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The Strategic Role of the Food Research Institute in Productivity Enhancement and the Private Sector Development in Ghana

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Abstract

The Private Sector Development Project (PSDP) was a culmination of the renewed commitment of the Government of Ghana to accelerate the pace of development of Ghana's private sector. The project was also a direct result of the Business Community's own assessment of Lingering issues which impeded growth of the private sector. These issues were confirmed and consolidated during a series of roundtable between the Private Sector and key members of Government and the Donor Community in 1994. The project complimented and enhanced the effectiveness of other private sector development initiatives, which were being promoted by the Government. The USAID funded Trade and Investment Project was one notable project, which was develop simultaneously with the PSDP and it provided export support services to the private sector. Other World Bank Projects had already been implemented to improve private sector growth and delivery. The key policy objective of the project was to adequately develop the private sector to become the effective engine of growth for the country. The Food Research Institute's component of the PSDP was initiated with a clear objective of re-orienting the Food Research Institute (FRI) from a subvention-oriented institute to a partly self-financing organisation able to operate and survive in a commercial setting and to support the growth of the private sector. By an Act of Parliament of the Republic of Ghana, CSIR Act 521 of 1996, the Council for Scientific and Industrial Research, CSIR, the parent organisation of the Food Research Institute was re-established with a new mandate to conduct market-oriented, demand-driven research and also to commercialise the research results & technologies developed. The CSIR was tasked to recover three-quarters of its annual operating expenses through contract research and services. After a decade of implementation, what are the experiences? This paper looks at the management of the commercialisation process. The implementation process, the attitude of research scientists towards the change and the impact of the commercialisation process on the socio-economic development of Ghana are discussed. The constraint of commercialisation including inadequate uptake of research, which is a reflection of inappropriate monitoring and evaluation, is discussed. The paper seeks to review among others the background of the PSDP, the original tasks targeted at project initiation, and the successes and failures of the project. An attempt has been made to review a number of relevant conceptual and practical issues of private sector development in Ghana in an evolutionary perspective. Against this backdrop, the paper seeks to define, in a focused manner, the management framework of the Food Research Institute: From "Strategic Planning" to "Strategic Learning".

1.0 INTRODUCTION

1.1 The Food Research Institute

The Food Research Institute (FRI) is one of the thirteen affiliate institutes of the Council for Scientific and Industrial Research (CSIR). It was established by the Government of Ghana on 1st October 1963 in recognition of the need for such an institution to support the growth and development of a growing economy. It was later incorporated by Legislative Instrument No. 438 of 19th March 1965. The FRI became one of the CSIR Institutes by a revocation of LI 438 when NLC Decree 293 established the CSIR in October 1968. Operations of FRI started in 1965 with assistance from the United Nations Development Programme (UNDP) while the Food and Agriculture Organisation (FAO) acted as the executing agency. The phase of UNDP/FAO project assistance lasted for five years, from October 1965 to September 1970. FRI has since blossomed into a full-fledged research institute and much more.

FRI has a mandate to conduct applied research into problems of food processing and preservation, storage, marketing, distribution and utilisation in support of the food industry, and also to advise government on its food policy. The Institute's mission focuses on providing scientific and technological support to the growth of the food and agricultural sectors in the national economy in line with government policy objectives. The Institute is divided into seven divisions, four of which address technical aspects of food quality and production; nutrition, microbiology, chemistry and processing/ engineering. The remaining three divisions deal with business development, administration and finance. Research programmes and projects, fall both within specific divisions (for example, fats and oils studies, cereal/ grain/ fish processing studies) and cut across divisions (economic and consumer studies).

The main programmes of the Institute are centred on Research & Development activities for the solution of postharvest problems in Ghana and also to generate income. The Institute measures and manages its performance using the balanced scorecard approach. The goal of the FRI under the current measurement framework is: *To be a centre of excellence that conducts market-orientated research and provides accredited technical services to the food industry by 2008* [FRI Strategic Plan 2003]. To accomplish its objectives, the activities of the Institute are classified under the following programmes:

- Pilot studies and transfer of processing technologies programme
- Technical and analytical services programme
- Food biotechnology programme
- Food evaluation and product development programme
- Training programme
- Food safety and quality assurance programme

- Community outreach programme
- Knowledge and Performance Management Programme

The FRI's overall capacity depends upon its resources (human, physical, financial, and technological) and its management (leadership, program and process management, and networking and linkages).

