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Public-Private Partnership in Food Quality Analysis in Burkina Faso

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Abstract

In an overall context of public sector resource constraints and an agri-food industry dominated by micro- and small-scale enterprises, there has been a growing role for the use of research laboratories as a quality promotion tool in Burkina Faso. These laboratories, which receive scientific and financial support from a range of bilateral and international partners, have become the local partner of choice for many private sector food processors and various government services. The public-private partnership involves staff training in Good Practices and HACCP, the training of enterprise quality supervisors, the analysis and quality control of foodstuffs, and the carrying out of in-company tests and experiments for research purposes. This process is favorable to technology transfer, and is helping to spread a "quality culture" in the food processing sector. However, constraints remain. In particular, links between the research laboratories and other government services remain weak. From the private sector's point of view, the research laboratories still charge too much for their services and do not respond quickly enough either for producing results or for solving specific operational problems.

The Context of Food Quality Management and Control in Burkina Faso

Development plans and strategies for the improvement and development of the food chain in West African countries such as Burkina Faso generally lead to a partial diagnosis of the situation and bring to light the poor level of commitment of the public authorities. Plan implementation encounters numerous obstacles, linked to inadequate distribution of the few resources available, imprecise definition of the responsibilities of services and institutions, weak food quality monitoring systems, and limited promotion of voluntary management systems to ensure food quality and wholesomeness.

In Burkina Faso, the application of national strategic plans in this area is the responsibility of government services within the Ministries of Health, Commerce and Industry, Environment, Research and Education, Agriculture, Animal Resources. Each ministry is responsible for the implementation of the sectoral development plan within its specific field, but cooperation between them is poor, and sometimes even nonexistent. In addition to these government bodies, the main players are farmer groups, processors (artisanal, small and medium enterprises (SMEs) and some larger-scale industries), consumer organizations and public and private quality control laboratories.

Current conditions in the country do not favor the development of a quality “culture.” The main constraints to quality promotion are poor sensitization of producers, companies and consumer organizations, and the insufficiency of means allocated to quality control laboratories. Only a concerted effort among these players, within the framework of a national strategy, can lead to the improvement and development of the food chain, enhanced competitiveness and the stimulation of exports.

Since the devaluation of the currency in 1994, several private initiatives have been taken in Burkina Faso’s agri-food sector, including the creation of processing and service units, reorganization and strengthening of professional associations, and a focus on exports of food products to other countries within West Africa. In this context, the government has improved the legislation pertaining to certain support structures and created other more appropriate structures to meet private sector needs. However, the influence of these measures is limited by the lack of cooperation among support structures and the insufficiency of resources.

Actions Taken by the Government

Beginning in 1994, Burkina’s government promulgated several laws relating to competition, environment and public health. Legislation dealing with food-related issues is in the process of being drawn up.

In 1998, the government created a “National Standardization Unit” with several key objectives: development and dissemination of information on standards, technical specifications and codes of practice; training of companies in quality management; and certification of conformity of products and companies to standards. The unit is based at the National Office of Foreign Trade (ONAC). It has received technical and financial assistance from the United Nations Industrial Development Organization (UNIDO) for the promotion of quality in agri-food companies. UNIDO’s main contribution is assistance in the promotion of Good Manufacturing Practices (GMP), Good Hygiene Practices (GHP) and the Hazard Analysis and Critical Control Points (HACCP) approach.

Recently, the government also founded the National Public Health Laboratory at the Ministry of Health, to monitor and analyze food, chemical and pharmaceutical products. Other laboratories linked to the Ministries of Health, Scientific Research and Higher Education, Agriculture and Animal Resources exist, but the best-organized laboratories are those dedicated to research, which work in cooperation with several African and European scientific partners. In Burkina Faso, these research laboratories are the only ones providing food monitoring and analysis at the request of agri-food companies. The reliability and sustainability of these activities are ensured by the scientific, technical and financial support (covering both equipment and operating expenses) provided by the laboratories’ Northern partners.

