

A Review of the  
MSU Support Project to the *Système d'Information du Marché*  
and Suggestions for Future Activities

by

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This paper aims to briefly review the Michigan State University (MSU) Support Project to the *Système d'Information du Marché* (SIM) financed by USAID, through the Food Security in Africa Cooperative Agreement and Food Security II Cooperative Agreement, from July 1991 through December 1994.<sup>1</sup>

The idea of the importance of timely and accurate market information for a liberalized market grew out, in part, of the previous research conducted from 1985-89 as part of the Food Security in Africa Cooperative Agreement (CESA/MSU/USAID). That research focused on the structure, conduct, and performance of coarse grain markets in both rural and urban areas. It was conducted at a time when there was very little empirical information about how such markets worked. The research also allowed MSU to develop much of the initial price collection, data processing, and analysis methods that went into the *Système d'Information Transitoire* (SIT) and eventually the SIM.

Created in 1988, the SIT combined the separate price data collection activities in Mali of OPAM, the *Agence Canadienne pour le Développement International* (ACDI) and the CESA/MSU/USAID food security project. This temporary system functioned for approximately one year while the institutional groundwork was established for a permanent market information system. In April 1989, the *Système d'Information du Marché* was created and based at OPAM. During its first two years of existence, an MSU researcher, part of the Food Security in Africa Cooperative Agreement team, was based at the SIM as part of his research/outreach assignment. Following his departure in 1990, the PRMC hired a advisor to continue technical support to the SIM; he is still working at the SIM.

The MSU support project to the SIM began in July 1991 with the primary objectives being to provide technical assistance and analytical support while SIM employees were being trained at Michigan State under USAID funding. The terms of reference for this project focused on seven areas: data management and computerization; data collection methods; strengthening links with SIMs in neighboring countries; analytical methods; presentation of results; hardware and software needs; and institutional issues.

The first part of this paper recaps the activities undertaken during the course of the project, evaluating the achievements and difficulties. The second section outlines several issues for AID to consider in their future involvement with the SIM both bilaterally and multilaterally through the PRMC.

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<sup>1</sup> This review does not cover the entire period of MSU involvement with the SIM which began in 1989.

## **MSU PROJECT ACTIVITIES 1991-1994**

### **1. Data Management**

During the first one and one-half years of the project, the work in this area centered on training SIM staff in basic data management and processing techniques with the objective of more fully automating the computer system to verify and process data and produce graphs and tables for SIM reports. Automating the daily and weekly procedures freed time to do work in other areas, notably analysis and the presentation of data.

I continued to work a great deal with SIM staff on data management issues following the introduction of the new data collection methodology in February 1993, again with the focus on developing an automated system to manage the data base and produce the various SIM outputs. This programming work was conducted jointly by MSU and SIM staff based in Bamako and in Michigan. This task sharing not only allowed the SIM to finish the programming work a lot faster but allowed those SIM staff studying in Michigan to maintain their involvement with ongoing work in Bamako. By learning to use software to write data management and analysis programs, SIM staff are now able to modify the system when the need arises. These skills are a big improvement from the time when the SIM used compiled, "black-box" style programs written by outside individuals that it was not able to modify or update.

In the final few months of the project, I conducted with SIM staff an extensive review of the entire computer system, verifying the consistent operation of all programs.

### **2. Data Collection Methods**

#### *a. Current data collection methods*

In 1991, the SIM and the DNSI (Direction Nationale de Statistique et Informatique) conducted a user survey of farmers, traders and government and donor officials to determine their interest in the collection and dissemination of transaction and stock quantity data. Following this survey, in 1992, I worked on an ad hoc technical committee to design a new data collection methodology that more accurately responded to users' needs expressed in the survey. Prior to actually designing the new methodology, I worked with the SIM to conduct a study of the structure and conduct of the cereal market, paying particular attention to the types of traders and transactions undertaken in the different types of markets covered by the SIM. I also worked extensively with a former MSU enumerator and current SIM agents to conduct a complete census of wholesalers in Bamako.

After developing and testing multiple versions of the field questionnaires, we proposed a new system that 1) streamlined the questionnaires used by SIM agents, 2) clarified the several grades of rice available in the market, 3) added a wholesale price component, and 4) added a component to collect quantity data. The SIM began using the new data collection methodology in February 1993 following enumerator training and census of traders working in SIM markets.

