



Africa-UK Engineering for Development Partnership Project Update – August 2010

The Africa-UK Engineering for Development Partnership ('the Partnership') is a joint initiative by the Africa Engineers Forum, the Royal Academy of Engineering, the Institution of Civil Engineers and Engineers against Poverty.

The Partnership's purpose is to:

- contribute to the development of a supportive and vibrant engineering community within Africa, encompassing the public and private sectors and academia, with the ability to produce, attract and retain the best engineers
- enhance connectivity between African engineers and other key professional groups including decision makers in the business and public policy arenas
- promote investment in infrastructure that is fit for purpose and improve the sustainability of African engineering projects
- build closer and mutually beneficial links between the engineering communities in the UK and Africa

The following document provides:

- an overview of the Partnership's work to date
- a forward plan for future activities

We would be delighted to discuss the progress that has been made and provide any further information needed.

Preparatory Work

Rather than create a new silo, the Partnership has from the outset sought to work through the Africa Engineers Forum (AEF), an established network of African engineering societies and institutions. The AEF is perhaps best described as an alliance; since it was established in 1995 its funding has been

intermittent (no fees are charged for membership) and staffing sporadic. This has limited the organisation's ability to realise its potential. However the AEF's Protocol of Understanding & Co-operation - a document of understanding covering the essential components of engineering for sustainable development - has been signed by thirteen sub-Saharan African countries. The AEF, even in its current form, has thus provided the Partnership with a viable basis on which to more systematically engage the engineering communities in these countries.

The AEF secretariat is hosted by SAICE. On his retirement as SAICE Executive Director in early 2010, Dawie Botha was retained by the organisation on a part-time basis to concentrate on capacity-building issues. The Partnership has thus been able to benefit from his dogged enthusiasm and considerable on-the-ground knowledge of sub-Saharan Africa, the issues it faces and potential role of engineering in tackling these.

In December 2009 the Partnership appointed a part-time project officer, Lorraine de Ronde. Based at SAICE, Lorraine has given the AEF the human resource it desperately needed. Since assuming her post Lorraine has carried out a considerable amount of groundwork, and has paved the way for the Partnership's first phase of engagement with the African engineering profession. Lorraine has:

- re-established contact with all AEF signatory institutions and updated the organisations contact database (a basic task, but one symptomatic of the lack of resources that has hampered the AEF to date)
- set up e-mail contact groups from AEF signatories and maintained regular communication with them
- undertaken an analysis of current capacity in the AEF Signatory Institutions
- fielded all enquiries concerning the Partnership in Africa (at the UK end this role is undertaken by Dr Hayaatun Sillem, the Academy's Head of International Affairs)
- organised the Partnership's Africa launch event and first workshops (see below)
- been responsible for publicising the Partnership and its activities in Africa

- developed relationships with key policy makers and other potential sponsors and supporters of the Partnership.

The Academy and its partners are committed to ensuring that supporters' funds achieve maximum impact in advancing the Partnership's objectives. A key aspect of Lorraine's work therefore has been to identify opportunities to stage Partnership workshops at professional engineering and other conferences already scheduled to take place. This approach has allowed the Partnership to reach key audiences whilst saving considerably on the cost of hiring venues. This approach was exemplified by the official launch of the project, which took place in Pretoria on 16th March 2010.

Project Launch Pretoria, 16 March 2010

The Partnership was formally launched at the SAICE *Indaba* – a conference on engineering and sustainability - in Pretoria on March 16th 2010. Representatives from engineering institutions in thirteen African countries – Botswana, DRC, Ghana, Kenya, Namibia, Gabon, Malawi, Mauritius, South Africa, Tanzania, Uganda, Zambia and Zimbabwe and the UK partner organisations attended.

Professor Peter Guthrie, representing the Academy, and Petter Matthews from Engineers Against Poverty (EAP) began proceedings by introducing the Partnership and outlining its intended aims. They began by emphasizing what is gradually becoming the conventional wisdom in international development:

- a strong African engineering profession is essential to economic and social development of the continent
- a skilled workforce attracts technically oriented multi-national companies, who can invest effectively in country once there is a cadre of qualified local employees available
- this in turn contributes to the development of a vibrant local private sector

In giving such an overview and detailing how the Partnership can help, both speakers underlined that the Partnership is not UK-led – it has always been a fundamental tenet of the Partnership that its priorities will be determined by the African engineering community.

Anthony Van Zyl, attending the launch on behalf of Schlumberger, explained how the Partnership fits in with the company's Global Citizenship framework. Education and skills development are key areas in which Schlumberger seeks to bring leadership and best practice.

Dawie Botha described the aims of the AEF and explained that this Partnership is not exclusive to signatories of its Protocols – all engineering institutions are welcome, and encouraged, to participate.

