

International Society for Soil Mechanics and Geotechnical Engineering

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Message to ISSMGE from the Vice President for Africa Professor Samuel Uche Ejezie



Dear professional colleagues of the geotechnical engineering family. My message is intended to sound like an echo reverberating from a Region where geotechnical engineering problems abound, yet the general world-wide perception remains that the profession is relatively not well-developed here. I have therefore programmed this message to cover the report of activities within the region both in the recent past and the present, as well as highlights of our key thrusts for the future.

On my assumption of office in Alexandria last year, I did pledge to work towards closer cooperation among African Member Societies of ISSMGE from North to South and from East to

West (Fig. 1). This is with a view to integrating geotechnical engineering activities around the continent so that solutions to geotechnical engineering problems experienced in many parts of the region may be found within Africa itself. To demonstrate my continued commitment to this pledge, I made it a point of duty to participate in every event being organised by any African Member Society of ISSMGE. In the same vein I strongly encouraged our African members to join me in this crusade since it is for the good of our region. In fact, I have continued to advocate that geotechnical engineering should be practised in Africa without borders so that we can together find local solutions to our ground engineering problems. The benefits of this cooperation have started manifesting, judging from the wide geographical spread of participants recorded in events organised by member societies in the Region in recent times. To me, the era of using models developed for soils of other climatic zones to solve problems related to the engineering behaviour of African soils is over. We have to work together to develop appropriate modes for soils of Africa.

Activities within the Region

In the distant past, Member Societies of African Region were generally known for relatively low level of activity. Of recent, however, that appears to be changing.

Message to ISSMGE from the Vice President (continued)

Professor Samuel Uche Ejezie

The last international quadrennial conference of ISSMGE in Alexandria, Egypt, apparently re-awakened the hitherto dormant national member societies. To date, at least eleven member societies exist in the Region though at different levels of activity. They include South Africa, Tunisia, Egypt, Nigeria, Ghana, Mozambique, CTGA (Comité Transnational des Géotechniciens d'Afrique), Sudan, Morocco, Libya, Algeria, and Kenya. We are currently making serious efforts to re-energise those of them that are considered to be less active (or inactive).



Figure 1. Map of Africa

Since my assumption of office as Vice-President for Africa about one year ago, some of the member societies have carried out various activities which in some cases were international in scope. In fact, landmark Geotechnical Engineering events by member societies have been very noticeable and this has been particularly more pronounced in the two longitudinal extreme zones of the continent, namely North and South. The mid zone (sub-Saharan) is expected to catch up soon though it has peculiar challenges occasioned by unique socio-economic realities.

The major events/activities in the various member societies since the beginning of this year are summarised subsequently.

A) SOUTH AFRICA

The South African Member Society organised a well-attended International Seminar in Pretoria on 30 July. The President of ISSMGE, the Secretary General, the Immediate Past President of ISSMGE, the Vice-President for Africa, the Immediate Past Vice-President for Africa and the one before him were all there to grace the occasion and actively participate. This was preceded on 29 July by hosting of two meetings. The first one was a meeting of the Scientific Advisory Committee (CAC) of the 15th African Regional Conference coming up 18-21 July, 2011, while the second was a meeting of the African Regional Council. The South African member Society really did us proud by keeping the fire of geotechnical engineering intensely burning.

Other activities of the Society include:

- Leadership role in the Scientific Committee for the 15ARC comprising members from 11 African countries tasked with adjudicating papers.
- Hosting of the prestigious Rankine Lecture on 30 November 2010 (presented by Prof Chris Clayton of Southampton University).
- Confirmation of the 10th Jennings Memorial Lecture for early 2011 to take account of Prof Roger Frank's programme.
- Active participation of members in ISSMGE Technical Committees and other initiatives.