Concerning education programs, the University is the only structure supplying the market with agri-food specialists, who are usually employed in the large-scale industries (brewing, sugar, oil and milling industries, etc.). The artisanal sector and the SMEs are more interested in secondary-level professional institutions that provide specialized technicians, whose levels correspond better to the size of their companies. To this end, the government recently created three professional institutions with agri-food sections. Private companies were involved in curriculum development, and the teaching programs take into account all the components of food product quality.

Although regulations on the importation of certain basic food products exist, the organization and means at the disposal of the departments responsible for enforcing this legislation are

insufficient. This situation favors the development of fraud and unfair competition for local companies.

The sensitization of the government to the numerous issues faced by agri-food companies is a priority in Burkina Faso, as it is in most of the countries of the region. This sensitization must emphasize the improved organization and coordination of the actions of government support structures. It must also target the development of laboratory capacity, as well as the training of all the players in the food chain.

The Private Sector's Moves Toward Quality Management

In the agri-food field, the private sector is essentially made up of industries, services, and increasingly dynamic micro- and small agri-food companies. Self-monitoring is not widely practiced by industries. For most companies, quality can be summed up as the specifications of the finished products. These companies generally request technical support only when they run into production difficulties, and these requests are usually addressed to research and teaching laboratories. Few private service providers can meet the multiple needs of agri-food companies, including advice on business design and creation as well as support, consulting, and monitoring and analysis of food products.

Companies which formerly did not give priority to the quality of their raw material are increasingly aware of its impact on profitability. This is particularly true for some food products produced for export, where efforts are being made regarding the use of pesticides and the sanitary quality of products. In contrast, no particular attention is paid to the quality of products for local consumption.

According to several studies carried out by national and international experts, the application of good production and hygiene practices are the priority actions to be developed. The UNIDO program underway in Burkina Faso addresses the issues of training and the sensitization of companies to GMP and GHP. Test companies have been selected for the introduction of the HACCP system. To date, the major difficulties encountered by this program relate to the organization of the companies, and the transmission of knowledge and know-how. However, progress has been noted in some companies.

Agri-food companies, particularly micro- and small enterprises, are organized under the auspices of the Burkina Agri-Food Industries Federation (FIAB), which has set up offices throughout the country. FIAB organizes national-level activities in order to promote members' businesses and to sensitize the public authorities to the various issues at hand, including difficulties faced by companies in the application of the country's strategic development plans, the improvement of legislation regarding company production conditions and development and insufficient public support for the sector, particularly in terms of tax laws and credit availability.

The difficulties entailed in the partnership between the public and private sectors in the agri-food industry are essentially due to a lack of coordination and insufficient communication among the players. Government measures to assist the private sector remain poorly understood by the potential beneficiaries. This partnership also suffers from insufficient resources. Nevertheless, the partnership has been steadily improving for the past few years thanks to the dynamism of the professional associations. The training and sensitization of the main players in the field of food chain organization and the quality approach are the priority actions to be developed.

Issues Facing Public and Private Food Quality Control Laboratories

There are three categories of food quality control laboratories in Burkina Faso: public research laboratories, government service laboratories and private company laboratories.

Public Research Laboratories

All research laboratories belong to the state. They were set up to meet the training, supervision and research needs identified in the country's strategic development plans. There are two types of laboratories within this category: those located at the university and those located at research centers. The university laboratories operate according to a research teaching program, and, as noted, supply graduates to the larger food industries. They can carry out food analyses and quality control on behalf of private companies, but their operating systems make them less accessible to the private sector than the research center laboratories. The latter are run according to a national research program developed to tackle constraints identified in the public and private sectors. Research and support activities for these laboratories are carried out according to the procedure of programming by goal. Their activities are mainly devoted to research, support to the private sector, and the training and supervision of private-sector students and technicians.

These differences account for the fact that the research center laboratories are more sought after by the private sector than the university laboratories, which are considered to be fundamental research laboratories, with little interest in applied research or the immediate resolution of the problems of food chain actors. Research center laboratories are perceived as meeting the needs of the various actors of the sector, both public and private.

