

TECHNOPOLICY BRIEF 10

HOW CAN INNOVATION SYSTEMS AND
INNOVATIVE CLUSTERS BE USED TO
DEVELOP AFRICA?

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AFRICAN TECHNOLOGY POLICY STUDIES NETWORK

Published by

The African Technology
Policy Studies Network,

P.O. Box 10081, 00100 General Post Office,
Nairobi, Kenya.

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Policy Studies Network (ATPS)

Printed by



ISBN:

ABOUT THE AFRICAN TECHNOLOGY POLICY STUDIES NETWORK

The African Technology Policy Studies Network (ATPS) is a multi-disciplinary network of researchers, policy makers, actors in the private sector and other end-users interested in generating, promoting and strengthening innovative science and technology policies in Africa. With a regional secretariat in Nairobi, the network operates through national chapters in 21 African countries, with an expansion plan to cover the entire sub-Saharan Africa.

One of the objectives of the network is to disseminate research results to policy makers, legislators, the organized private sector, civil society, mass media and farmers' groups through publications, dialogue and advocacy. Among its range of publications are the Working Paper Series (WPS), Research Paper Series (RPS), Special Paper Series (SPS) and the Technopolicy Briefs.

Technopolicy Briefs Series are commissioned short papers written by experts from all over the world specifically to address current science and technology policy concerns and questions in Africa. The briefs are also summaries of technical papers published under our WPS, SPS and RPS written to highlight significant policy recommendations. These briefs are written with the busy policymakers and non-specialists in mind. The materials are designed for general readership and help advance the advocacy and knowledge brokerage roles of the ATPS.

ATPS is supported by a growing number of donors including the International Development Research Centre (IDRC), the Carnegie Corporation of New York, the Rockefeller Foundation, the World Bank, the OPEC Fund, Ford Foundation, Coca-Cola Eastern Africa, the African Development Bank, and the Royal Dutch Government.

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1.0

Introduction

The subject of innovation systems and innovative clusters is not new. It was developed and used in Sweden, Finland and most of the Nordic and other developed countries with great benefits. In developing countries including Jamaica and Brazil attempts have been made to develop and use this system and there are on-going efforts in Africa to come to grips with the concept and its utility in the overall schemes and programs for Africa's development.

Most economic recovery and development plans in Africa are written by economists and planners, often of the neoclassical persuasion. In almost all the documents, the assumption is that technology is important, and market forces will be robust enough to drive the content and shape the technological trajectories to the overall benefit of our peoples. This could not be farther from the truth. With this false assumption, no attempt is made to construct a system that ensures that centres of research and new knowledge are linked to centres of innovation/commercialization. The networking of actors in research and development (R&D) institutions (both public and private) and those in industry, therefore, receive no attention.

We all recognize that innovation is key to economic growth and development. But we have failed to realize that it just doesn't happen. It requires the government to create a set of incentives that encourages linkages and networking among the players, processes and organizations.

These incentives have to be structured to reward a change in attitude, a change in innovation culture: from passive to active collaboration; from closed to open innovation. In Africa, we need to engender a "hacker ethic", and innovative ethos that motivates individuals to place greater value on inventions than on money because this approach could create a "network of rebels", each trying to outdo the other creatively in a supportive innovative environment. A system that invests in channelling the creative



energy of these individuals in a manner that links several institutions together and fosters a strong partnership between the public and the private sector should be part of the national schemes of innovation. All of these come together through a well articulated national science and technology policy with the highest leadership of the country as its driver.

2.0

How has Finland Applied the System of Innovation?

The national system of innovation in Finland is instructive here. Starting with technology assessment in 1976, a science and technology policy council was set up with the Prime Minister as its Chair. It made conscious and deliberate decision to foster linkages between researchers, universities and industry. The government increased the national investment in research from 1.2 percent of GDP to 2.2 percent by 1992 and an independent national technology agency, TEKES, was founded in 1983 to finance technology research and development. This agency reports to the Ministry of Trade and Industry to underscore the important economic links. This council's governing organ has at least eight ministers, including education, and trade and industry, rectors and top researchers from Finish universities, captains of major industry, Director of TEKES, and the science academy. This endeavour was extremely important in creating a shared vision and in sustaining the efforts towards defined national goals. Funding for research emphasized partnerships with other companies and with the university. The Finnish high quality engineering universities played very important roles in this process, and so was The Finnish National Fund for Research and Development (SITRA), which played the role of a public venture capitalist. In essence, the government was central in nurturing an innovation culture, providing the environment and the nuts and bolts which were important for people to network and produce. Today, many of us in Africa and indeed in this audience are enjoying one of the fruits of this endeavour: the Nokia phone. In many ways, Nokia is a truly Finnish national product. It is a good example of how private company has turned Finnish knowledge, its know-how, created by public universities and research institutions, into a product by providing the financial basis. The experiences of many industrialized of industrializing economies are similar to this.

3.0

What is the African Experience?

In most of Africa, the national councils of science and technology exist. But that is the much we can say about them. They are under funded, poorly staffed and ill-equipped and cannot serve as a clearing house for national SCIENCE AND TECHNOLOGY or for creating a shared vision on inventions and innovations. If Africa must make progress, it must urgently re-think the role of national councils of science and technology, their continued relevance, and perhaps consider a re-positioning that gives them strong coordinating roles between the universities and research institutions, the government and the industry.

4.0

What is the Contribution of the African Technology Policy Studies Network (ATPS)?

ATPS is an African institution set up to agitate for these changes, to underscore the imperatives of science and technology policy for Africa's economic recovery and renewal, and to foster good technology policy making and implementation. It does this through support for research, training and policy dialogue. With chapters in 22 countries, ATPS is able to react quickly to emerging national science and technology policy issues and to articulate a research agenda that is demand-driven. On the platform of national chapters, ATPS is able to question the depth of the poverty reduction strategic plans and economic recovery plans that do not allocate significant roles to science and technology policy. Such exercises have been conducted in Ghana, Kenya, Nigeria and Tanzania.

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