Message to ISSMGE from the Vice President (continued)

Professor Samuel Uche Ejezie

- Publications:
 - A number of geotechnical related papers and articles have been published in the April Edition of the SAICE Civil Engineering magazine; an edition dedicated to geotechnical engineering;
 - Launching of the new Site Investigation Code of Practice (SiCop) document, a SAICE Geotechnical Division Initiative during August 2010;
 - The reprint of the SAICE Code of Practice on Lateral Support has been successfully done.
- Awards: SAICE Geotechnical Division made the following awards at their AGM on 25 November 2010:
 - SAICE Geotechnical Division Gold Medal, which honours members of SAICE who have made a significant contribution to geotechnical engineering in South Africa. This was awarded to Alan Parrock of ARQ Consulting Engineers;
 - The Jennings Award, made to the author(s) of the best paper relevant to geotechnical engineering by a member of the SAICE Geotechnical Division;
 - The Barry van Wyk Award, presented to the student producing the best final year project report on a geotechnical subject at a South African University. This was awarded to Mr Charles MacRobert for his final year project entitled *Correlations between the DPSH and SPT and their application in South Africa*; and
 - Nomination of Mr Michael Pavlakis (senior geotechnical engineer and owner of Pavlakis and Associates) for SAICE Fellowship.

B) TUNISIA

The Tunisian National Member Society was very active during the period under review.

The climax of their activities was the successful organisation of their 2nd International Geotechnical Engineering Conference which took place 25-27 October 2010 in Hammermet, Tunisia (Figure 2). Available statistics shows that papers were contributed by more than 100 participants from 25 different countries. The ISSMGE President and the Vice-President for Africa were there live. Appointed Board member, Prof. Roger Frank was also there; and so were other keynote speakers.

The occasion afforded the Vice-President and the President the opportunity to hold a sensitisation meeting with interested participants on the new TC 107 - "Laterites and Lateritic Soils". The conference was particularly special to me in three ways. In the first place it was the only major international Geotechnical Engineering conference in the whole of Africa throughout this year, 2010. Secondly it was my first outing to the region of Africa North of the Sahara since my assumption of office as ISSMGE V-P for Africa one year ago. And thirdly, it was an event which, though organised under the auspices of a Research Team in only one national member society, has attracted participants from more than 22 countries spread across the globe - from America to Europe, to Asia and down to Australia and New Zealand. It was really a big achievement!

Very recent Event:

The Tunisian member society, along with other French-speaking North African countries, organised the Maghrebien Conference which took place in mid-December 2010.

C) MOZZAMBIQUE

The main activity of the Mozambique national member society was centred on preparations for the 15th African Regional Conference coming up 18-21 July 2011. The Local Organising Committee actively participated in the CAC meeting of 29 July 2010 in Pretoria, South Africa.

At the moment, arrangements for the Conference have reached advanced stages. The screening of Abstracts has since been completed and the full length papers are being reviewed. The keynote speakers have been identified and contacts concluded. The 2nd Bulletin is expected to be released anytime from now.

Message to ISSMGE from the Vice President (continued)

Professor Samuel Uche Ejezie



Figure 2. Participants at the 2nd Geotechnical Engineering Conference Hammermet, Tunisia with ISSMGE President, Prof Jean-Louis Briaud and Vice President for Africa, Prof Samuel U. Ejezie

In addition to the 15ARC related activities the society also engaged in other activities aimed at professional development of the members. The details are presented in the table below.

DATE	TITTLE	AUTHOR	INSTITUTION
8th March, 2010	New challenges in the design and construction of landfill dams	Pedro S. Sêco e Pinto	ISSMGE - LNEC
8th April, 2010	Seminary of geosynthetics (joint organization of SMG and Naue GmbH & co.kg)	J. Klomp maker, B. Lenze, C. de Bruyn	NAUE
3rd May, 2010	Open pit slope design in a greenfield environment	Phil Clark	PSM - Australia
9th June, 2010	Cases of errors while executing geotechnical works at the level of molded walls, jet Grouting and solution types	Ricardo Nicolas	RODIO - Portugal
15th October, 2010	Foundation and support layers for railway works, conception, construction and rehabilitation	Eduardo Fortunato	LNEC - Portugal