The launch provided an opportunity for AEF members to re-sign the AEF Protocol – as well as symbolizing the revitalization of the organisation, the occasion saw four new signatories - the Democratic Republic of Congo CEPA, the Ghana Institution of Engineers, the Malawi Institute of Engineers and the Engineering Council of Namibia.

A full list of launch attendees and their respective organisations is appended.

Scoping Workshop Pretoria, 17 March 2010

The launch was followed by the Partnership's first workshop - a scoping discussion to identify the issues most affecting the engineering profession and institutions across Sub Saharan Africa. This produced a lively discussion on a number of issues, including:

- renewable energy and sustainability

- recognition of the engineering profession and better understanding of engineering issues by policymakers
- cost and availability of publications and knowledge resources
- harmonisation of engineering standards across Africa
- the lack of resources for Continuing Professional Development
- encouraging young people to enter and remain in engineering
- funding, including the gap in understanding between needs and funding programmes
- the potential for mentoring by UK and other private sector to support the development of local engineering companies

Throughout the discussion the true dearth of capacity within the engineering institutions of sub-Saharan Africa became apparent. Many representatives explained the personal and professional difficulties they have encountered in keeping their institutions operating at even the most basic levels. Daphne Guthrie, who represented the UK Institution of Civil Engineers, spoke with an engineer from Gabon, where there is currently no engineering institution. He had come to the event at his own expense to seek advice on how to get started. His enthusiasm was very much representative of the spirit in which the event was held.

Attendees provided input into a forward calendar of events and conferences alongside which workshops could be held. Holding the launch and scoping workshop in parallel with the SAICE *Indaba* not only allowed for a more efficient use of resources (SAICE heavily subsidised the costs of both the workshop and the launch event) but also provided attendees with an excellent opportunity to network and exchange knowledge and ideas.

An article from *Civil Engineering* magazine covering the launch event is appended.

Political context

Although somewhat at odds with a profession that prides itself on being solution orientated, political factionalism is a fact of life in the engineering world. Africa is no exception.

The Federation of African Organisations of Engineering (FAOE) was established 40 years ago. Its aims, although less defined than the AEF Protocols, are broadly similar. FAOE is hosted by the Nigerian Society of Engineers (NSE) and nominally has twelve member countries¹. However since its Foundation the organisation has made little impact and has for all intents and purposes been dormant for several years. It now seems that the FAOE is keen to become more active and discussions, mediated by the World Federation of Engineering Organisations, are underway to explore how FAOE and AEF might best work together to provide a united voice for African engineering.

It is worth reiterating that the Partnership is open to all and there is a strong overlap between the signatories of the AEF and FAOE. Although no NSE members or officials have attended Partnership events to date, they are more than welcome to join and will continue to be invited. The issue does however highlight the sensitivities involved and the requirement for a diplomatic approach.

UK Launch London, 28 May 2010

The Academy was delighted when the Prime Minister of the Republic of Kenya, Rt Hon Raila Odinga MP, agreed to officially launch the Partnership at The Royal Academy of Engineering on 28 May 2010.

During his keynote address at the UK launch, the Kenyan premier, who trained originally as a mechanical engineer, spoke passionately about the importance of supporting engineering in Africa. He told the capacity audience that "It is self-evident that the social and economic transformation in Africa

¹ Nigeria, Ghana, Egypt, Liberia, Tunisia, Libya, Kenya, Zimbabwe, Zambia, Cameroon, Cote d'ivoire and Tanzania.

that we all long for cannot be attained without effective application of science and technology in general and engineering in particular". He warmly welcomed the establishment of the Partnership, calling it a "most valuable initiative" which was "poised to help Africa meet the challenges of scientific transformation."

Prime Minister Odinga, whose visit to London also included a meeting with David Cameron at 10 Downing Street, described himself as an "Afro-optimist" but said that in order for Africa to reap the benefits of its rich endowment of natural resources, it needed to tackle corruption and improve value addition within the continent. The Prime Minister also pointed out that investment in regional infrastructure was vital, as evidenced by the fact that it takes just as long to transport a car from Japan to Mombasa in Kenya as to transport it from Mombasa to Kampala in neighbouring Uganda.

To do this successfully, the Prime Minister said, would take leadership, vision and ambition, along with "a critical mass of skilled and educated people".

This process will be aided by the Partnership through its efforts to promote links between engineers and decision-makers at the policy, business and community level and emphasizing the imperative of skills development in key areas. A workshop on Engineering Education is among those being organized (see Forward Plan below).

It is worth noting that Prime Minister Odinga came to London for the express purpose of participating in the Partnership's launch and brought with him a large delegation of Ministers, MPs and senior officials, reflecting the importance that he places on engineering and infrastructure for Kenya's development.

