Food Systems under Stress in Africa

African-Canadian Research Cooperation

Proceedings of a Workshop held in Ottawa, Ontario, Canada 7–8 November 1993

Edited by Ronnie Vernooij and Katherine M. Kealey
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Toward a Renewed Strategy of Support for Agri-Food Development in Africa

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Abstract The theme covered in this paper is limited to the field of assistance that can be defined as "support for planning and agri-food policies in the countries of the South." This is a field of strategic importance for a great number of countries, especially in Africa, where poverty represents one of the most significant obstacles to development as the century draws to a close. Within this field, the context in which interventions occur and the means that we currently have available oblige us to rethink our methods and commitments. It is clear that a certain type of research is needed, now more than ever, to act as a driving force in these changes. The purpose of this paper is to review the current state of the deliberations that we are engaged in within the Agri-Food Strategies and Policies Team (SPAS) at Laval University, along with our colleagues from West Africa. The first part of this paper is devoted to laying out a conceptual framework for dealing with these questions of development and poverty. The second, shows how action-oriented research flowing from this conceptual framework can not only contribute to strengthening the institutions involved but also to clarifying decisions on policy by analyzing their impact on the targeted populations.

Conceptual Framework

The "Growth-For-All" Paradigm

During the past 30 years, theories of development have all rested on the paradigm that overall economic growth is the sole path for achieving any kind of development, and that the poorest sectors of the population would, in the end, draw real benefit from it (the trickle-down approach). Although everyone today agrees that such growth represents one of the necessary conditions, nevertheless, the economic and social facts of these last decades have shown that it is not a sufficient condition, especially in regard to the poorest levels of society.

Moving beyond a paradigm where growth feeds development... During this entire period, much attention has been paid to the growth of GDP, and more recently to growth of GDP per capita, but there has been little reference as to how the fruits of this growth are shared, nor to the concept of poverty that results from major inequalities in their distribution. The problem of development used to be seen as one of transforming "traditional" societies into "modern" societies through the growth effect, under the influence of very specific mechanisms, and following a path

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laid out in a series of well-known stages that are the same for all countries. This view was reinforced by the idea that these countries had the capacity to promote their own growth, as a result of their unlimited supply of labour.

This reductionist view, which ignores the richness and diversity of the countries to which it is applied, imposes de facto a dominant model of development, tested and promulgated by the North, which has most often shown itself to be dramatically divorced from the domestic realities and aspirations of peoples of the South. Nevertheless, it must be admitted that, in the majority of cases, economic growth has not been accompanied by the anticipated development, and that despite the considerable progress made in this area by the poorest countries in the course of the last 30 years, the level of poverty remains the most worrisome feature of the end of this century. This is a situation that places a heavy mortgage on any development strategy, and it is forcing us to rethink our approach to assisting the poorest countries.

In Africa south of the Sahara, the situation is particularly alarming, life expectancy there is 50 years, whereas it is 80 years in Japan, the mortality rate for children younger than 5 years is higher than 170/1,000, whereas the figure for Sweden is barely 10/1,000. Africa, which is particularly hard hit by this situation, will be the only continent where the number of people living below the poverty threshold will increase by the end of the century. This state of affairs demands even more massive levels of intervention "even to stay at the 1985 level of poverty will require major efforts: GNP growth of 5.5%, radical restructuring of industry, intensification of agriculture and increased efforts dedicated to primary education, health care, nutrition and family planning."

...to a paradigm where development feeds growth Economic growth then cannot be counted on to lead, in a systematic way and within a reasonable time frame, to development for the poorest and most vulnerable people in society. In this context, a strategy of intervention must be promoted, side by side with more classical growth support strategies, which allocates a larger role in development to the people at the lowest levels of society, in both rural and urban settings, who have not benefited, indeed have been marginalized by the impact of overall economic growth.

What is needed is a revised approach to supporting development. The approach should be one that is aimed at supporting growth by involving the poorest people from the time the intervention is being planned, and allowing them to take a more systematic part in their own

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2Thus, from 1965 to 1985, consumption per capita in the poorest countries increased by 70%, according to the World Bank, World Development report 1990, Poverty., along with welfare indicators such as life expectancy, mortality at birth, level of education, etc.