Message to ISSMGE from the Vice President (continued)

Professor Samuel Uche Ejezie

D) NIGERIA

The Nigerian Member Society recently held its AGM and ushered in a new crop of leaders in accordance with the harmonised byelaws of the Nigerian Society of Engineers. The exercise was aimed at re-energising the society to face the challenges ahead. The new officers include:

Prof. Samuel U. Ejezie - Chairman

Engr. Fidelis Ejikeme - Vice Chairman

Engr. Scott B. Akpila - Secretary/Programme Coordinator

Engr. Sebastine Ozoamalu - treasurer

Engr. Olaposi Fatukun - Financial Secretary

Engr. Dr. Joseph I. Folayan - Immediate Past Chairman/Ex-Officio

Engr. Enoch George - Ex-Officio

Activities:

The new leadership of the Nigerian Geotechnical Association has aggressively embarked on revival of professional development activities for members and employees of corporate bodies.

To kick-start this, intensive skill-level learning event, in the form of “Geotechnical Engineering training” was organised for a batch of Civil Engineers in the employment of Shell Petroleum Development Company Ltd. This took place from 22 November to 04 December 2010, with participants drawn from Nigeria and Gabon (Figure 3).

Future Events:

The society is poised to host the 2012 edition of the African Young Geotechnical Engineers Conference. Plans are gradually being worked out and details will be announced once concluded.



Figure 3. Ongoing program of training geotechnical engineering



E) GHANA

The President of Ghana Geotechnical Society, Prof S. K. Ampadu, was recently appointed Chairman of TC 107 “Laterites and Lateritic Soils”. The society has pledged full support for this and to co-operate with Prof Ampadu to ensure the success of the New TC. Furthermore, Dr Gidigasus of Ghana, a renowned authority on Laterites, has been nominated to deliver a keynote lecture on lateritic soils during the forthcoming 15ARC in Maputo, Mozambique, 18-21 July 2011.

Message to ISSMGE from the Vice President (continued)

Professor Samuel Uche Ejezie

ISSMGE International Seminar in Accra-Ghana:

Earlier in 2009, the Ghana Geotechnical Society (GGS) under the patronage of the ISSMGE organized a well-attended international seminar from 2nd-4th February 2009 at the Engineers Centre in Accra. The seminar was attended by 66 participants including three participants from Nigeria (Figure 4). The participants were drawn from private consulting firms, public infrastructure companies, academia, and construction firms. Locally, the seminar was under the patronage of the Kwame Nkrumah University of Science and Technology, the Ghana Institution of Engineers and the Ministry of Transportation of Ghana. The theme was “Ground Improvement for Accelerated Development” reflecting Ghana’s recent move towards rapid infrastructure development as a strategy for poverty reduction and economic development.



Figure 4. Participants at the ISSMGE International Seminar in Accra, Ghana, 2nd-4th February 2009

The seminar sought to expose Ghanaian engineers to new trends in ground improvement technologies, to provide opportunity for Consultants, Contractors and developers who have applied new technologies in ground improvement to share their experience and finally to help promote professional geotechnical engineering practice in Ghana.

The resource persons were supplied by both ISSMGE and GGS. ISSMGE provided four resource persons consisting of the Immediate Past President, Prof Pêdro Seco e Pinto of the University of Coimbra in Portugal, the Immediate Past Vice President for Africa, Prof. Mounir Bouassida of the National Engineering School of Tunis and two members of TC17: Prof George Heerten of Germany and Mr. Serge Varaksin, Deputy General Manager of Menard Group, France and Chairman of TC 17. These were complemented by three Ghanaian speakers made up of Prof S. I. K. Ampadu of the Civil Engineering Department of Kwame Nkrumah University of Science and Technology and President of GGS, Dr M. D. Gidigasua a renowned expert on lateritic soils and Togbui Kporku III a Director of Conterra Ltd, a private Geotechnical Consulting firm.