Government Service Laboratories

Government service laboratories are mainly part of the technical departments of the Ministries of Health, Agriculture and Animal Resources. They work infrequently with the private sector due to their organizational and financial difficulties.

Private Laboratories

The only private food analysis laboratories in Burkina Faso are those belonging to four major processing industries: brewing, milling, oil-seed crushing and sugar refinery. All these companies were privatized as part of the structural adjustment program. Since their focus is on self-monitoring for the companies of which they are a part, these laboratories are less well known, and provide very few food quality control or analysis services to other companies. Nevertheless, since privatization, some have begun to consider these laboratory units as competitors.

At the present time, both the milling and sugar refining industries are facing economic difficulties. This has led to the departure of the majority of their laboratories' experienced technicians, who have left to work in other sectors.

The Human, Material and Financial Resources of Laboratories

The research laboratories have larger scientific and technical staff than either the government services or the industry laboratories, and they are the main employers of Ph.D.-level scientists. In the industry laboratories, the high-level scientists are engineers.

As far as food product analysis and monitoring equipment is concerned, the scientific capacity of the research laboratories is relatively satisfactory. They can carry out most basic analyses. Self-monitoring laboratories are equipped according to the specific needs of the industry.

The services of all laboratories are severely limited by the lack of certain skills of importance to private sector clients, the most important of which are: food product packaging, processing equipment and sensory analysis. At present, certain specific analyses required by the private sector – particularly by companies and non governmental organizations (NGOs) – cannot be carried out by any laboratory in Burkina Faso. This mainly concerns analysis of the proportions of mycotoxins, anti-nutritional substances, pesticide residues and heavy metals, with more complex and costly protocols and involving heavy equipment. In these cases, the companies call on foreign laboratories, most of which are European (notably French, German and Belgian).

The main difficulty faced by public laboratories in Burkina Faso, and in Africa in general, is their small budget for operating expenses, equipment and the training of scientific and technical staff. In Burkina Faso, the government only provides a percentage of the operating budget for these laboratories. The diversity of financing sources for the research center and university laboratories gives them a relative advantage. This financial support is mainly used for the purchasing of equipment, running costs, and in certain cases, for the recruitment of scientific and technical staff. The billing of research laboratory services is also an important source of funding. The cost of these services is a function of the company's size. A standard rate is charged for industries, a reduced rate for small enterprises and a flat rate for micro- or artisanal enterprises.

The collaboration program between these laboratories and those of the North includes the exchange of scientific and technical laboratory staff, which enables the improvement and regular introduction of new analysis protocols. By contrast, the self-monitoring laboratories are severely limited in the exchange of scientific and technical staff with their Northern partners. Furthermore, given the costs of training and the restriction of analysis work to the specific needs of the industries, the training of the scientists and technicians of these laboratories is not a priority for the industries.

The various factors cited above largely explain the fact that the research laboratories are more sought after by the private sector than industry laboratories and other government services.

Main Constraints of the Laboratories

The internal organization of the laboratories is not very well suited to meet the analysis and quality control needs of the private sector. The management system used for samples arriving at the laboratory, the limited number of technicians, and the importance attached to research activities by the laboratories are the main difficulties they face. These issues are often at the root of conflicts that occur between the laboratory and their private sector clients.

In general, the constraints are related to the poor application of Good Laboratory Practices, insufficient numbers of technical staff, the high cost of consumables (chemical products, culture media and supplies), insufficient funds allocated by the government, shortage of documentation on standards (Codex Alimentarius, European standards) for the interpretation of results and the lack of equipment for certain specific analyses.

Who Uses Laboratory Services in Burkina Faso?

In Burkina Faso, the laboratories are called upon by a range of clients, including government bodies, industries, small and medium enterprises, importers and exporters, micro-enterprises, consumer associations and consulting firms.

Government Bodies

In its mission to guarantee food safety, ensure the health of the population and facilitate the export of quality food products, the government has set up several quality control services for imported and exported products, and processed products for local consumption. It has implemented regulations for certain sensitive food products and designated specific services to ensure their application. These government services, most of which do not have their own laboratories, call on research laboratories for food product analysis and quality control.