#### *b. Methods for additional data collection*

In addition to the development of a new data collection methodology, the project undertook several other activities in the area of data collection methods, the objective being to improve the type of data available to SIM clients, and to test the feasibility of expanding the range of data collected.

Very early in the project, following recommendations that had been made since the conception of the SIM in 1989, I had suggested developing and updating on a monthly basis a centralized data base for an even larger range of data (food aid distributions, OPAM cereal sales, cereal imports/exports, village association stocks) that would complement the price and quantity data the SIM collects. While this activity never really got off the ground, I was able to begin compiling a data base for certain types of information that the SIM uses in their analysis (production and consumption statistics, price indexes). The compilation, synthesis and presentation of complementary data collected by other government offices remains in my opinion an important task that the SIM should integrate into its program of activities.

In January 1994, the SIM began disseminating international rice market prices in a report targeted to import/export traders and government officials. At the same time, the SIM attempted to collect and disseminate prices of rice and coarse grain in neighboring countries. This latter task proved especially difficult since neighboring SIMs had neither a fax nor a modem required to transmit the information in a timely manner.

In an effort to test the ease of adding other products to the SIM surveys, the project worked with the SIM enumerator in Kita to collect price and quantity data for groundnuts. The addition of this product did not overburden the enumerator or create other problems since the traders who transact cereals are also involved in the groundnut trade. This work has continued throughout this last year.

Cereal stock data were collected from village associations in the regions of Ségou and Sikasso and published in May 1994 in a report targeted to cereal traders, NGOs and government offices who may be interested in new sources of supply. Although the SIM received a favorable response to this report, a permanent system must be put in place to collect information on village associations' cereal stocks and to transmit it to Bamako.

To compensate for the lack of market coverage in the Office du Niger rice producing area, the project initiated the collection of statistics of the National Transport Office (ONT) on the quantity of rice leaving the area. Given its location on the main road linking the Office area to the principal consumption centers, the data collected by the ONT is much more representative of quantities of rice leaving the area than the SIM estimates made in the Niono market.

Immediately following the devaluation and at the request of the Minister of Finance, I worked with the SIM to develop a process to collect, transmit and publish in less twenty-four hours, consumer prices in regional capitals and Bamako. The Flash report appears on a biweekly basis.

For those activities that were initiated, the key to their sustainability depends on them being sanctioned by the national consultative commission therefore becoming an established part of the SIM's activities.

As will be discussed later, creating a user advisory panel composed of representatives of all client groups (farmers, traders, village associations, consumers, NGOs, ministries, donors) that has the authority to sanction SIM outputs would be an important step in assuring that the SIM collects and disseminates information that is requested by the majority of users.

c. *Evolving methods for an evolving market*

With a view of creating a more dynamic, focused research approach, I worked with SIM staff in the use of rapid reconnaissance methods to collect information on specific issues related to the performance of

the cereal market. The use of rapid appraisal techniques directed on a particular issue was more effective than the general, all-inclusive approach commonly used by the SIM to collect data for the semester bulletins. The lack of a uniform approach led to the collection of unrelated, inconsistent information that differed with each agent and often went unused.

### **3. Strengthening Links with SIMs in Neighboring Countries**

As explained above, on several occasions throughout the life of the project, we contacted neighboring country SIMs in the hope of obtaining and disseminating their prices to Malian cereal traders. This proved to be a difficult task as few SIMs possess modems or faxes and a budget necessary to transmit the data with minimal delay so that it can be of use to traders. Receiving data a month after they are collected is useless to those interested in buying or selling cereal in those markets.

Following the implementation of the new methodology, the SIM received numerous visits from SIM staff in several neighboring countries: Chad (4), Guinée (2), Burkina Faso, Sénégal and Mauritania. Inversely, SIM staff visited Senegal and Niger in 1991.

### **4. Additional Analysis**

Throughout the length of the project, I worked with the SIM to integrate new analytical techniques in the weekly and monthly reports and the semester bulletin. New types of analysis included producer and consumer price indexes, trend, moving average and seasonal analysis, real and relative prices, marketing margin and market integration. Just prior to the devaluation, I worked with the SIM to develop forecasting techniques to be used in market outlook work. This work was temporarily put on hold but is an area that merits attention, especially given the growing interest of certain clients (banks and village associations).