The seminar consisted of two days of lectures and one day for a field trip. The lectures covered soil improvement techniques with and without additives, the improvement of soft soils, the principles and use of geosynthetics for soil improvement and the characteristics and improvement of lateritic soils. The third and final day of the seminar was devoted to a field visit to the Keta Sea Defence Project at a fishing town some 150 km east of Accra. During the field trip, Togbui Kporku III took the participants through the details of the project which he said consisted primarily of the building of sea defense structures to stabilize the shores of the town.

Among the three seminar participants from Nigeria was Prof. Samuel Ejezie who is the current Vice President for Africa. The programme included a general assembly of GGS during which Professors Seco e Pinto and Samuel Ejezie encouraged the Ghana Society to improve upon its membership and programmes and assured the Society of the support of ISSMGE. The seminar was particularly significant in that it was the first high profile programme for the Ghana Geotechnical society in recent times and it also clearly showed the potential for the Ghana Society to grow.

Message to ISSMGE from the Vice President (continued)

Professor Samuel Uche Ejezie

F) CTGA

The Society held a one-week colloquium in February 2010 in Yamoussoukro, (Ivory Coast) which was well-attended by participants from Franco-phone countries in Sub-Saharan Africa. On the whole, more than 50 members were in attendance. The theme of the colloquium was “Foundations of infrastructures in Sub-Saharan Africa - Design and Case Histories”.

In April 2010, the CTGA launched a series of Geotechnical Engineering Training Courses in Yaoundé, Cameroon.

A key forthcoming event planned by the Society is a Technical Seminar to be held in Burundi, in March, 2011.

At present, plans are on-going to encourage countries capable of standing alone to form their own national member societies.

G) EGYPT

Since the end of the 17th International Conference of ISSMGE in Alexandria, the Egyptian Geotechnical Society has been involved in different activities most of which promote the positive impact of geotechnical engineering in the society. During the period, the most significant activities of the Egyptian Geotechnical Society (EGS) are as follows:

1. Carried out studies in collaboration with the Governorates of Matrouh and Aswan on mitigation methods of flash floods.
2. Cooperated with the "Military Technical Academy" from the scientific and organizational aspects for the "Fifth Engineering Conference of the Military Technical Academy, which held from 25th to 27th May 2010.
3. Established the organizational basics for a National Geotechnical Conference that is to take place in late 2011 at Tanta University.
4. Entered into co-operation with the "Supreme Council of Antiquities" in projects of restoration of monuments and stability of several archaeological sites all over Egypt.
5. Participated in a study in cooperation with the Egyptian Academy for Scientific Research & Technology (ASRT) entitled: "Rainwater Harvesting as an Alternative Water Supply in the Future and as an effective means of flood prevention".
6. Established a Geotechnical and Geo-environmental Research Centre at the University of Tanta, Egypt.
7. Also, helped the Geotechnical Engineering Research Lab at the University of Tanta to recently secure a research fund for upgrading and accreditation based on ISO 17025.

Key Thrusts for the Future

With the reorganization of ISSMGE embarked upon by the present Board led by Professor Jean-Louis Briaud largely completed, the time has come for African Region to properly key-in to this progressive framework. Doing so will enable us to catch up with the rest of the continents of the world in Geotechnical Engineering practice.

Key thrusts of our regional agenda have been mapped out, circulated among member societies, freely discussed among members across the Region, and adopted in principle. Highlights are summarised subsequently.

Message to ISSMGE from the Vice President (continued)

Professor Samuel Uche Ejezie

1. Promotion of Increased Collaboration among Member Societies as well as their Leaders.

The collaboration will usher in an era of increased cross-boarder geotechnical engineering activities. The idea is to promote an atmosphere of good neighborliness and mutually beneficial professional relationships so that geotechnical engineering events organized by member societies will attract participation from sister societies from all over African Region. This collaboration model is operational in other regions.