Some government services have set up their own laboratories. Initially, these laboratories were adequately equipped, but they encounter difficulties once the “project phase” which funded their establishment is completed. This is the case of the support laboratories set up in certain services of the Ministries of Commerce, Health and Agriculture. The difficulties are both financial and organizational in nature.

These services or public laboratories call upon research laboratories to carry out analysis work. They themselves carry out the taking of samples for import and export in cooperation with the customs services, the taking of samples from doubtful products on the domestic market and, in some cases, the interpretation of the analysis results.

The government service technicians responsible for taking these samples and transporting them to research laboratories have limited knowledge of the agri-food sector, with the result that sampling errors are frequent. This is a common source of conflict between the client and the laboratory. Training of government service agents in sampling techniques is necessary in order to improve the reliability of food product analyses and quality control.

Processing Companies

More and more agri-food companies are requesting analysis for the quality control of their products. The goals and methods vary according to the companies, depending on scale.

The industries which have self-monitoring laboratories often call upon research laboratories for complementary analyses which cannot be carried out in their own laboratories. They also request training for their laboratory technicians, as well as food hygiene training for company staff. The analysis needs of these industries are well targeted, whatever the nature of the request, and this facilitates work in partnership with the research laboratories.

The taking of samples and the transport of samples to the laboratories is carried out by the industries themselves, most of which have adequate skills for sampling and the interpretation of the results. For small agri-food enterprises, which generally do not have qualified staff, the results are interpreted by the research laboratory.

The most significant technical difficulties faced by these enterprises come from upstream in the supply chain (quality of the raw materials), during processing and in the post-production phase (product conservation and storage). There are clear inadequacies in the organization from the standpoint of ensuring quality and safety along the production chain. Analyses and

quality control of finished products is frequent, but it is very rarely done for the raw materials and intermediary products.

For micro-enterprises, the problems linked to the lack of product quality control are more serious. They also lack qualified staff. Their technical and organizational problems are multiple and involve all stages of production. Staff training in food hygiene is the priority action.

Food Product Exporters, Importers and Distributors

Food product exporters regularly need laboratory services for the quality control of their products before export. The results of these analyses are compared with the requirements and standards of the importing country. Once the product's quality and value have been evaluated, the exporter makes his final decision. These procedures are mainly applied to dried mango, and raw products such as sesame, almonds and shea butter.

For foods distributed on local markets (imported and locally produced), distributors do not take adequate quality control measures, with the result that government monitoring services have the primary responsibility for ensuring safety. The quality control measures for imported food products are inadequate. The local market is flooded with unmonitored food products of various types, and cases of food poisoning are frequent.

NGOs and Professional Organizations

Consulting firms, projects and NGOs mainly rely on research laboratories for the analysis and quality control of certain products, notably bore-hole water in rural areas, cereals, milk and imported by-products provided through food aid programs. The analysis results are interpreted by the laboratory according to standards and regulations, and the laboratory's recommendations are usually applied by the clients. This line of action presents considerable economic risks for these structures. As the analyses concern large quantities of products, every decision to reject on the basis of poor quality entails consequential sums of money.

There are professional organizations for each group of products (fruits and vegetables; oilseed crops, etc.). In the field of processing, FIAB is one of the country's most dynamic professional organizations. Professional organizations play an important role in programs for the training and sensitization of staff and company heads in manufacturing hygiene. They are also important in quality promotion programs throughout the food chain.

Product Safety and Quality Control Needs of Enterprises

Company needs in terms of food product analysis and quality control are increasing, and given the lack of available resources, research laboratories will have more and more difficulty in satisfying the sector's needs.

The main needs of the companies relate to the following fields: training in GMP and GHP; specific technology training for each branch; appropriate and inexpensive packaging; small-scale analysis and monitoring equipment; quality control in the supply and distribution circuits.

