SAICE have signed various Cooperation agreements with sister organizations. The SAICE – ICE cooperation agreement is one such agreement that allows us to share codes of practice, collaborate on research, capacity building and other initiatives that benefit the global industry. Our engagement with other African countries through the African Engineers Forum, to which SAICE acts as secretariat, allows African engineers to place their needs at the table. Through SAICE's continued

efforts WFEO have concentrated their efforts largely in the developing countries and many projects in Africa.

Capacity building

Addressing our quality and appropriateness of entrants into higher education is vital. SAICE alone should not take up this challenge but the entire engineering fraternity. There are inappropriate, un-researched consequences that have affected appropriately skilled intake into universities and technical colleges. By way of an example, some three years ago a decision to allow geometry to become an optional subject, resulted in many students qualifying to enroll into engineering higher education institutions, only to discover that without geometry, as an essential learning tool, the student is faced with tremendous difficulties understanding what is deemed basic. It then rests with the institution to undertake extra learning preparatory programmes to enable students to be brought up to speed. Therefore it is essential that the involvement of academics and practitioners, engineers in public and private practice, be engaged by our decision makers in government, in formulating and putting together the appropriate curricula. The recipients of the trained resource that ultimately puts to use these resources must be part of the development process. I believe that this vital link has been neglected in the past.

We have, however, produced some 10 000 to 12 000 untrained technicians over the last few years. Our inability to provide training, post academic qualification is evident in the number of these unemployed resources. The past years of enormous construction activity and economic upsurge did not yield all the positive training that ought to have been realized. I believe much of the opportunity to train and build future capacity was squandered. As Voluntary Associations we have to work with the various structures available and pool and integrate our efforts to locate and provide training for the desired objectives. Statutory bodies such as CBE, CIDB, the various SETAS, government ministries with their programmes of capacitating and

training, must be seen as complementary agents and partners in our quest for Capacity Building.

Enabler

A wise person once said “... Our role is not to see the future but to enable it...” The role of the new age engineer has changed dramatically over the last two decades. At a recent ASCE conference, one of the themes purported was that the engineer must transform himself – “FROM BUILDER TO INTEGRATOR”. This is certainly very applicable to us here in Africa. The engineer must be a messenger and an integrator. At SAICE we strongly believe that collaborating and integrating our collective efforts will have a significantly greater impact on our current industry issues. We will as part of our strategic actions, resuscitate more engagement with other Institutions and organizations in our industry. We believe that the likes of CESA, SAFCEC, SABBACO, IMESA to name but a few must get together too jointly address the issues that ail the built environment industry.

Africa’s number one disease that robs the African people from basic needs to survive is corruption. CESA’s roll-out of their Business Integrity Management System is something much required and desired today. We should be driving this deeper into Africa. SAICE supports initiatives against corruption. As trusted advisors to society we should use our position to speak out against this unwanted practice. Recently SAICE launched its own Code of Ethics to guide its members.

SAICE’s International Cooperation

I believe that there are three levels of cooperation distinguished by the level one can influence and the reach of such influence

Government to Government

1. Legislation: AFRICA’s lack of progressive legislation, not because of ignorance or need, can be bolstered by that of western hemisphere

counterparts. This could be far reaching into areas that will mutually benefit now and the future. Environmental management policies, non-replenishable natural resources containment, depleting or scarce water resources, health policies to address dreaded diseases. Cholera and HIV related illnesses, but to name a few

2. Funding and programme management: large scale programmes whether it be infrastructure build or distribution of food or health care required experience and systems developed through past projects. These can be supplied with local input by the international community of engineers.
3. Joint Technology Development Programmes: These programmes can only be driven by the highest levels of influence and that is at a political level. Research and development that benefit the world's community mainly in health, education and sustainability.

Institution to Institution

There are many reasons why SAICE interacts with related bodies. As the voice of the civil engineering profession in South Africa, the Institution has a responsibility not only to represent the interests of every one of its approximately 9 000 members, but also to promote the value that civil engineering adds to the economy and the smooth running of the country, and thereby to the daily lives of communities at large, and to that of individual citizens.

One could summarise the reasons why such interaction is so valuable:

- An understanding of the role of the civil engineering profession promotes informed decision-making at all levels of interaction and the sharing of common issues

- Knowledge and insight gained through interaction encourage appropriate membership groupings, and eventual professional registration for individuals, which have long-term positive effects for the engineering profession in particular, and for the country and its citizens in general.
- Meaningful interaction results in the integration of effort and the alignment of objectives, which in turn broaden the skills and knowledge base, facilitating capacity building, again with obvious benefits to the country as a whole.
- Interaction on an international level exposes the Institution to global thinking, while at the same time offering SAICE the opportunity to contribute to the global debate. It also ensures that our members are enabled to practise engineering across a wide front, thereby gaining valuable experience that can be ploughed back into our own country and our own continent. What should also not be underestimated is that *our* experience furnishes us with extremely valuable knowledge that we can share with and contribute towards other African countries and other developing countries elsewhere in the world. The value of our contribution, however, goes beyond developing countries and is highly appreciated in developed countries with similar problems and challenges.

SAICE is an offspring of the venerable and well respected ICE that was founded in 1903.