2. Formation of Technical Committees Domiciled in African Region.

Discussions have been on-going for sometime now regarding the issue of domiciling Technical Committees in Africa. The time for actualising this proposal is now. Two committees were initially contemplated - one on "Lateritic Soils or Problem Soils of Africa" and the other on "Softwares in Geotechnical Engineering". The latest development is that the Technical Oversight Committee (TOC), charged with the responsibility of setting up TCs and coordinating their activities, has decided to form the Technical Committee on "Laterites and Lateritic Soils". This is hosted by Ghana with Prof. S.I.K. Ampadu as Chairman. In the case of Softwares in Geotechnical Engineering, the TOC decided to incorporate it into the existing Technical Committee on Geoenvironmental Education. In so doing, our own Prof. Mounir Bouassida of Tunisia was appointed Vice-Chairman.

I wish to use this medium to invite members from African Region to submit expressions of interest to join the new Technical Committee on Lateritic Soils. We owe it as a duty to make this TC succeed. The Chairman cannot do it alone! We need to cooperate with him, pull intellectual resources together and champion the cause of this first-ever Africa-hosted Technical Committee.

3. Formation of Membership Expansion Committee.

The purpose of this Committee is to drive/promote membership expansion in African Region - New member societies, corporate members, etc. At present, African representation on the ISSMGE Council remains the lowest among all the regions. There is a need therefore to aggressively pursue a program aimed at increasing the number of member societies in Africa. A laudable idea such as this is better implemented through Committee(s) set up for that purpose. Some countries who do not yet have national societies have indicated interest in forming theirs. They need encouragement and help and this Committee is expected to facilitate the process. Furthermore, the new Corporate Membership programme of ISSMGE needs to be promoted and made more popular in the Region. This again falls under the purview of this Committee.

4. Formation of Regional Technical Coordination Committee.

Regional events, such as IYGEC, Regional Conferences, and TC activities are better promoted, organized and overseen by a dedicated coordinating Committee. This body has been set up in African Region to more efficiently coordinate scientific and technical activities to the greater benefit of our general membership.

Concluding Remarks

The above account of the state of geotechnical engineering profession in Africa reveals that the Region has made appreciable progress in recent times. Catching up with the developed regions is our ultimate goal. Nevertheless, that is not expected to happen overnight. The reason is easy to adduce. The world of Geotechnical Engineering is very dynamic. The so-called advanced regions in the profession are still advancing even at a much faster rate than the so-called less-advanced regions, the list of which is topped by our dear Africa. So, parity though highly desirable, may take quite sometime to be realised if ever. Our ambition though is to get on board the "Geotechnical Engineering Train" and move with the rest of the world. We do not necessarily have to be at the driver's seat. From all indications we are already on board! And that is good news indeed.

Message to ISSMGE from the Vice President (continued)

Professor Samuel Uche Ejezie

Finally, I wish to conclude this opportunity to extend a special invitation to the entire global Geotechnical Engineering Family to attend the next big event in Africa - the 15th African Regional Conference on Soil Mechanics and Geotechnical Engineering, which will take place in the beautiful city of Maputo, Mozambique from 18th to 21st July 2011. It is an experience one cannot afford to miss. Come and enjoy African hospitality demonstrated to the fullest without borders. Come and behold new frontiers and breakthroughs in Geotechnical Engineering practice. You will surely be happy you attended.

On behalf of the ISSMGE members in African Region, I wish you all a very happy new year, 2011.

Report from a Member Society

The Ghana Geotechnical Society

S. I. K. Ampadu, President of Ghana Geotechnical Society

Introduction

The Ghana Geotechnical Society (GGS) has been in existence for at least three decades. In the seventies and eighties, it was very active and had a fruitful collaboration with the Canadian Geotechnical Society. However in the nineties it went through a doldrum. Over the past several years it has received a new lease of life and activity. It currently serves as the specialty group of Geotechnical Engineering of the Ghana Institution of Engineers (GhIE) with twenty-one regular active members. The past few years have witnessed considerable improvement in the activities of the society. During this period the Society has reviewed its constitution and bye-laws and held two successful annual general meetings and elected its leadership. This report gives a summary of some of the main activities the society has organized over the past two years.