Dynamism of Public-Private Partnerships in Burkina Faso

Some Practical Considerations Regarding Quality Assurance

Agri-food enterprises have very limited knowledge of the legislation that regulates their establishment, production processes, safety and quality of the products manufactured and their economic and legal environments. The smaller ones set up, produce and market products without taking into account or referring to the legislation regarding safety and quality control. Public health law stipulates that it is forbidden to use chemical products or other products or objects not permitted by the legal health standards and likely to present a health risk to the population for the preparation, conservation or packaging of food products.

Government's technical services for monitoring this legislation are ill-equipped to meet their goals. This is why usually only finished products tend to be subject to analysis and quality control, and this only in some business establishments. Few enterprises, especially in the SME sector, have formal specifications for procuring raw materials. Most do carry out visual inspections upon reception, but this does not permit the detection of some dangerous chemical contaminants.

Similarly, the aspects linked to the safety of the internal and external environments of enterprises (governed by the public health law and the decree on the environment) are rarely taken into account when companies are established and developed. Finally, the management and supervision of company staff does not respect the legislation on staff hygiene, which stipulates that any person with an illness who works in an establishment that produces, sells or conserves food products and who constitutes a health hazard must cease his or her professional activity until completely cured. Measures must be taken to widely disseminate these laws, decrees and by-laws related to food product safety and quality control to all enterprises.

The preventive quality management system in agri-food enterprises was introduced in Burkina Faso in the context of a European Union project, which allowed the broad dissemination of the HACCP system to enterprises. This project, further pursued by projects sponsored by Danish Development Cooperation (DANIDA) and later by UNIDO, has also facilitated the introduction and development of quality assurance programs in the processing units of agro-enterprises. These measures concern the formal commitment of company managers to set up the means necessary to ensure that they are carrying out a quality assurance action plan in their enterprises, the assigning of a quality supervisor in the enterprises, the training of quality supervisors in the fields of food quality analysis and control, the implementation of a training and sensitization program for the enterprise's employees and the implementation of a record-keeping and documentation system.

Several training and sensitization programs, initiated by the government and financed by bilateral cooperation and international organizations, have introduced a certain dynamism in agri-food enterprises in the area of quality control and assurance. To date, the enterprises have acquired the basic notions of the preventive approach to ensure the quality of their products, and certain enterprises have begun to apply this approach. The continuation of this work will facilitate the progressive implementation and mastery of all the stages of the HACCP system by the enterprises involved.

Laboratory-Private Sector Partnerships: What is at Stake?

In the field of food product quality and safety, research laboratories are one of the key partners of the private sector. In Burkina Faso, this partnership is founded on voluntary exchange, and takes place in four areas: analyses and quality control of finished products, training of agri-food enterprise staff in industrial hygiene, introducing the preventive quality management system in the enterprises, carrying out in-company tests and experiments for research purposes.

This partnership allows for no suppression of information, regardless of the analysis results. It emphasizes confidentiality, which encourages the enterprises to voluntarily commit to the improvement of food product quality and safety. The conduct of on-site activities favors a close collaboration between the research laboratories and enterprises. Enterprises are used for experiments in operational conditions, a method which often benefits both the enterprises and the research facilities.

These different forms of partnership are very favorable to technology transfers from research to the enterprises. Currently, after several years of collaboration with the private sector, numerous products, procedures, methods and types of equipment developed through research have been transferred to agri-food enterprises. In this way, the cooperation of the enterprises will enable the development of a methodology for the transfer of research results and the creation of a research-enterprise interface that includes socio-economic aspects.

Factors Limiting the Public-Private Partnership

Government technical services responsible for the application of the various laws and regulations fall seriously short in the carrying out of their mission. Although they are often decentralized, they are under-equipped and lack coordination. They suffer from a shortage of technical staff, and often their employees have limited technical knowledge in the required fields. They have only a limited mastery of good service and laboratory practices. The relationships between research and the other technical services remain under-developed.

For the actors of the private sector, a main constraint of the partnership is the high cost of analysis in the public research laboratories – according to them, the research laboratories, as part of the public service, should support private operators by reducing analysis charges. The high cost of sampling carried out by these laboratories encourages them to use unqualified private operators as an alternative. Clients also reproach the public laboratories for the long delays to obtain analysis results and to get scientific and technical advice.