3The World Bank estimates that one billion people live beneath the poverty threshold in the most disadvantaged areas of the world.


development, improving their level of welfare and eliminating the state of poverty in which they live. Such an approach could be represented by the model described in Figure 1. The starting point for this approach is based on involving the poorest people in developing a strategy for improving their standard of living and meeting their basic needs. This means establishing strategies and implementing development activities aimed at reducing poverty, on a participatory basis, that respects the environment.

The impact of this strategy on economic growth and overall development should make itself felt through what happens at the margins of progress thus defined, in those economic sectors (agriculture and the informal sector) where marginal progress can be important and can be promoted inexpensively: through the participation of these sectors in overall economic growth and in the basic economic balance; through the reduction of inequalities and the tensions they give rise to; through better-suited economic, social, and demographic regulations; and through a lowering of the pressure on renewable resources, i.e., through a form of development that takes much more account of the environment.

The basic approach of such intervention is aimed at maximizing the contribution of the poorest groups to economic growth and to the exploitation of the resources available to them. It, therefore, involves both training and the input of human resources and a greater share in land, capital, labour, and know-how, using models that still have to be developed or promoted, by encouraging the involvement of the people directly affected.

This process must, in the end, be supported by putting in place institutions and policies that will create conditions where such projects can arise and be carried out on a participatory basis. It demands the rethinking of traditional policies so that they do not penalize such developments, fragile as they often are in their early stages of take-off. Indeed, projects may often seem to be performing poorly from the viewpoint of microeconomic analysis, particularly if they are judged by the established criteria of the dominant models. Nevertheless, their benefits, when evaluated at the macroeconomic level (redistribution, pressure on the environment, reduced tensions, and the search for a form of development that is more balanced and conflict free), should occasion a reevaluation of both their social and their economic relevance.

Need for an Agri-Food Vision

Feeding people represents one of the basic social functions of any society, and meeting food needs is one of the fundamental goals of the human economy. This function is performed by a whole set of activities for creating and transferring "agri-food" products right up to their final stage of utilization: agricultural production, food transportation, distribution, and consumption. These subsectors that make up the agri-food sector are not only interrelated among themselves but they depend as well on other sectors to supply them with the essentials in intermediate goods (fuel, chemical product services, etc.), equipment (machines, construction materials, etc.), and services (marketing, mass distribution, research and development, training etc.).

The points contained in these paragraphs are a summary of the introduction to chapter 1 of part II from the work by Malassis, L., Ghersi, G., Agri-food economics. Vol. I. To be published by Cujas, Paris, France.
Raising incomes and meeting the basic needs of low-income people

Development and activities aimed at reducing poverty, on a participatory basis, in ways that are sustainable and respect the environment

- Economic diversification
  - Internal and external equilibria

- Food security
  - Meeting basic needs
  - Status of women

- Reducing poverty
  - Vulnerable groups

- Preserving the environment

- Enhancing the productivity of the poor

- Developing targeted strategies

- Strengthening women's economic role

Maximizing the resources of the poorest population groups

Promote a political and institutional framework for fundamentally sustainable development

Land: Improve access to land for the poorest groups and enhance their productivity.

Labour: Create employment and enhance the labour productivity of the poorest groups.

Capital: Mobilize local savings, invest in local development projects, improve profitability.

Workforce: Invest in human capital via practical education by developing training personnel who can popularize it for the poorest groups.

Technology and know-how: Enhance research and the dissemination of innovation.

National policies (macro, sectoral, programs, projects): Eliminate the biases against the poorest groups that are now inherent in national policies.

Institutions (markets, public and community institutions): Modify, where they exist, and if not, create institutions better suited to promoting the development of the poorest groups.

Economic and social environment: Increase resources devoted to the poorest groups and rectify distortions in the environment that work to their disadvantage.

Bottom-up participation strategies

- Households
- Enterprises

Figure 1. A new vision of development through greater involvement of the poorest people in overall growth and reducing poverty and inequality.
This is the approach that we have taken in our work. It is one that takes account of the whole set of players and activities that contribute to meeting basic food needs and that will largely determine the economic and social development of the poorest groups in society. This approach requires an analysis that articulates all the functional components, the structural components of the agri-food sector and all the flows that contribute to creating the final food product. The agri-food chain is complicated to demonstrate because, depending on the products, there are many possible routes. One particularly important aspect lies in the dynamics of the agri-food system and its relationship to the rest of the national and international economy with its flows of products, labour, capital, and foreign exchange.