Capacity Building and Needs Assessment Survey

Launch: July 2010

During summer 2010, the Partnership will undertake undertaking a series of surveys as part of a capacity-building assessment for the engineering profession in Africa. The objectives are:

- to build an evidence base that can be used to identify priorities for capacity building.
- provide baseline data against which the Partnership can measure its future success

The survey was trialled at the Zimbabwe Institution of Engineers' Infrastructure Investment Conference, held at the Institution of Civil Engineers in London from 22-23 July. The purpose of the trial is to gauge reaction to the questions as currently drafted in order that they can be refined before distribution to institutions throughout sub Saharan Africa.

The survey will consist of two parts: the first aimed at engineers working in Africa, the other for decision makers who engage with them. Lorraine de Ronde is currently gearing up to distribute the survey as widely as possible and will collate results. *(We will be in contact with Partnership funders to seek possible assistance in distributing the survey)*. Structured interviews will also be undertaken alongside the survey to provide more detailed qualitative data from key stakeholders. Survey results will be distributed to Partnership funders once they are available.

Forward Plan

The Partnership currently has three workshops at various stages of preparation. Again to ensure maximum impact with the funds available the Partnership has sought to stage workshops at events already scheduled to take place and work with other organisations with an interest in the subjects to hand. *We particularly welcome the presence and participation of representatives from Partnership funders at these events and will be pleased to make further details available when they are known.*

(1) Rural Access

Arusha, Tanzania – 29-30 November 2010

'Connectivity' is at the core of the Partnership's goals, and perhaps no subject epitomises the importance of connectivity than rural access. Without adequate infrastructure rural areas cannot 'connect' with markets and benefit from economic development. However in recent years 'infrastructure' has become something of a tarnished word in the language of international development. It has come to be associated with large, unsustainable, environmentally insensitive civil engineering projects with the result that little attention has been given to pro-poor 'bread and butter' projects that make a real difference to peoples' lives, such as proper, well-maintained roads. The challenge for the engineering community is to convey this to decision makers, particularly in the international development community.

The Royal Academy of Engineering is in dialogue with the UK Department for International Development (DfID) on this issue, and on the role of engineering as a key change agent in general. The Rural Access workshop will be held in partnership with the African Community Access Programme (AFCAP), a DfID-funded initiative to support knowledge exchange, training and research to improve access to rural communities in Africa. AFCAP has developed strong links with ministries of roads and public works in several Africa countries, which will help to ensure a strong and influential audience at the workshop.

The workshop will be held in association with the *Integrating Innovative and Sustainable Engineering Technologies in Achieving Millennium Development Goals* conference, organised by the Tanzanian Association of Engineers.

(2) Energy

Ghana - date tbc

The Partnership is in negotiations with the Helios Social Enterprise (HSE), a recently-founded NGO dedicated to providing affordable, renewable energy to poor rural communities. The Partnership hopes to hold a workshop on energy issues in Ghana, in conjunction with the HSE and Ghana Institution of Engineers, in the first quarter of 2011. The site of recent oil and gas discoveries, Ghana provides an interesting venue for this subject. Many profound questions will doubtless be raised: what incentives are there for renewable energy when abundant supplies of conventional fuels are available?

(3) Engineering Education

Zimbabwe – date tbc

The Partnership has held discussions with the UK National Commission to UNESCO and the African Engineering Education Association to set up a workshop on the key issue of engineering education. What skills will African engineers need to if the profession is to make the optimum contribution to ensure future prosperity and environmental sustainability on the continent? What role should engineering institutions play in skills development? How can engineers work with African universities to ensure qualifications reflect market demands?

Partnership Advisory Board

Mindful of the delays that have been encountered, the Academy and its partners have focused efforts to date on delivering the programme committed to. With the timescales involved it would have been difficult to engage an advisory board at this stage.

However, we feel there will be a clearer role for an advisory board in the next stage of the Partnership's work and also welcome input and advice from our sponsors at any stage.

Appendix 1

Pretoria launch event – 16 March 2010 - List of attendees and represented organisations