Apart from specific analytical techniques, I worked with SIM staff to develop a more balanced, rational analytical approach in which conclusions logically flowed from data analysis. This work was in particular requested by donors and members of the consultative commission who were tiring of reading unsubstantiated statements and subjective assessments in SIM publications.

In addition to my efforts to improve the type of analysis used in periodic SIM publications, I worked with the SIM to carry out specific studies on several topics: the factors underlying high prices in the Kayes region, the structure of the cereal market, the effect of rice import policy in 1991/92, and on the structure of marketing costs and margins. It is unfortunate that the completion of this last paper has been delayed as more attention needs to be given to reducing the costs of marketing and making the system more efficient.

Immediately following the devaluation, I also initiated a special report series to investigate specific topics related to the performance of the cereal market. Succinct and very direct, these non-technical pieces integrated the analysis of SIM and other secondary data with information collected from rapid reconnaissance research. They were written with the intention of stimulating debate and not necessarily advocating solutions to a given problem.

As with many of the other innovations and changes initiated by the project, the continued use of many of these analytical techniques depends in large part on the interest and demands of the users. In this area, the opinions of the PRMC are particularly important and helpful in guiding the work of the SIM.

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## 5. Presentation of Results

The implementation of the new data collection methodology in February 1993 also ushered in changes in the appearance of SIM publications. I worked with SIM staff to use desktop publishing and graphics software to improve the presentation of the weekly and monthly reports and the semester bulletin. This change in style was continued in the newer SIM publications, most notably the International Market and Special Reports.

On several occasions, we presented price and quantity data in a map format in the monthly reports. This has not continued. I believe, however, that Geographic Information System (GIS) software could help the SIM in their analysis and improve the presentation of SIM reports. The SIM needs to update their GIS software and SIM agents need to take the initiative to learn about it and use it as a presentation tool.

Prior to his departure to graduate training in the US, I spent a considerable amount of time with the SIM's communication agent trying to develop an official agreement between the SIM and the ORTM (Malian Radio and Television Office) to broadcast the SIM reports on national radio and television. While an official agreement was signed between the two institutions, the informal system in which gasoline coupons are given to the ORTM staff to "motivate" them to do the work required to prepare and broadcast the SIM reports is unfortunately still required. In addition to this precarious, informal manner in which SIM broadcasts are made (to which the sporadic nature of the SIM television broadcasts can attest), the SIM is limited to the simple diffusion of cereal prices with little opportunity to discuss other issues or prepare other types of radio messages. As I will discuss later, I believe that there is a lot of room to improve the communications and extension component at the SIM, assuming that motivated, imaginative individuals commit themselves to developing different types of broadcasts and funding is made available to formalize the relationship with the ORTM and pay for broadcast services.

Concurrent to working on the institutional issues, we attempted to improve the television broadcasts with graphics and tables as well as expand the bank of film footage used in the television broadcasts. Unfortunately, the ORTM did not have the appropriate technology to integrate computer-generated images into their broadcasts. As they have upgraded their equipment over the last year, it would be useful to attempt again to improve the quality of the SIM television broadcasts.

With the arrival of the new division chief, the SIM contacted local radio stations in Koutiala, Mopti, Niono and Sikasso to begin broadcasting SIM prices. Funding to assure continued broadcasting on these stations should be budgeted.

For several months in 1993, with an interest in more thoroughly responding to the information needs of the donors, the SIM conducted a brief monthly presentation to the technical committee of the PRMC. Using graphic presentation software, the SIM provided a brief update of current trends in the cereal market and answered questions. This monthly meeting was a useful forum for the SIM to get immediate feedback from people who follow very closely the market and the SIM's work.

## **6. Hardware and software needs**

The project upgraded the computer capacity of the SIM throughout the project. MSU purchased three desktop 486 machines, one laptop 386, one laptop 486, three laser printers, two dot matrix printers and three uninterrupted power supplies. While this equipment will suffice in the medium term, the software purchased in 1991 is outdated and needs to be replaced by newer versions. I assessed recently future software needs with the SIM and requests to update programs have been included in the 1995 budget.

## **7. Institutional issues**

The majority of the work on institutional issues was completed by faculty and graduate students on campus. Most notably, a graduate student completed her Masters' degree thesis on institutional design issues for market information systems, using the Mali SIM as a case study. Subsequent shorter papers produced with faculty were useful background papers to PRMC members and consultants, particularly in the elaboration of the technical note on institutional reform at the SIM completed in 1994 by a PRMC consultant.

