

Dr Frank Boahene
Human Development
African Development Bank Group
Southern Africa Resource Centre (SARC)
Republic of South Africa

18th October 2012

Dear Dr Boahene

Re: Establishment of African Development Bank – AfricanBrains Working Group for Human Resource Development for the Square Kilometre Array (SKA)

Further to initial discussions held at the Innovation Africa Summit in Cape Town involving the African Development Bank, other IGOs such as UNESCO, African government ministries, universities and private sector technology operators please find below details of our proposal for the establishment of an official working group for the Square Kilometre Array (SKA).

The SKA is now set to be the biggest scientific astronomy infrastructure project in the world. Construction of the SKA is scheduled to begin in 2016 for initial observations by 2019 and full operation by 2024. Being a global collaboration of 20 countries a project of this nature has many interested parties; from the scientific headquarters based in the University of Manchester to the South Africa Ministry of Science & Technology and National Research Foundation for the issuing of bursaries.

The South African Government and research & scientific community has taken up many responsibilities, having already completed the prototype KAT-7 with seven radio telescopes and from 2013 will begin the construction of an additional 64 dishes that make up the MeerKAT telescope. Phase 1 of SKA will see another 190 dishes between 2016 and 2019, with finally a total of 3,000 dishes targeted for 2024.

As well as the core site of SKA being in the Karoo area of the Northern Cape with part of the project also being based in Australia and New Zealand. Currently Australia, China, Italy, the Netherlands, New Zealand, South Africa and the UK have signed an agreement to create and provide funding for the SKA Organisation.

Just from the snapshot of information outlined above, it is clear that there a considerable number of interested parties, ranging from national governments to well-funded research institutes. Apart from South Africa, where the project is led by the Department of Science & Technology, the bid agreement includes 7 other sub-Saharan African countries:

Three antenna stations in Namibia, four in Botswana and one each in Mozambique, Mauritius, Madagascar, Kenya and Zambia. Each antenna station will consist of about 30 individual antennas.

It is the consideration of AfricanBrains and in harmony with the aims of the human development strategy of the African Development Bank that SKA represents an incredible opportunity for the next generation of African scientists and engineers. The stakeholders and lead parties involved in SKA are currently focussed on key budgetary, project and scientific questions. We feel that the project is an incredible opportunity for young Africans currently in education and aspiring to higher education particularly in the fields of science, mathematics, engineering and technology (SMET) to aspire to.

In our view, as well as South Africa, there is a great opportunity for the other seven African partner countries (and possibly more in the future) to maximise returns from the SKA project as part of their own socio-economic development. Essentially, apart from all the science and funding that is dominating minds at the moment, we wish to focus our efforts on human resource development within these African countries.

Hence our proposal to establish *The Working Group for Human Resource Development for the Square Kilometre Array (SKA)*. This would be held under auspices of the African Development Bank and coordinated by AfricanBrains. It would distinguish from other SKA related entities with its prime focus being on the SMET education and human development of young Africans.

Mission Statement

To leverage the success of the African SKA bid for the benefit of advancing educational opportunities for the next generation of African scientists and engineers. To contribute to equitable human and social development amongst all participating sub-Saharan countries such that the SKA project can be a standard bearer of achievement for their respective ministries for education, ICT and science & technology.

In simple terms the development of SKA over the next 12 years will require a multitude of many scientists, engineers, mathematicians, computer scientists and experts in the field of astronomy and ICT to deliver its projected promises. We believe this represents a great opportunity for Africa and wish to see that this opportunity is not wasted such that the many thousands of people involved are in fact Africans drawn from the best of Africa's educational and research institutes.

The African Development Bank – AfricanBrains Working Group for Human Resource Development for the Square Kilometre Array (SKA) will utilise the science and engineering requirements of the project to promote African human development and encourage the delivery science, mathematics, engineering and technology (SMET) education.

Working Group Participants

The following is a selection of the groups who would be fundamental to the success of the working group delivering on its key aim of human resource development. In the case of the Africa countries, their ministries for science & technology are the lead for SKA but we also see that it is fit for their education and higher education ministries to participate to fulfil our aims of developing the next generation of African scientists and engineers:

- Intergovernmental organisations: African Development Bank, UNESCO, AfricanBrains.
- Government ministries for education/higher education and science & technology from South Africa, Botswana, Kenya, Madagascar, Mauritius, Mozambique, Namibia and Zambia.
- Leading universities representative of the above countries
- Private sector technology leaders who already have an interest in the SKA project but can also contribute to human development in the 8 African countries, such as Oracle, Intel, IBM etc.

With so many current interested parties involved in the SKA project it is essential that our working group distinguishes itself as having a unique role in leveraging the success of the project for the bettering of SMET education and human resource development in the sub-Saharan countries.

Furthermore, it is the aim of the working group to encourage the 8 participating African countries to utilise the funding opportunities available to them from the African Development Bank. By demonstrating their willing to advance SMET education and outlining specific projects for investment, each national government will have the opportunity to apply for Bank funding.

Official Accreditation

Human development and investment into education a key central pillar of the African Development Bank mandate. To gain acceptance and “buy-in” from the various countries, to ensure project longevity and to encourage greater investment into science education it is essential that this working group is formed as an official African Development Bank project. AfricanBrains will act as an organiser and coordinator to bring together all interested parties and coordinate with working group members the appropriate agendas and strategies.

Working Group Coordination

On agreement from the African Development Bank, AfricanBrains will start the work to arrange the first working group meeting. Initially, we will establish a special SKA section of the AfricanBrains website which will include details of the mission statement, participants and working group agendas. We will build within the site a discussion forum for members to put forward their own agenda suggestions and also the opportunity for online group meetings to take place at regular pre-selected times.

To start the process we kindly request the agreement and endorsement of the African Development Bank such that we can start the invitations for establishing the working group, preparing an agenda and convening the first meeting.

I look forward to receiving your thoughts and feedback on the details of this proposal and wish to emphasise our desire to utilise this opportunity as a highly progressive contribution to African human, scientific and technological development.

Yours sincerely



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