1.2 The Private Sector Development Project (PSDP)

The Private Sector Development Project (PSDP) was a culmination of the renewed commitment of the Government of Ghana to accelerate the pace of development of Ghana's private sector. The project was also a direct result of the Business Community's own assessment of Lingering issues which impeded growth of the private sector [PSDP, 2000]. These issues were confirmed and consolidated during a series of roundtable between the Private Sector and key members of Government and the Donor Community in 1994. The project complimented and enhanced the effectiveness of other private sector development initiative, which were being promoted by the Government. The USAID funded Trade and Investment Project was one notable project, which was developed simultaneously with the PSDP and it provided export support services to the private sector. Other World Bank Projects had already been implemented to improve private sector growth and delivery.

1.2.1 Policy Objectives

The key policy objective of the project was to adequately develop the private sector to become the effective engine of growth for the country. Anticipated policy interventions aimed at achieving this objective included:

- i) An extensive overhaul of the country's research and development capabilities to meet private sector needs and
- ii) An equally extensive preparation of the private sector to capitalise on this improved technical and technological environment to improve productivity.

1.2.2 Project Assumptions

Following the extensive deliberations between Government, Private Sector and IDA, the following basic assumptions were established as the foundation developing for an effective Private Sector Development Project [PSDP, 1996]:

- An effective private sector would need to be founded on a stronger research and technological base;
- The state research and technological institutions, following an extensive overhaul, could form the basis for the development of this formidable support to the private sector;
- Removal of institutional bottlenecks in the legal sector would significantly improve private sector delivery and efficiency;

- A better prepared private sector would patronise the more commercialised and demand driven state research industry to improve innovation and productivity;
- The most disadvantaged group within the private sector - the small and medium enterprises - would need significant boost to increase competitiveness.

1.2.3 Design and Implementation Strategy

The main features of the project subsequently included [PSDP, 1994]:

- An overhaul of the country's research and technology institution to include extensive rehabilitation of the Council for Scientific and Industrial Research (CSIR) and upgrades in technical specifications for the Ghana Standards Board (GSB);
- Assistance to small and medium entrepreneurs, through a Technology and Enterprise Development Fund, in effective project/product design and promotion;
- Removal of lingering legal and regulatory bottlenecks which plague the private sector in Ghana.

2.0 COUNTRY/SECTOR BACKGROUND

2.1 Historical background: post independence private sector development in Ghana

Ghana enjoyed the highest per capita income in the region at independence in 1957. However, during the 1970's the economy went into crisis. Per capita income fell by a third and inflation stood at 100%. The private sector became peripheral to the Ghanaian economy: by the late 1970's, the public sector accounted for $\frac{3}{4}$ of formal wage employment. (It still accounts for nearly half) [CEPA, 1996].

The effect of Government policies on the private sector in Ghana are well illustrated by the decline of the cocoa sector. In 1957 cocoa accounted for 19% of Ghana's GDP, and cocoa producers received nearly 90% of the world price. But by the 1980's cocoa accounted for only 3% of GDP, and cocoa producers were receiving only 6% of the world price [GOG, 2003]. This collapse can be largely attributed to Government policies - excessive levels of effective taxation on cocoa producers, exacerbated by a high black market premium on foreign exchange. In addition, at the end of the 1990's falling prices for cocoa (coupled with a similar situation for gold) contributed to a major term of trade shock.

In the 10 years prior to the introduction of the Economic Recovery Program (ERP), real GDP fell by 2 percent per annum; in the 10 years since its introduction, real GDP has risen by 5 percent per annum. Inflation fell from a high of 123% in 1983 to 18% in 1991 and investment rose from around 6% to 16% in 1991. The large election-related wage increases resulted in a higher fiscal deficit and raised inflation. The fiscal situation improved in 1993, but by less than planned, but growth was around 5 percent [ISSER, 2000].

2.2 The CSIR Component

The CSIR component of the PSDP was designed to continue the process of fostering the development of a competitive private sector by assisting the Government in building on its investment liberalization policy. The CSIR was therefore provided with technical assistance to restructure, reform and commercialised its technical research and development functions along competitive and demand-driven principles [Parliament, 1996].

2.3 The FRI component

Without any prejudice to its mandate, the FRI's component of the PSDP was initiated with a clear objective of re-orienting FRI from a subvention-oriented institute to a partly self-financing organisation able to operate and survive in a commercial setting so as to generate 30% of its operating budget [CSIR-CCID Task Team, 2001]. As a result of opportunities and threats posed by the environment within which FRI operates and FRI's strengths and weaknesses, FRI formulated appropriate strategies for the successful implementation of all the various options for commercialisation identified under the PSDP. Towards this end the strategic framework of FRI redefined its mission, vision, and goals.