## **8. Other**

In addition to these seven principal areas, subsequent revisions to the terms of reference added the following activities: a user survey, an evaluation of the methodology and market sample, and creating a user advisory panel.

With respect to the user survey, in May and June of this year, the PRMC agreed to finance a Malian consultant and French graduate student (Diarra and Galtier) to conduct a user survey of farmers, traders and institutional clients. Although I worked with the consultants to design the surveys, their work alleviated the need for the project and the SIM to conduct a separate study on the same topic.

I initiated the work on the evaluation of the new methodology by drafting a document that proposes a new sample of SIM markets. I believe that it is important for the SIM to finish this work after the user advisory panel has prioritized user information needs.

Time, personnel constraints and other work at the SIM precluded the project from creating a user advisory panel and organizing an initial meeting. The following section discusses the importance of creating this group and outlines its relation to the user survey, SIM methodology and sample of markets.

## **ISSUES TO CONSIDER IN THE FUTURE**

Institutional change is a long, tedious process demanding, among other things, committed individuals and attention to details. USAID and, in particular, AID's advisors to the PRMC have played a constructive, positive role throughout the last three years in encouraging and overseeing institutional and technical innovations undertaken at the SIM. I believe that this role must continue in the future if the SIM is to continue to evolve and improve as well as make the changes necessary to secure government funding in the future.

This section outlines several issues for AID to consider in its role as a member of the PRMC and in its future bilateral relations with the SIM.

One of the primary challenges confronting the SIM and the PRMC is to create a financially sustainable, cost-effective organization that produces in a timely manner, reliable information for its diverse clients. In brief, it means creating a leaner, more streamlined system whose radio broadcasts and written reports are valued by an articulate and supportive client group (SIM lobby) and whose budget could eventually be financed by the Malian government. Donors, users and the SIM personnel must realize that for the SIM to be effective in its role as a public information system, it must continue to evolve with the cereal market that it serves, becoming more responsive to user needs. Its future efforts should focus on further improving the tasks assigned to it rather than spreading itself too thin among additional activities.

The ability of the SIM to develop a committed lobby of supporters while at the same time reducing its budget is intricately tied to three issues: first, putting in place a user advisory panel through which client needs can be more effectively articulated, debated, prioritized and then acted upon by the SIM; second, and following the recommendations of the user group, evaluating and modifying the data collection system, the sample of markets, and the SIM's outputs; lastly, the ability of the SIM to effectively and quickly implement changes recommended by an advisory user panel depends in my opinion on modifying the internal organizational structure of the SIM such that the job responsibilities and work schedule for every position are clearly defined and performance criteria are created and administered.

I believe that these actions are just as important to the future of the SIM as its institutional affiliation.<sup>2</sup>

## 1. User group

Over the last five years, most of the SIM's work has focused on the supply side, building the capacity of the SIM to produce a diverse array of outputs for its clientele. While the work the SIM began and subsequent changes in methods and outputs have been made in response to the results of user surveys, the rapidly evolving nature of the cereal market and information needs of many actors requires that a more permanent mechanism be created in order to promote more frequent interaction between the SIM and her clients. This increased attention to the demand side of the system becomes even more important when one thinks of the long term sustainability of the SIM.

Rather than restricting those having a say over the activities of the SIM to government and donor representatives serving on the national consultative commission, a user advisory panel would be more representative of those who use SIM data. The primary role of this advisory group would be to recommend changes in SIM methods and products so as to better satisfy client information needs.<sup>3</sup>

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<sup>2</sup> I believe there are two viable options: first, keep the SIM at OPAM but grant it more autonomy (the SIM would pay OPAM for specific services rendered); or create an independent, autonomous organization detached (the budget could possibly be reduced by sharing certain fixed costs - building - with the SAP). I do not believe that there would be any advantage in moving the SIM to another ministry.

<sup>3</sup> Giving this group the authority to mandate changes could easily lead to a situation in which the SIM would often be modifying their activities in response to the current whim. Frequent changes in SIM outputs would probably occur because most users are not always aware of the amount of work involved in meeting various requests, the opportunity cost of doing so (in terms of staff time), and the large amount of SIM resources that have to go into gathering and processing the basic data that keeps the whole operation running.

