# Creativity, Science and a Touch of Ingenuity could Spur Economic Growth

Addis Ababa, 5 March 2008 (ECA) – Wole Soboyejo comes across as a tad intense but not for the reasons mad scientists are known for – you know, the Einstein types – red-eyed, frazzled and unkempt. No, Soboyejo does not fit the stereotype. As he makes his contribution to a range of presentations on issues related to infrastructure and transport, this accomplished professor could easily be mistaken for a wall-street financial broker, if it wasn't for his affiliation with the Princeton Institute of Science and Technology of Materials and the Department of Mechanical and Aerospace Engineering.

The Science with Africa Conference, taking place at the United Nations Economic Commission for Africa (ECA), is the place to be for scientists, policy makers and entrepreneurs, watching out for ideas and concepts that can add to current thinking and debates.

It is clear that many unorthodox ideas spur him, such as the application of fractal theory that delves into the structure of traditional African homesteads and cultural expressions and how the theory can inform distributed centres in urban and rural areas for better utilization of infrastructure, transport and utilities. He also talks about age-old knowledge applied by ancient Egypt to maximize solar energy – heating up buildings on cold nights and cooling them during the day. Soboyejo's scientific endeavors are informed by ideas from ordinary surroundings and ordinary people, including artisans.

As strange as this sounds, this self-acclaimed “slightly mad” professor lights up about the potential for bamboo, a plant that he touts as key ingredient to resolving some of the transportation challenges of the industry. Graded to manage stresses by wind, its nano scale characterization shows that the material has tremendous potential – it is adaptable.

“My students and I have made 3 bamboo framed bicycles that we are testing for the market,” he says, adding that Brazil has already made headways in the utilization of bamboo to make planes.

Take the jargon and the math out of the process, he says and you have a few key ingredients that bring relevance to the natural resources around us - creativity, technical ingenuity, working with artistic concepts, combined with solid engineering.

It is the combination of science, research and innovation – much of which, he says, is “rooted in ordinary ideas that spring out of ordinary surroundings in Africa and much of the developing world,” that inspires him.

With materials found locally, he has helped to create sustainable ways in which Sudanese women with less than primary level education can make ceramic water filters from clay and saw dust and sell these for a living, resolving some 2 key issues, access to safe drinking water and making enough to take care of their families.

Halfway through the presentation, Soboyejo the scientist taps into the entrepreneur character that seemed to embody him earlier in the presentation. “With integrated funding mechanisms, where donors give money to create globally accepted solutions, the ideas can go beyond the science and be translated to markets.” He cites his work with students in Princeton that demonstrates financial models that show ways in which natural waste, natural fibres and straw can reduce the cost of building a three-bed roomed house to less than 1$0,000.

He is optimistic about the creation of an inter-disciplinary hub – a Pan-African interlinked hub of libraries, lab resources and other facilities in campuses in Nigeria, Burkina Faso, Tanzania and South Africa. These campuses will be innovating around oil and gas, water and environmental engineering; and biodiversity and mathematical sciences respectively. He opens the first campus in Abuja in July 2008.

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