

## **DVC-RPE Grand Challenges Explorations Speech**

Dear Grand Challenges Explorations Management Team.

On behalf of the Vice-Chancellor, University of Nairobi, we wish to express our deep appreciation for choosing the University of Nairobi to host this Grand Challenge Explorations workshop.

The University of Nairobi is therefore keen to make a follow up on specifics contained in your deliberations.

We recognize and appreciate that the Grand Challenges Explorations together with the Bill and Melinda Gates Foundation, have funded a number of projects in the university before, that served as the catalyst to the events that led to the concept and finally the launch of this workshop.

We commend the Grand Challenges Explorations for expressing interest in setting up of a network to attract young African Scientists to participate in Grand Challenges Explorations -Funded Poverty Reduction Diseases research projects in the future, and that the Grand Challenges Explorations has set aside over of 10 Million dollars towards these activities in Africa.

## **Ladies and Gentlemen,**

The University of Nairobi would like to request the Grand Challenges Explorations to host the regional coordinating office to encourage and facilitate young African Scientists in East and Central Africa region to participate in Grand Challenges Explorations funded research programs. The significance of having a Regional Network coordinating office at the University of Nairobi right at its inception, is that it would help the Grand Challenges Explorations build on the existing network infrastructure that the University of Nairobi has built over the years of collaboration with partner institutions in the region. Amongst the most prominent ones include.

The African Regional Postgraduate Programme in Insect Science (ARPPIS). <http://arppis.icipe.org/>

**African** DAAD Scholars association.

<http://nairobi.daad.de/>

The African Economic Research Consortium (AERC).

Centre for National Health Research (CNHR) just to name a few. The University of Nairobi will provide the programme, with state of the art internet infrastructure and communications network.

The University of Nairobi has a well developed a fully-fledged Electronic Learning and Communication Environment (ELCE) that has been successfully piloted and implemented within the university. The University has a proven track record in training and capacity building for the region. Now with the development of the Electronic Learning and Communication Environment (ELCE), we have further built a strong capacity in networking and web hosting

**Ladies and Gentlemen,**

Before we begin, I would like to thank the organising committee and the Bill and Melinda Gates foundation staff for finding time to be with us to make this event happen. I hope that the discussions will include forward-looking statements that touch on the high degree of research risk and uncertainty involved in innovations and explorations. That statements relating to matters such as strategy, future operating plans for the grand challenges, markets for products from the research, partnering and collaboration activities, public policy and financing activities, technical and business outlooks will be discussed.

I would like to thank the participants drawn from various institutions for attending this workshop to interact with the

Bill and Melinda Gates foundation. I'd like to begin today's call by giving a quick recap of the strategy the University of Nairobi has laid out to competitively participate in research and innovation.

## **Overview**

Grand Challenges Explorations (GCE) supports hundreds of early-stage research projects – including many ideas that have never before been tested -- and scientists from a wide range of disciplines and regions. The Explorations initiative funds innovative ideas that could lead to new vaccines, diagnostics, drugs, and other technologies targeting diseases that claim millions of lives every year.

GCE is an extension of the Bill & Melinda Gates Foundation's commitment to the Grand Challenges in Global Health, which was launched in 2003 to accelerate the discovery of new technologies to improve global health. To date, the foundation has committed over \$500 million to support hundreds of projects on topics such as making childhood vaccines easier to use in poor countries, and creating new ways to control insects that spread disease.

Today is an important opportunity for me to provide a detailed view of where the university is today and our plan to realize transformational growth over the next several years. Finally, I will tell you about the milestones against which stakeholders can judge the university's execution of that plan and which will position us to become a major player in the knowledge based economy currently dominated by universities in industrialized countries..

### **Ladies and Gentlemen,**

In the industrial and knowledge based economy, the University of Nairobi has most of what is required. We have the leading knowledge development strategy and we have proof of that claim through a number of top-performing researchers and scholars. We have new programs that are attracting leading research partners and our resources are targeted at multiple fast growing areas of technologies that exist today.

Looking at each component of that vision, I'll start with our regional market. The economy is growing rapidly and new products and production technologies are required to drive this growth. We estimate that the growth in science and technology sector is projected to grow to nearly 4.4 billion by 2015. What's more is that the growth is being catalyzed

by significant regional entrance of first meeting food security and health needs for the growing population.

Second is, meeting the demand for health, food and transportation fuels and third, the need to achieve these objectives while reducing our impact on the environment. Most important for the University of Nairobi and our current and prospective research partners and customers is knowledge based technologies which include the used of enzymes in manufacturing to address all these needs head on.

### **Ladies and Gentlemen,**

Moving next to potential commercial products for the region, there are significant opportunities for growth given our level of industrialization. Human and animal health and nutrition and agricultural processing is creating opportunities for application of knowledge in processing agricultural products for the market.