At the microlevel (i.e., the economic agent) and the mesolevel (i.e., the agri-food sector), we can identify the production sphere, and the consumption sphere, with an overlapping area representing farmers’ own consumption. The commercialization sphere provides the link between market supply and demand. Finally, macroeconomic policies have an impact on the production, commercialization, and consumption spheres. This outline of the agri-food sector is gaining ever wider acceptance (see, for example, the book by Timmer, P., et al. 1986. Analysis of food policy. Johns Hopkins, Baltimore, MD, US), because it makes possible a structured, dynamic, and interdependent understanding of what is a very complex phenomenon.

The sectors that make up the agri-food complex represent a heterogeneous set, most often containing several socioeconomic subsectors side by side: capitalist, small independent, cooperative, or state owned. This set is strictly determined as to its structures, its mechanisms, and its laws of development by the economy and the dominant models under which they operate. The functional and socioeconomic subsectors provide a matrix for demonstrating and analyzing the agri-food economy, one that has guided our basic methodological approach.

**Selecting Time Horizons**

There is a danger in focusing exclusively on the present and ignoring the past and the future. An examination of what has happened in the past will help us save time by not trying to reinvent what has already been studied. In looking at the development theories and programs of the aid agencies, we often get the impression that the field of international development is subject to periodic fashions, where too often a "new idea" is seized on that renders older approaches obsolete. Because institutional memory is short, it may be "discovered" a few years later that this new idea is nothing more than the reformatting of an older one. Such erratic progress is extremely inefficient and, for that reason, very costly in terms of development. Studying the past will also help us avoid repeating the mistakes of the past, now and in the future.

Above all, studying the past helps us to imagine and simulate the future. This forward-looking vision is indispensable to any society that wants to build its own future. It allows us to make our economic priorities clear, and provides us with a view of the major trends whose structural nature may put constraints on our development. We then have to take these dominant trends and draw up a range of alternative scenarios to be able to cope with a number of traps, be they technical, political, economic, or social, and to take short-term steps to protect our long-term interests. This forward-looking approach also helps us to understand the importance of certain
variables that may seem to change little over the short term, but that can determine our very survival over the long term: demographic growth, exhaustion of certain natural resources, disappearance of certain animal species, etc.

**Selecting the Level of Analysis**

There are two traditional levels of analysis, the macro and the micro. Most people involved in development work at the micro level, in projects such as developing irrigated rice culture, rural credit for women, nutritional education, etc. There is no denying the importance of basic development, but the best project in the world can fail completely if the socioeconomic context in which it must evolve is wrong, for example, if there are no price incentives, if commercial circulation is nonexistent or insufficient, if the exchange rate is overvalued, etc.

At the other extreme, there are the macroeconomists, with an economic view of society based on aggregation. They are right to insist that broad macroeconomic equilibria must be maintained over the long term. But in doing so, they often tend to neglect the social, technical, institutional, and political variables, as well as the diversity of situations among people and social groups.

Faced with these two extremes, we believe there are two important elements to bear in mind. First, we must be clear among ourselves about the levels of analysis. Although we may well prefer one level or another, we must remember the implications of the remaining levels. In fact, one of the essential preconditions for sustainable development is that all players in society must work coherently and in the same direction. The state may have the finest of development plans, but if it has not taken into consideration the objectives and the limitations of the principal microeconomic players, its plan will remain no more than a pretty document sitting on the shelf.

There is also an intermediate level between the "micro" level of the individual, the household or the firm and the "macro" level of an area, a country, or a region. We hear more and more now of the "meso" level, where the focus is on a set of microeconomic players who interact at generally the same operating level, or who are involved at different operating levels with a particular product. Thus, the horizontal level covers work in one particular sector or industry, whereas the vertical level deals with the production chain for a specific product. This is the preferred method of analysis for agro-food economics and industrial organization.

