

Developing Technology and Innovation in Africa: Focus on Agriculture and Food Industry

Research Agenda and Policy Forum

**Sponsored by The Government of Denmark and
The World Bank Institute**

**With Support from The Government of Ireland and Global
Development Network**

Background

We in Africa must either begin to build our scientific and technological training capabilities or remain an impoverished appendage to the global economy. (H.E. Paul Kagame, President of the Republic of Rwanda).

More than by just spurring economic growth, technology can do much to reduce poverty and environmental damage. It can increase the supply of food and reduce morbidity and mortality, particularly in Africa. It can also increase the supply of water and reduce the intensity of its use in production. And, it can lower the costs and increase the supply of energy to the poor. (Dr. Carl Dahlman, Professor, Georgetown University and former Program Leader, WBI).

Technology development, adaptation, acquisition, and application are among the key factors that determine a country's economic and social well-being, prospects for poverty reduction, and competitiveness in the global economy. Within a knowledge economy framework where the pillars of education, innovation, and information and communication technologies (ICT) occupy a central place, technology development is a cross-cutting factor that has profound impact on how a country is able to best fulfill its potential.

Many African countries are historically associated with natural resources and raw materials. Most of the economies have either stagnated or grown slowly. A few have prospered but their lessons are often not easy to extend to others. There is now a growing recognition that Africa can only strengthen its economic performance through considerable investment and use and development of technology.

In Sub-Saharan Africa, the role of innovation and technology development has increased significantly over the past decades. This transformation can be seen not only in the exponential growth of mobile phones, the growing use of computers and consumer electronic goods, and the rise of certain countries such as South Africa that have mainstreamed numerous technology applications into the private and public sectors. In fact, the transformation can be illustrated more accurately by examples from many

countries: in Rwanda where a country that is based mainly on subsistence farming is investing in improved agricultural techniques, developing centers of science and technology, and attempting to move up the value chain in terms of the quality and certification of such products as coffee and tea; in Uganda where technology is having a high impact in aquaculture and organic farming; and in Kenya where technology is shared within enterprise clusters that produce cut flowers, auto parts, handicrafts, and other industrial products.

Taken as a whole, these examples demonstrate the increasing vitality of technology and innovation in Africa. However, there are many examples where technology investments in Africa have not been successful. Poor infrastructure and inadequate infrastructure services, lack of human skills and institutions to support the use of technology are important factors in explaining the relative slow progress in many African countries.

In this context, The Danish Government represented by DANIDA and the Danish Ministry of Science, Technology and Innovation has partnered with the World Bank Institute to organize a Forum on “Developing Technology and Innovation in Africa: Focus on Agriculture and Food Industry”. In order for the Forum to have a clear relevance and concrete follow-up activities, it has been decided to limit the number of invited countries to **Ghana, Kenya, Mozambique, Tanzania, Uganda and Rwanda** and to focus on the following technology sectors: **agriculture, food industry, rural energy and physical environment including water**. Additional support is being provided by the Government of Ireland and the Global Development Network.

The reason for the choice of technologies is linked to the fact that growth and productivity in agriculture and food sectors is central to any strategy of reducing poverty and increasing economic growth and development in African countries. The Forum will focus on policies and incentives for fostering innovation within agriculture and the agro-industrial sector and on learning from innovative case studies in the four technology areas mentioned above.

The proposed Forum comes at a timely moment where several initiatives are taken to strengthen Africa’s science and technology base as e.g. NEPAD’s Africa Science and Technology Consolidated Plan of Action; the recent African Union Summit on science and technology in Addis Ababa, and Tony Blair’s Commission for Africa Report. The World Bank’s African Action Plan puts emphasis on new initiatives on building capacities for tertiary education, research, innovation, science and applied technology in conjunction with a growing emphasis on the economic growth agenda and several such projects have been launched or are planned to be launched. Several African countries including Kenya, Mozambique and Rwanda are furthermore launching ambitious national science, technology and innovation plans.

In parallel to this partnership, Denmark is working on a strategic approach on how Danish universities, research institutes, and private companies more effectively can collaborate with their counterparts in developing countries on applying technology to advance economic growth and well-being in developing countries.

The K4D Program has considerable experience in working on knowledge economy and innovation issues in Africa as for example the conference on “Knowledge for Africa's Development: Innovation, Education, and Information and Communications Technologies” (Johannesburg, South Africa, May 8-10, 2006). The conference, organized by the World Bank, Government of South Africa, and Government of Finland, brought together some 230 high level policymakers, as well as representatives from the private sector, academia, and civil society organizations from 20 Anglophone, Francophone, and Lusophone countries in Sub-Saharan Africa. It had a strong focus on discussing how African economies could move towards knowledge-based economies by investing and reforming their education, science and innovation systems and by creating the incentives and institutions to support these investments.

As a follow up activity to the South Africa conference, the Government of Ireland and the World Bank Institute organized March 2007 a workshop in Dublin for a small group (35) of policymakers from Uganda, Tanzania, Mozambique, Kenya, Rwanda, and Ethiopia. The goal was to advance the innovation agenda in their countries. The workshop was designed as an opportunity for participants to interact very closely and formulate concrete approaches for implementing a future scenario to strengthen innovation policy and practice in their respective country.