ISSMGE International Seminar in Accra

In February 2009, the Ghana Geotechnical Society with the support of ISSMGE successfully hosted an international seminar on *ground improvement* in Accra, the regional capital of Ghana. It attracted sixty six (66) participants including three from Nigeria. The participants came from academia and from industry. ISSMGE provided four resource persons consisting of the Past President, Prof Pêdro Seco e Pinto of the University of Coimbra in Portugal, the Past Vice President for Africa, Prof. Mounir Bouassida of the National Engineering School of Tunis and two members of TC17: Prof George Heerten of Germany and Mr. Serge Varaksin, Deputy General Manager of Menard Group, France and Chairman of TC 17. These were complemented by three Ghanaian speakers made up of Prof S.I.K. Ampadu of the Civil Engineering Department of Kwame Nkrumah University of Science and Technology and President of GGS, Dr M.D. Gidigasua a renowned expert on lateritic soils, and Togbui Kporku III a Director of Conterra Ltd, a private Geotechnical Consulting firm in Accra. The seminar was concluded with a field trip to the sea defense works in Keta on the southern eastern sea coast of Ghana.



Figure 1. Participants at the Sea Defense structure on the South Eastern Sea Coast of Ghana

2010 Annual General Meeting

On 30th of June 2010, the Society held its annual general meeting. The meeting was attended by 14 members. The meeting discussed various issues and the followings were elected as officers for the next two years:

1. President - Prof S.I.K. Ampadu
2. Secretary - Mr. Joseph K. Oddei

Report from The Ghana Geotechnical Society (continued)

3. Treasurer - Mr. Kweku Mensah Solomon
4. Member - Mr. Gordon Van-Tay
5. Member - Mr. J.F. Pinkrah
6. Southern Rep - Mr. Emmanuel Odai
7. Northern Rep - Mr. Mike Konadu

Hosting of TC-107

The Ghana Society is hosting TC-107 the new ISSMGE Technical Committee on laterite and lateritic soils. Prof. S.I.K. Ampadu is the Chairman of the Technical Committee and Dr. Mrs. Celestina Allotey is the society's representative on the committee.

Earthquake Workshop

Even though southern Ghana is known to be seismically active most domestic buildings in Ghana are not engineered and not seismically designed. For the structures that are engineered, there appear also to be a lack of consensus on the seismic design code and the existing ground motion characterization. To address these shortcomings a number of measures are being undertaken including seeking for international partners to address these anomalies. A multi disciplinary workshop was organized in Accra on November 11th 2010 to assess the status of earthquake preparedness in Ghana. The Ghana Geotechnical Society in association with a number of organizations took part in the workshop. The society members contributed by making presentations on the *state of earthquake ground motion characterization in Ghana, and soil characterization and their effects on buildings during earthquakes*.



Figure 2. Participant contributing at Earthquake workshop on 11th November 2010

Other News

The President of the Ghana Geotechnical Society, Prof. S.I.K. Ampadu, has been appointed Provost of the College of Engineering of the Kwame Nkrumah University of Science and Technology. Prof. Ampadu conducted both his MSc and PhD studies in the late eighties and early nineties in Geotechnical Engineering at the University of Tokyo in Japan. His PhD studies focused on the behavior of kaolin clay in torsional simple shear for which he conducted pioneering studies into very small strain measurements in clayey material in the laboratory.

Ghana Makes History

On 15th December history was made in Ghana. Ghana for the first time became an oil producing country and started pumping oil in commercial quantities from its oil field 65 km offshore in the Atlantic Ocean.