**Link Between Research, Training, and Services**

No matter how productive research activities may be, they will lose much of their relevance if they are not solidly rooted in their surroundings and closely tied to training activities for transferring their results through traditional teaching or continuing education methods. In the same way, research will be useless and ineffective if it does not flow back to those it is intended for: the poorest people, the extension workers, technicians, professionals, and politicians. In light of this, we must ensure that the process of defining and conducting research incorporates this dimension of service to society and that the institutions through which it operates are as solid and credible as possible. In this sense, institutional strengthening and proper training for the personnel who must disseminate and make use of the results of such research would seem to be important means for ensuring that research serves development purposes.

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Empirical Approach at Laval University

Philosophy of Involvement

The SPAS team's philosophy of involvement is based on three guiding principles:

- First, because no one can pretend to undertake development for someone else, the team has instead given itself the role of working in association with a few institutions of higher learning and research in Africa to support their initiatives in the training and research fields. We hope to contribute in this way to strengthening Africa's human capital and the institutions involved by conducting joint research in agri-food economics.

- Second, given the importance of the links among researchers and decision-makers in Africa, the SPAS group tries through its involvement to promote action-oriented research that focuses on the impact of different development strategies and policies on the living conditions of the lowest levels of society.

- Third, because of the importance we attach to a forward-looking vision, we try to embrace both the short term and the long term in our considerations. We are, therefore, interested in studying broad trends, developing consistent agri-food strategies, and analyzing agri-food and macroeconomic policies in the context of these strategies.

By way of examples of this empirical approach that we have taken at Laval University, the following are two typical activities among those we are pursuing:

- SPAS group involvement in Niger, starting point for a regional initiative.

- Action-oriented research carried out in Burkina Faso in the context of the Study Centre for Economic and Social Documentation and Research (CEDRES) project.

Each of these activities represents part of a vision that embraces a form of agri-food development combining the three levels of involvement described in the foregoing and constitutes a set of components that are inseparably linked to a specific vision of regional development for West Africa.

SPAS Group Involvement in Niger

During the meetings of the Ouagadougou seminar (1989) on food strategies and policies, after a report had been presented on a food-adjustment simulation exercise in the Sahel, the Government of Niger expressed interest in establishing a unit to undertake forecasting and analytical studies of policies in the Studies and Programming Branch (DEP) of the Ministry of
Agriculture and Livestock (MA/E) of Niger. In October 1991, under the Canadian Institutional Support Program in Niger, a first unit was created within a support project for the Policy Analysis and Statistical Coordination Service (SAPCS) in the DEP of the Niger MA/E. The first phase of this project has been completed, and the second phase is now being developed.

The purpose of the project is to support the creation of a unit in the DEP of the MA/E that can use domestic resources to induce and guide thinking about national strategies and policies. This is an initiative based on human resources that is intended to help decision-makers in the conduct, not only of programs like the PCSA (Total Food Security Program), but also of other programs related to agri-food policies. The ultimate goal of this assistance is to help meet the basic needs of the entire population through agri-food programs and strategies by providing support to decision-makers in seeking better formulas for taking action.

The first phase of the project has made it possible to:

- Provide the Policy Analysis and Statistical Coordination Service of the DEP with computer equipment, databases on agri-food in Niger and tools for analysis and forecasting.
- Train personnel of the Policy Analysis and Statistical Coordination Service in the use of analytical and forecasting tools and in working with databases.

A first outlook study has been developed, using the basic tools, computer equipment, databases, simulation tools (CAPPA), together with a series of selected training sessions, and technical and methodological support.\(^7\) The outlook study for food demand in Niger is intended to show the potential evolution of food consumption over the long term, taking account of demographic trends and the macroeconomic situation.

The methodology employed can be divided into three periods. First, a retrospective portion traces past changes in demographic and macroeconomic trends, and in the food supply balance, against the perspective of major development policies. The second part represents a simulation based on hypotheses from past trends. The final part is intended to point to future directions in terms of agri-food policies and strategies. It is planned to present the results of this outlook study shortly in connection with a seminar that will bring together the principal managers of the ministries involved in food policy questions.

In the second phase of the project, cooperation will continue along the same lines of involvement (computer equipment, selected training of human resources, and technical support for conducting outlook studies to be used for policy development). In addition, there will be sessions in the form of seminars or annual meetings for rural development officers, for the purpose of disseminating the working results and the long-term training programs, to fill out the ranks of qualified high-level personnel who can lead the rethinking process without further outside help.