Over the next two to three years, we expect knowledge and knowledge based products to be the primary growth driver of Kenya's economy as several of them including: MPESA, enzymes in industrial processing, are in the early stages of their development and market penetration and are gaining significant traction in the knowledge based economy and market. They are primarily through the

acceleration of growth in new products and the others in the near future.

Driving growth beyond our current products is our pipeline of course candidates, which represent what we are characterizing, as medium-term growth opportunity that allows the university to meet its goal of continuing to grow and diversify courses and revenue base over the 2013 to 2015 time horizon. While our research in innovation and commercial products in collaboration with industry are critical to our future success, our pipeline of courses and research strategy is equally as important to our mid and longer-term growth and success as a university.

A mainstay of our strategy for developing and commercializing our research findings is aligning our courses and research with partners who bring complementary resources and capabilities to our team. Our goal with these partnerships is to share equally in the development costs and knowledge, similar to our current agreement with Nokia and the partnership we just announced with CSIR, KEMRI and KARI, both in the human, agriculture and animal health and nutrition area. These research partnership models provide significant benefit to the University over the research lifecycle.

**Ladies and Gentlemen,**

Kenyans have invented some of the most powerful technologies the world has ever seen e.g MPESA, yet Kenyans have failed to maintain global leadership in this money transfer market technology. A principal reason for that failure has been a weak Intellectual property regime and a drift to humanities in the curricula of the majority of Kenyan Universities particularly the private upcoming universities. As a university we lack the expertise required to capitalize on our innovations because engineering and science education has not been championed primarily due to the challenge of financing appropriate research infrastructure and the high cost of procuring state of the art equipment.

The university however needs to restructure their current research and training programs to allow them to be aligned with current international trends which will bring "art, social science and science and technology back together". The University of Nairobi has seen "a drift to the humanities" with 60% of our student population which currently stands at 55,000 being registered in the College of Humanities and Social Sciences. The remaining 40% are shared out in the College of Architecture and Engineering, College of Agriculture and Veterinary Sciences, College of Biological and Physical Sciences, College of Educational and External Studies and the



College of Health Sciences. Computer science is still not taught as standard in Kenyan universities. Our IT curriculum where it exists focuses on teaching students on how to use software, but gives less emphasis on how the algorithm is developed. That is just throwing away our potential for innovation and opportunity for great computing heritage.

A major weakness in our research has been lack of research management policy and infrastructure. This has greatly hampered our competitiveness in innovation. As we reflect on this, it is a mistake to look in the mirror and decide to break the mirror. The main challenge revolves around research administration and managing the Grant Management Cycle from pre-award to post-award and closing out of big research grants. The other is incubation and commercialization of our innovations due to weak universities/industry partnership.

### **Ladies and Gentlemen,**

We need to replace fruitless musings of the Kenyan academic philosophers with experimentation that will produce knowledge of practical use to humankind and that which will address our country's development agenda for sustainable development and global competitiveness. We are "prone to talking and writing papers for promotion, and

incapable of knowledge generation, our wisdom is loquacious and unproductive of effects. There is need for practical science and technology in our curriculum. The call for practical science while being taken up by the next generation of scientists, was also being vigorously resisted by those who feel the classic old guard professor remains the fountain of true wisdom. This has become known as the debate between Ancients (Professors) and the Moderns (Young Turks). The standard argument of the Ancients is that the Moderns can only see as far as they do because they stand "on the shoulders of giants." The Ancients also share the conviction of their heroes that the products of technology threaten to become an end in themselves, overwhelming the pursuit of virtue. Among those who look up to the Ancients are those who stand to benefit by redirecting the research resources to fight the perceived threat from the Moderns. Despite the proven success of the scientific method, the ancient professor remains the mainstay of our traditional pedagogy as it remains the only way to climb the ladder into management positions and thus decision making including decision as how research should be conducted and managed.

**Ladies and Gentlemen,**

We have had a strong start to research in 2011 and I'm very encouraged by the momentum behind us as we move into the latter part of the year. Very tangible progress has been made across various aspects of research at the university. This progress demonstrates the strength of the technology and innovation we practice, technology that enabled us to attract approximately Kshs.3 billion of investment in research grants over the past financial year 2010/2011 including development and patenting of unique discoveries and knowledge based products.

I believe that the University of Nairobi faculty will continue to deliver the leading high-performance scholars and researchers as our main products to the market and to grow into the next leading knowledge industry.

As we look ahead to the next few decades, we are focused on a number of key areas that we believe will drive value in the knowledge economy, including first continuing to accelerate growth in our current areas of research and training. Second, continuing to advance research knowledge for agricultural and health improvements. Third, completing additional strategic partnerships. Fourth, advancing research into product candidates into the regulatory process and finally

addressing the remaining gap in research financing and the University's financing needs.

In conclusion, on behalf of the Vice-Chancellor of the University of Nairobi, I would like to once again thank the Grand Challenges Explorations Team and the Bill and Melinda Gates Foundation for choosing the University of Nairobi as the first host institution of this very important series of workshops and I look forward to lively discussion and participation from the audience.

Thank you.