The group would include representatives of various constituent groups including farmers, village associations, wholesalers, retailers, consumers, government officials and donors. It would meet on a regular basis several times a year, initially with the assistance of an outside facilitator. John Staatz and I have discussed at length the importance of such a group with the SIM. Given current budget negotiations and interest in deciding the future home of the SIM, the next few months are an opportune time to organize such a meeting.

Towards this end, the PRMC has already funded a study of SIM user needs. The results of this study could serve as the basis of the initial meeting of this group. Given difficulties in the past that SIM clients have had articulating data needs, particularly with respect to data analysis, this group could provide a vehicle to voice their concerns and deliberate the SIM's activities.

The creation of such a group will inevitably call into question the relative responsibilities of the national consultative commission and the technical committee which have historically governed SIM activities. I would view the advisory panel as an extension of or complementary to the consultative committee, providing input into the body that could mandate changes in what the SIM does. The technical committee, on the other hand, would continue to advise SIM staff on questions of basic methodology, make sure that sound scientific procedures were followed and that conclusions derive from the data and not just the analysts' personal preferences.

## 2. Data collection and SIM outputs

While any changes to the market coverage and types of data to be collected would result from an assessment of the information needs of the various clients and of the cost/value of collecting certain types of data, personal discussions with traders, farmers and government and donor officials together with the results of the PRMC-financed user surveys and market integration analysis would seem to indicate that the SIM's data collection system and market coverage could be considerably down-sized without any threat to the type of information and analyses requested by users.

Given its predominance in the budget, I believe that it is only through a reduction in the number of enumerators and markets covered that the SIM will be able to scale back its budget. Contrary to certain observers beliefs, I do not believe that the collection of quantity data represents an increased cost to the SIM or excessive work to underemployed enumerators.

Following the recommendations of the user panel, the SIM staff could complete a report proposing the market coverage and data collection system needed to produce the desired data. The recommendations made in this report could be debated, modified and implemented by the SIM.

Based on information already collected from various SIM clients, I could envision the following changes to the data collection system and outputs.

### a. *Data collection system*

First the SIM should limit its data collection to: 1) wholesale and consumer markets in the seven regional capitals and in Bamako (the number of the consumer markets in Bamako could be reduced); 2) approximately seven large assembly markets (Koutiala, Niono, San, Kita, etc.); and 3) approximately five to ten producer markets within close proximity to the assembly or regional capital markets.

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The recent user survey of Diarra and Galtier showed that producer prices and quantities have limited value to farmers and traders when broadcast on the radio. In addition, prices in rural markets are highly correlated to those in larger assembly markets. Knowledge of assembly market prices combined with information on marketing margins provides a pretty good idea of the price in rural markets. However, in order to maintain a producer price series for analytical purposes, I would continue coverage in a few markets accessible to the enumerators based in assembly markets. I would also suggest collecting prices in a producer market in the Office du Niger zone.

The number of rural markets in which to collect prices would invariably increase if users requested that the SIM continue collection in cereal deficit areas. Given the small number of markets actually covered by the SIM in deficit zones, the relative lack of attention that the SIM has given to them in the last few years, and the fact that the SAP already covers the area more thoroughly, it seems to me that the SAP could more effectively collect basic price data in these markets.<sup>4</sup>

This new system would require approximately sixteen enumerators as opposed to the current forty-four. Data would be collected in 20-25 locations as opposed to the current fifty-seven. By reducing by two-thirds the number of enumerators and by one-half the number of markets covered, the SIM could substantially reduce its field budget by roughly 25 to 30 million. This reduced market coverage will also minimize data transmission problems and the need to purchase additional radios.

Given the important role played by assembly markets in the directing the flow of cereal and transmitting price changes throughout the system, a handful of them would suffice as barometers of the cereal market. However, if there is an interest in generating nationally representative estimates of cereal flows, trader stocks and possibly farm level stocks, a much larger number of assembly markets would be required. Users would need to decide if the value of such estimates is worth the increased cost.

b. *Outputs*

Farmers and traders have expressed a desire to have wholesale prices broadcast several times per week. With a reduced number of markets to cover and data to transmit, I believe that wholesale prices could be easily collected and diffused on the radio three times a week. Producer and consumer prices would continue to be broadcast once a week. The increased frequency of wholesale prices is commensurate with the important role they play in the functioning of the cereal market.