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\(^7\)The SPAS group is currently working in association with FAO to finalize a new, modernized, and more powerful version of the CAPPA software program developed under the pseudonym K2.
This pilot project in Niger is currently the experimental basis for our involvement with Outlook Studies and Policy Analysis Units. It will help the research team to refine tools and methods that might be transferrable and adaptable to other countries of the area, because the problems of development are very similar among countries of the Sahel. A regional project to establish outlook studies units could be aimed at strengthening the capacities of the CILSS and its member states in analyzing and guiding agri-food policies with a view to improving decision-making in the choice of development policies and strategies.

One of the cornerstones of our support for the strengthening of outlook studies and food planning units concerns training activities. The critical lack of qualified personnel available to advise governments means too often that decision-makers must rely on foreign advisors. The lack of trained human resources, and the scarcity of available and reliable data, represent without doubt the two major stumbling blocks to the ability to make decisions that are truly the product of domestic thinking.

**Bases for action** As far as training and research are concerned, international aid has hitherto been conceived essentially as a transfer from North to South, and the higher levels of education have traditionally been provided by Northern universities, which thereby regularly drain off the best students from the South. This situation is slowly being corrected.

The institutional cooperation programs now under way between Laval University and various partners in the region have this philosophy as their starting point. The support project for outlook studies units was conceived with this in mind. These units were designed together with several West African universities and were allocated from the beginning with their cooperation.

**The network concept** A real network is in the process of being put together through institutional cooperation between Laval University and a number of partners in the South: CIRES in Abidjan, CEDRES in Ouagadougou, UNR in Rwanda, Meknès in Morocco, FAMV in Haiti, and, on a more modest scale, the Ecole Supérieure d'Agronomie (School of Higher Agricultural Studies) in Niamey. The amounts that have been invested in this type of cooperation are great enough to have a major impact on the teaching and research capabilities of these bodies (several million dollars in each case).

**A clearly understood partnership** By progressively putting institutions on an equal footing, with some degree of specialization of teaching and research teams, we can imagine creating partnership mechanisms that will be much more fruitful for everyone concerned. In the teaching field, there can be teacher and student exchanges in both directions; also, with the "equivalences" system, we can more closely integrate our pedagogical courses and meetings and discussions on our programs and teaching methods, enriched by a new vision and the different experiences that are especially important in the field of development economics. In the area of research, better partnership can strengthen the quality of our work through new forms of North–South cooperation that bring theory and fieldwork together.

**Action-Oriented Research in Burkina Faso**

**Objectives of the CEDRES/LAVAL Project** The CEDRES/LAVAL Project is intended to help improve our understanding of the food situation in Burkina Faso. Its main objective is to improve
the development of food strategies and policies by providing decision-makers with rigorous analysis of the impact of various policies on microeconomic players (producers, merchants, consumers) and especially measures undertaken within the PASA program for agricultural sector adjustment. Support for CEDRES at the University of Ouagadougou should help to build up a national research team capable of carrying out key studies in the area of impact analysis for agri-food policies.

The specific objectives of the Project are to:

- Enhance knowledge of Burkina Faso's agri-food systems especially the objectives, constraints, and adaptation mechanisms of microeconomic players within a structural adjustment context. Particular attention will be paid to analyzing the social dimension of adjustment.

- Take part in scientific and technical exchanges among various players involved in the fields of collecting and analyzing data in Burkina Faso. This work will involve different aspects of research and, in particular, help with defining methods of inquiry, proposals for choosing software and data analysis techniques, and coordination for better information management on food security with other players involved in data collection, especially the MAE.

- Strengthen the capacity of national researchers in preparing practical recommendations to decision-makers concerning agri-food policies and increase the level of exchanges and collaboration among researchers and professionals from MAE and INSD.

- Strengthen CEDRES' research capacity through scientific exchanges and joint research projects.

The project includes three components: a research component (the main one), a training component, and a management component.

Research priorities among researchers and decision-makers. Among the first activities that really marked the launching of these scientific activities, was a seminar on priority research questions in the agri-food policy field held in Burkina Faso. This seminar was a workshop that brought together decision-makers from several ministries and specialized researchers in the areas of agriculture and economy and led to the publication of a research agenda for the CEDRES/LAVAL Project. This document gives a record of the seminar and also provides a set of research themes that were considered to have priority in the area of agri-food policies and adjustment.