2.4 Ten Years after Implementation of the PSDP

The requirements of CSIR to generate 30% of annual budgetary needs by December 2001 could not be achieved based on the 5-year corporate average of 5.49%. Similarly, at the individual institute level, only CSIR-OPRI has consistently operated high returns with a 5-year average of approximately 30%, and surpassed the stated goal very slightly for some years. The averages for the rest of the institutes are under 5.0% [CSIR-CCID Task Team, 2002].

Several reasons can be assigned to the failure of the CSIR and Ghana as a Country in achieving its technological development goals. Management of Technology within the CSIR and Ghana as a whole is a serious obstacle, which ironically has not been given the needed attention. The major obstacles to proper and efficient Management of Technology in Ghana fall into definable categories namely Financing, Management, Marketing, Education and Infrastructure. The first step in the commercialisation process consists of learning the obstacles lying between the Scientist or Technologist and the market; the second step involves learning to plan a strategy that will see you safely through the barriers--in effect, learning to navigate; the final step requires actually making such a plan and executing it. All these steps require good management. There are very few experienced technology transfer and commercialisation managers in Ghana – there is a general lack of people with entrepreneurial flair and the managerial capacity to overcome the hurdles to successful commercialisation. Although there is the know-how and the capacity for technological innovation, the small size of Ghana's technology industries, means that there just are not that many good managers to manage the know-how and the innovation process. There is general acknowledgment that management ranks need to be strengthened; the challenge is how.

One problem Ghana faces is that the size of the technology industry does not provide the capability for gradual progression of increasingly senior managerial positions. Another managerial problem especially within the CSIR, which is adversely affecting the commercialisation process, is that many of the Directors and commercial managers have a technology background, however because of their current position they tend to leave the technology area for the managerial area. The technology area loses the attention it needs to maintain advantage, while at the same time the managerial area is led by a person who often does not have the managerial skill set. Directors within the CSIR need to recognize this problem and develop appropriate staffing. The CSIR has experienced little success when endeavouring to recruit management personnel to manage the commercialisation process.

The failure of Ghana as a country to address the following issues before the implementation of the PSDP led to its failure:

- The shortage of financing for SMEs, primarily for seed or early stage companies.
- The lack of financing options related to commercialization and early growth situations, where public offerings or other forms of institutional financing may not be appropriate.
- The lack in Ghana of tax related incentives, to stimulate investment in the technology sector.
- A general shortage of experienced leadership in SMEs, with ability in all the functional disciplines required to successfully nurture and grow companies.
- The continuing risk, that researchers and entrepreneurs, particularly in the medical field, will leave Ghana at an ever-increasing pace.
- The lack of an adequate "venture culture" amongst many technology developers and entrepreneurs;
- The difficulty, particularly for early stage companies, in identifying how and where to access financing.
- The relative lack of financing support, not burdened by perceived "bureaucratic red tape", for specific project and marketing initiatives.
- The lack of incentive in certain sectors to encourage buyers of technology based products and services to invest in the development and procurement of same, in Ghana.
- The difficulty many inventors and early stage SMEs encounter in protecting proprietary intellectual property.
- The need to focus efforts largely on technology sectors and initiatives in which clear competencies (or the potential for same) exist in Ghana, and where the "value added upside" potential is greatest.
- The competition between academia and industry for Science and Technology funding, and the gap that exists in better linking initiatives between the two.
- The need for Government generally to be supportive, but non-intrusive in facilitating technology commercialization.

- The need to support entrepreneurship at the secondary and post-secondary education levels, to assist the youth of the country to take a stronger role in creating their own employment, thereby enhancing and sustaining economic development in Ghana.

2.4.1 *Managerial Shortfalls within the CSIR*

There are some specific managerial shortfalls within the CSIR. One is the lack of ability to make value statements. A typical problem of scientists and technologists in the country creating technology is their lack of ability to express the value that technology will bring to their customers. In simplistic terms, the focus is on technology features rather than customer benefits. That is not to say the benefits are not necessarily there - the problem lies in attitudes that are not customer focused, and even where they are, the CSIR is unaware of how to manage that focus into a successful sales campaign. Another managerial shortfall, more widely applicable, is the need for managers not just to have general management skills, but the benefit of being networked. This is a major problem within the CSIR and the entire Ghanaian society. Non-traditional organizational and management styles are also a barrier. Although different organizational designs and styles might work very well commercially, non-traditional approaches to management of technology are treated with scepticism by the investment community - perhaps another evidence of lack of receptivity to new ideas. Finally, there is a lack of useful industry and competitive information as a barrier to successful commercialization, and that this is a void that government could help to fill.