Name	Position	Organisation
Linda Moseki	Vice President	Botswana Institution of Engineers
Miraho Kumpi	President	Democratic Republic of Congo CEPA
Kwasi Kwakwa	President Elect	Ghana Institution of Engineers
Francis Ngokonyo	Chairman	Institution of Engineers of Kenya
Ignasio Ngoma	President	Malawi Institute of Engineers
Mr A Naushad	Representative	Ministry of Construction and Public Infrastructure, Maldives
Aboo Peermamode	Council Member	Institution of Engineers Mauritius
A Carmo Vaz	President	Ordemo dos Engenheiros of Mozambique
Markus von Jeney	President	Engineering Council of Namibia
Dawie Botha	Executive Director	SAICE
Willie Potgieter	Representative	EU Water & Sanitation Capacity Building Project
Julius Kabyemera	President	Institution of Engineers, Tanzania
Anania Mbabazi	President	Uganda Institution of Professional Engineers
Wigfield Vengesayi	President	Zimbabwe Institution of Engineers
Sazan Diarra	CEO	Zimbabwe Institution of Engineers
Petter Matthews	Session Chair	Engineers Against Poverty
Daphne Guthrie	Representative	Institution of Civil Engineers
Jeff Turner	Representative	African Community Access Programme
Idriss Mougoula	Representative	Engineers Gabone
Lorraine de Ronde	Project Officer	Africa-UK Engineering for Development Partnership



Africa-UK Engineering for Development Partnership

"The road to prosperity is paved by good engineering solutions" (Professor Calestous Juma HonFREng FR)



WHEN THE *Africa-UK Engineering for Development Partnership* was formed, its founding members had precisely these words of Professor Juma in mind. Engineering has an essential role to play in the development and provision of access to new medical interventions, safe drinking water and sanitation facilities, as well as sustainable energy generation technologies, and other public services.



Recognising that strong and effective engineering institutions are important requirements for building and sustaining engineering capacity in Africa, the Partnership brings together the engineering communities in Africa and the UK in a consortium led by the Africa Engineers Forum (a network of African multidisciplinary national engineering societies or institutions), the Royal Academy of Engineering (the UK national academy and voice of Britain's engineering community) and the Institution of Civil Engineers (ICE), which is a global membership organisation that promotes and advances civil engineering around the world. Engineers Against Poverty, an independent NGO (Non-Governmental Organisation) that works with government, industry and civil society to fight poverty and promote sustainable development, is also a core member of the Partnership. Other key stakeholders include UNESCO and the World Federation of Engineering Organisations.



The purpose of the Partnership is to strengthen the capacity of the African engineering profession and promote mutually beneficial links between engineers in Africa and the UK. Its long-term vision is to:

- contribute to the development of a supportive and vibrant engineering community within Africa, encompassing the public and private sectors and academia, with the ability to produce, attract and retain the best engineers
 - enhance the connectivity between African engineers and other key professional groups
 - promote investment in infrastructure that is fit for purpose and improves the sustainability of African engineering projects
 - build closer and mutually beneficial links between the engineering communities in the UK and in Africa
- During the Engineering Planet Future Indaba that was hosted by SAICE in South Africa in March this year, the Partnership embarked on its paved road to prosperity by holding its first activities: an official launch and a scoping workshop for delegates from thirteen of the twenty African countries that had responded positively. We were honoured to have leading engineers from Africa and the UK address the delegates at the launch, as well as Mr Imraam Patel, Chief Director from the

Department of Science and Technology, South Africa, who spoke on behalf of the Minister. During the workshop, the delegates had the opportunity to engage in interactive discussions on institutional issues and priorities for a forward-moving plan of action.

This first gathering also marked the official signing ceremony of the Africa Engineers Forum (AEF) and gave the AEF signatories an opportunity to renew their allegiance to the AEF Protocol of Understanding. Those signatories who had not signed up previously were offered the opportunity to do so at the workshop. The AEF protocol covers the essential components of sustainable engineering, which in turn is a prerequisite for sustainable development.

Sustainable engineering relies on the development of sustainable institutions, and with continuous and effective administration from the Partnership, it is certain that we will see a substantial improvement in the delivery of capacity building initiatives and programmes in sub-Saharan Africa in years to come.

We would like to express our appreciation to Schlumberger, the Anglo-American Group Foundation, and the David and Elaine Potter Foundation for their generous support of this initiative.

For more information regarding the Partnership or future workshops please contact the project officer at the following address: africa.uk.rae@saice.org.za

- 1) and 2) and 3) Three of the Africa Engineers Forum signatories renewing their allegiance to the AEF Protocol of Understanding – Linda Moseki (Vice-President of the Botswana Institute of Engineers), Markus von Jeney (President of the Engineering Council of Namibia), and Wingfield Vengesai (President of the Zimbabwe Institute of Engineers)
- 4) Prof Peter Guthrie, left, Fellow of the Royal Academy of Engineering who is facilitating the initiative on institutional capacity building in Africa, and Dawie Botha, representing SAICE as AEF secretary
- 5) Pieter Mattheus, Executive Director of Engineers Against Poverty, facilitating in-depth deliberations about the way forward
- 6) Imraam Patel, Chief Director, Dept of Science and Technology, South Africa, representing the Minister. This government department has consistently supported the initiatives of the AEF
- 7) Anthony van Zyl from Schlumberger, one of the sponsor companies, addressing delegates from all over Africa