Although some of these themes will need to be modified to take account of new economic policy choices that will be adopted under the structural adjustment program, the agenda, nevertheless, has served us from the beginning as a guide in developing research methodologies for the project. The main research areas of the CEDRES/LAVAL Project, finished or under way, are:
A study of how the rural population perceives poverty and food security, and development of a rural poverty profile in Burkina Faso.

The impact that a possible devaluation of the CFA franc might have on Burkina Faso's agri-food economy.

An evaluation of incentives and comparative advantages in the irrigated rice-growing sector.

The impact of credit reform on the production and management of natural resources.

Setting up a food systems observation post  This observation post is intended to improve knowledge of living conditions and rural household behaviour in the area of food production, marketing, and consumption to see the impact of different economic policies, in particular, structural adjustment.

A permanent survey was set up using a restricted sample of households (290 for the whole country), carefully selected from representative agroeconomic zones, and was monitored over a long period of time to capture variations within the year, and from year to year, in the behaviour of households. This permanent survey was complemented by selective mini-surveys focusing on specific themes.

Once a zonal plan of Burkina Faso's agroeconomy was drawn up, we selected four areas for study. A base survey was carried out in these zones to identify the villages selected and to perform a census of the households in those villages, and thus to provide a survey base from which to draw the sample for the permanent survey. Based on information gathered while identifying the study areas, we were able to prepare a summary covering the different villages and markets selected for the project's permanent surveys.

Cooperation with other surveys in progress  By way of example, the project agreed to provide support to the priority survey being carried out by the National Institute for Statistics and Demography (INSD), the "Statistics Canada" of Burkina Faso, and to the agricultural survey conducted by the Ministry of Agriculture and Animal Resources (MARA). This support focuses mainly on upstream, presurvey activities (survey preparation: sampling, questionnaires) and downstream ones (data analysis, recommendations to decision-makers).

In the context of launching the Food Security and Nutrition Project (PSAN) of the Ministry of Agriculture and Livestock (MAE), financed by the World Bank, the CEDRES/LAVAL Project conducted a basic study on socioeconomic conditions and household strategies regarding food security in the province of Passoré. This study helped provide the information needed by decision-makers to start up a program to improve economic and nutritional conditions for households in that province.

The project worked in cooperation with the Demographics Teaching and Research Unit (UERD) and the Statistical Information Coordination Committee (CCI) of the Agriculture Ministry to organize a seminar on coordinating statistical information. This seminar allowed officials from
various ministries and from the research centre to take part in a technical workshop on how to design and query databases.

Information for decision-makers and training for researchers in Burkina Faso

Research results are disseminated through publications, including preliminary working papers and summary notes, and by organizing specialized seminars that bring together researchers and decision-makers. The project is contributing in various ways to the development of human capital in both Burkina Faso and Canada:

- Continuing cooperation between Burkina Faso and Canadian researchers at different stages of research is useful for everyone, with our Burkina Faso colleagues contributing their knowledge of the region, for example, and the Canadians bringing new research methods and a knowledge of the relevant literature.

- A seminar on research methodology was organized by CEDRES researchers interested in the project.

- Young Burkina Faso researchers have been hired and given an active role at various stages of the research. They receive educational bursaries to come to Canada and, thanks to the project, can make progress toward their doctorates from the University of Ouagadougou.

- Some masters candidates from Laval University have conducted their research under the project and have shared their knowledge with Burkina Faso colleagues interested in their methodology.

Conclusion

We are beginning to see the fruits of this commitment to support agri-food development in West Africa through the strengthening of local teams, the promotion of applied research projects designed and developed in partnership with political decision-makers, and the care taken to adopt a networking approach with as many teams as possible involved in research, training, and regional planning.

The focal points of this network are still the universities and research centres in the region, but the effects of action-oriented research projects, conferences, and continuing education activities are giving rise to a real dynamic of agri-food development in West Africa. The strategic stage of carrying out these various projects is now leading to a second phase. In this next phase, the Ivory Coast Economic and Social Research Centre at the University of Abidjan and the Economic and Social Documentation and Research Centre at the University of Ouagadougou in Burkina Faso will be playing key roles as centres for research and development. These organizations are already very active within the African universities network and are able to grasp the dynamics of trade between the Sahel zone and the coastal countries and turn it to the advantage of regional development.