It would be fair to say that the links with the mother were retained over the past 107 years, albeit it obviously fluctuated due to various circumstances.

The 1990 plan also included an item in terms of which, SAICE embarked on a campaign to get ECSA to engage with ICE to establish an agreement by means of which all RSA Civil engineering qualifications and professional status would be recognized. The fact that ICE facilitated and agreed, led to several achievements beyond that.

Both ICE and ASCE indicated their intentions and wishes to engage with SAICE after the 1994 change of Government and signed agreements of cooperation shortly after April 1994.

The Act of 2000 and its prerequisites regarding the current CPD and registration processes are direct results of requirements by ICE in terms of which reciprocity was granted. In turn this led to ECSA per se The South African engineering profession to get recognition by means of the Washington, Sydney and Dublin Accords as well as the Engineers Mobility Forum.

What are the current liaison interactions?

- ICE Cooperation
- International accords, including the Washington Accord and the Engineers Mobility Forum.
- ASCE memorandum of understanding.
- Africa Engineers Forum
- AEF – WFEO – SAICE – attendance of the WFEO Africa Engineers Day in Tunis.
- UNESCO – SAICE: execution of programmes in the form of AEF workshops aimed at issues like “Engineers and the Alleviation of Poverty”.
- IStructE (Institution of Structural Engineers) – Joint Division
- Engineers Against Poverty – cooperation agreement
- RedR International & RedR Southern Africa - closer links between SAICE and RedR South Africa are being explored.

With Copenhagen in the limelight, it is very difficult not to allude to the difficulties faced by developing countries. Dr Brian Bruce, later in the day is going to allude to AFRICA as being the neglected continent. Some will say that many foreign multi-nationals have derived benefit from AFRICA but must be questioned about their commitment to leaving sustainable infrastructure behind which is basic in promoting the improvement of the quality of life of AFRICA's inhabitants. Our role in ensuring that AFRICA receives its rightful attention and due consideration is vital.

In a world that suffers from huge disparities due to varying progress in developing and developed countries, it is often the case that the "haves" tend to have a louder voice than the "have-nots". The African continent is often not heard or often does not have the platform to speak of its wants and needs.

In trying to portray a backdrop of AFRICA, I do not mean to paint a despairing picture but those who have travelled in AFRICA will understand the AFRICAN predicament.

Africa has always been the focus of the world's attention – its mystique, natural beauty and off-course its natural wealth in minerals and metals amongst others, presented a lucrative opportunities for many. This attention brought new cultures, diverse needs and a new thinking and changed the reflection of urbanization within the African landscape. This wave of interest resulted in the beginning of influences and the settling-in of the developed world and its cultures.

Western civilization's great industrialization process brought about huge energy demands and the need for natural resources such as coal and oil became increasingly a commodity that Africa provided in abundance. Africa's own growth spurred by its need to provide basic humanitarian support and services for its people demanded a response for its own industrialization. All of this demanded and dictated the need to build Africa's engineering capacity and skill base. Where to begin was the question that still plagues us. The skill set that the industrialists sought is different to that required for social-economic needs, health provisions,

basic water and sanitation, and education which infrastructure development required. In developing countries in Africa, the primary factor in technology choice for new infrastructure is the growing need of the population. The choice of newer technology versus conventional design, often leads to the obvious choice of conventional design which often subscribes to less sustainable solutions. A balance must be sought!!

Africa was then and still is highly dependent for engineering skills from external sources. The little expertise that was gained largely came from the Academia whom our governments depended upon for their trusted advice on infrastructure development. The actual implementation of such plans was often performed by external engineers and capacity. The truth is, we did not use the opportunity to skill up our engineers, train our builders, and develop artisans to operate and maintain our industrial plants. As a result we became highly dependent and in some cases almost beholden to external multi-nationals to provide life-long support to these plants. AFRICA requires itself to look ahead of becoming self sustainable for its basic needs with specialist input from developed counterparts.

So what is the future challenges facing Africa's engineers? What are our plans yielding and how can we align and integrate key imperatives from both perspectives and ensure that these are on our radar screen? Because many of the considerations that are viewed when addressing infrastructure development are different from that of western counterparts: What are the priorities?

- Life preservation providing nutrition and sustenance versus sustainable development that do not address the immediate life / doom scenario.
- Approach to engineering –social engineering versus the pure brick and mortar approach
- When and where issues: What has to be done first?
- Prioritization of considerations : sustainability issues versus life needs

- Technology utilization – high versus manual labour intensive methods

Conclusion

In conclusion we must transform to play roles demanded by society and must act as trusted advisors to society, striving to meet our social and moral obligations. We must jointly be the innovators providing new technology to counter the detrimental effects of the depletion of our natural resources. We must be the mentors and teachers to our successors who will be entrusted to take on the cudgels of the civil engineer and lastly the enabler who will strive to create a platform for all to participate and use this effectively to integrate our efforts towards common interests and mutual benefit in our built environment industry.

In a nutshell, ladies and gentlemen, we must be seen as people embracing and understanding AFRICA's needs and not deciding what AFRICA's needs are. We must prioritise jointly and prepare to build a legacy that will resist times of hardship.