3.0 FROM STRATEGIC PLANNING TO STRATEGIC LEARNING: FRI'S STRATEGIC FOCUS

After careful review of FRI's component of the PSDP and its failures, the FRI decided to take a look at its organisational performance. FRI's reality and a consideration of future opportunities and threats heightened the realisation of the need for effective performance management. The need for a clear goal, objectives, indicators and strong feedback mechanisms linked to this diverse client and stakeholder groups was matched by the need to ensure that staff within the institute were informed of these changes, and likewise, that management were aware of staff needs. In that context, the reconsideration of its corporate framework to help staff and investors the institute's performance and the development of a more consistent and commonly understood basis with which to monitor and evaluation the institute's work were areas identified as opportunities to pursue.

3.1 Where FRI started:

The identification of:

- Certain inherent weaknesses within the system at the organisational level: poor communication between staff, appropriate information not always available, burdensome bureaucracy
- Certain strengths within the system at the organisational level: high quality staff and (in-general) equipment, good internal systems for measuring the research process

- A need to have systems that are sufficiently robust to incorporate a better understanding of the external environment (clients and donors) into the internal processes of the institute.

3.2 What FRI has done through this process:

- Considered the reconfiguration of existing activities under the framework of the balanced scorecard. Namely, a review of the organisations goal to accurately represent the work + aims of the institute, considered objectives and indicators to achieve this goal, and drafted action plans to achieve some of these objectives.
- Identified, through the use of the balanced scorecard, areas that have not received attention previously - notably methods for enhancing feedback and thus learning across several dimensions, for example, employee satisfaction and its linkages to organisation performance.

3.3 What value the process has added:

- Clarified current capacity and issues, potential opportunities and threats which reflect the existing capacity and utilisation of systems within FRI.
- Utilised a framework for facilitating a broader understanding of organisational performance.
- Development of corporate objectives and indicators that aim to bring together the core work areas of the institute.
- Identified critical success factors for achieving these objectives in view of what is currently being done in these areas. Identifying current M&E activities in these areas, and revealing gaps to be addressed through action plans.

3.4 The Way Forward

Measurement is not an end in itself, but a tool for more effective management. The results of performance measurement will tell you what happened, not why it happened, or what to do about it. In order for the FRI to make effective use of the results of performance assessment, it must be able to make the transition from assessment to management. It must also be able to anticipate needed changes in the strategic direction of the Institute, and have a methodology in place for effecting strategic change. Successful accomplishment of these two tasks represents the foundation of good performance management. Both of these tasks can be greatly facilitated by use of the BSC. In other words, besides simply assessing performance, the BSC provides a structured framework for performance management.

Measurement has provided the basis for the FRI to assess how well it is progressing towards its predetermined objectives, helped it identify areas of strength and weakness, and decided on next steps, with the ultimate goal of improving organizational performance. It has also provided the data necessary for showing how activities support broader goals, and provided the data necessary for supporting requests for additional resources or for supporting new initiatives. But it is the effective

use of this data by management at all levels of the Institute to aggressively improve products and services for customers and stakeholders that is the hallmark of leaders in performance management.

The FRI has been able to manage assessment results to the benefit of the Institute, and is now using BSC methodology as a guide in accomplishing the strategic goals of the Institute. The use of the BSC as a Management tool has made the FRI to re-examine the philosophy and core principles of how research programmes are designed. It is no longer acceptable within the Institute for Project Managers, for example, to plan programmes for applied research without the participation of direct and indirect users. The FRI has devised a business plan as well as a strategic plan, based on the Performance Management approach, which was participatory and iterative.

3.5 FRI's Corporate Strategy

A corporate strategy is the creation of a unique and valuable position for an organization, involving the definition of its priorities and a set of activities tailored to these priorities [UNIDO, 2003]. The strategic positioning of any organization involves performing different *activities* from its competitors *or* performing similar activities in *different ways*. A fit among the activities is essential not only for competitive advantage, but also for the sustainability of that advantage [UNIDO, 2003]. Sustainability comes from the activity system as a whole, not from its isolated parts, and is the key to operational effectiveness.

Given the dynamics of the Private Sector development process in Ghana discussed earlier, FRI's corporate strategy focuses on an increase in productivity growth, and the Institute's activities is built around this central theme for achieving optimal effectiveness. Productivity enhancement would provide the needed strategic fit across all the activities and interventions.

For the Food Research Institute to realise its mission and achieve its Strategic Role of Productivity Enhancement and the Private Sector Development in Ghana, it is committed in a defined and focussed manner to the following values which underpin all aspects of its work: Excellence; Responsibility; Partnership; Accessibility; Responsiveness; and Accountability. Its core aims and research and institutional priorities are also well defined [FRI Strategic Plan, 2003].

4.0 CONCLUSION AND RECOMMENDATIONS

Public Research and Technological Organisations wherever they are on the globe can accomplish far-reaching reforms. They carry a heavy responsibility for making a positive difference to life by introducing fundamental and significant changes. To this end they must communicate better with other parties in their sector, critically question their own goals and strategies, and develop the capability to showcase the contribution they make. It has been proven by the Food Research Institute, that Impact Orientation can be institutionalized within public research and technological organisations [Yawson R. M. et al. 2006]

For Productivity Enhancement and the Private Sector Development in Ghana to be successful, it must be understood that technology innovation and its commercialization should be the driving force. However, the impetus for change must come from all sections of society under competent political leadership. The weak political commitment and infrastructure, vast bureaucracies, misdirected education and training, scarce financial resources, poor research productivity and inadequate demands on the national R&D system are all constraints to technological innovation and commercialization [Lalkaka, 1999]. The creative scientists at home are frustrated due to hierarchies of authority, lack of delegation and mistrust in sharing information. The most critical barriers facing successful technology commercialization in Ghana today can best be categorized as: *Financing, Management, Marketing* and *Infrastructure*. Addressing these barriers, would contribute significantly to improving the technology commercialization climate in Ghana and ultimately enhance productivity and the development of the private sector.

There are serious and fundamental constraints on the operation of markets in Ghana at all levels. The vast majority of the constraints at the national level arise because of costs imposed on businesses by Government [GOG, 2003]. Weak, inefficient administration by the public service translates into time, money, risk and inefficiency for individual businesses. This in turn affects Ghana's competitiveness in global and regional markets.

The issues can be categorized as -

- Poor service delivery to the private sector (for example poor road maintenance resulting in delicate crops for export being damaged on their way to the airport);
- Too much bureaucracy (for example at the ports or when registering a business).

Addressing constraints on the operation of markets at the national level is a critical area for Government intervention. Improving the operation of the market at a national level will improve competitiveness and thus enhance access to global and regional markets. Tackling constraints at the firm level, although important, will be of limited effect without at the same time tackling the systemic issues of the mal-functioning of national markets.

REFERENCES

CEPA (1996) "*Macro-economic Review and Outlook*" Centre for Policy Analysis, Accra

CSIR-CCID Task Team (2001) Report on In-House Review of CSIR Commercialization Plans
CSIR, Accra

GOG (2003) National Medium Term Private Sector Development Strategy: "*Developing effective markets for the golden age of business*" Volume 1: Strategy <http://www.giacghana.org>

FRI (2003) The Strategic Plan of the Food Research Institute 2003 -2008. Accra, Ghana

- ISSER** (2000) Institute of Statistical, Social and Economic Research “*The State of the Ghanaian Economy in 1999*”, Legon, Accra
- Lalkaka, R.** (1999), Evaluating Science and Technology Programs, *NCSTE-UNDP*, Beijing.
- MEST** (2000), Ministry of Environment, Science and Technology “*National S&T Policy*” Accra.
- Parliament** (1996) CSIR Act 521, *The Parliament of the Republic of Ghana*, Accra.
- PSDP** (1994) Credit and Project Summary. World Bank Ghana Office, Accra
- PSDP** (1996) Implementation Report, *Private Sector Development Project*, World Bank/MFEP, Accra
- PSDP** (2000) Implementation Completion Report, *Private Sector Development Project*, World Bank / MFEP/CSIR, Accra.
- Smith D. R.**, with **Sutherland A.** (2002) “Institutionalising Impact Orientation – Building a Performance Management Approach that Enhances the Impact Orientation of Research Organizations” Chatham UK, NRI ITDG Publishing,
- UNDP** (2001) United Nations Development Program “*Ghana – Country Profile*”, Accra
- UNIDO** (2003) Developing Industry: *Productivity Enhancement for Social Advance* - UNIDO’s Corporate Strategy
- Yawson R. M.**, Amoa-Awua, W. K., Sutherland A. J., Smith D. R. and Noamesi S. K. (2006) Developing a Performance Measurement Framework to Enhance the Impact Orientation of the Food Research Institute, Ghana. *R&D Management* **36**, 2, 2006 Pages 161 – 172 © Blackwell Publishing Ltd. 9600 Garsington Road, Oxford OX4 2DQ, UK