In addition to the weekly price broadcasts on national and local radio, I believe that the SIM needs to direct more attention to market extension work. The focus of such an activity should be on information that enables market intermediaries to better plan and make decisions about their intervention in the cereal market. To this end, I think it would be useful to fund a monthly broadcast of 10-15 minutes in which

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<sup>4</sup> This suggestion does not imply that the SIM should completely disregard the deficit zones. Although a few years of good harvests have lessened the attention on deficit zones, sooner or later, a drought will hit, and there will be calls for large food aid disbursements in these areas. A challenge will be to design such aid in a way that does not undermine the capacity of markets in these areas to serve those people who still do have effective demand. If the food aid is mishandled, it could have long-term harmful effects on the willingness of traders to serve these areas.

Even if the SIM did not continue collecting basic price data in these markets, it is still important for SIM staff to develop an understanding, either through short field studies or interactions with enumerators, how markets in the deficit areas operate.

to disseminate additional information and discuss issues related to the cereal market. This program could provide information on a variety of topics such as storage strategy, market outlook, credit issues, village association stocks, import/export regulations and tariffs, international/regional markets, etc. This secondary information would be collected every month by SIM agents and maintained in a database.

I believe that an increased focus on radio broadcasts and market extension is crucial in order to satisfy the information needs of farmers, village associations and traders. It is only through these type of improvements that the SIM is going to develop the backing of its clients in the future. In order for the SIM to expand its communications/extension activities, additional experienced individuals would need to be hired on a contractual basis in order to work on the programs. The person currently occupying the communications post at the SIM has neither the skills nor the interest and motivation to carry out this type of work.

If competent and creative individuals were assigned to work on the communication/marketing extension aspect of the SIM, additional work could be done with institutions like the CMDT, Office du Niger and DNAFLA to create and distribute through their extension agent network instructional documents in local languages that discuss marketing themes such as storage strategies. Communication specialists could explore the feasibility of using radio theater similar to that used in England to disseminate extension messages. Further, extension programs could be developed with the Chamber of Commerce and Industry to work with traders on business planning, cash flow management or import/export regulations.

Based on the recommendations of the user group, I could envision several changes to the written reports produced by the SIM. The Flash and weekly reports could be combined into a brief biweekly price document. More effort could then be invested in putting together a monthly report that integrates other types of data similar to that suggested for the monthly radio address.

Given the large amount of time and resources necessary to produce the semester bulletin and its minimal value to users, I believe that the SIM should stop its production. The type of seasonal and margin analysis that is usually treated in such a document needs to be presented on a regular basis in the monthly report. In its place, I believe that brief special reports related to a specific topic are more useful and widely read than the bulletin.

Further, I think it would be useful for the SIM to produce a series of reports similar to those published by the FEWs in certain key periods of the year. For example, I could envision reports centered around 1) harvest forecasts, 2) market outlook - price forecasts - after the harvest, or 3) seasonal analysis as it relates to the hungry season.

Finally, I believe that a one page report on the international rice market and, hopefully in the future, regional cereal prices is useful to traders and policy makers as long as its production deadline is respected.

For all publications, the SIM needs to develop a quicker and more efficient distribution system, particularly to the regions.

### **3. Organizational reform**

The ability of the SIM to undertake innovations of this nature will strongly depend on whether changes can be made in the organizational structure of the SIM and thus the work habits and productivity of its

personnel. Until recently, the OPAM *Direction* decided who worked at the SIM and in what position. Relationships based on political and social factors played a big role in this selection process. As a result, unmotivated and incompetent personnel were often chosen to work at the SIM. Their personal ties to the *Direction* limited the division chief in his ability to discipline employees and insist that they perform their job duties however ill-defined they are. In addition, absenteeism has been endemic with attendance records completed even when someone does not come to work or leave midway through the day.

In a period of three years, I worked with four different division chiefs and four analysts. In the middle stages of the project these personnel changes led to a less than collaborative approach as the few committed individuals with whom I had undertaken most of the work either left the SIM to begin English training or were placed in other positions that limited their time to be spent on substantive work.

The return of two SIM staff members from training at Michigan State has been a big boon to the performance of and the morale at the SIM. Their presence led to a more collaborative approach with the project and their work habits have greatly enhanced the SIM's productivity. The new division chief has taken a more active role in supervising work of SIM staff. He has not, however, been able to resolve the difficulties created by the absence of clearly defined work schedule and job description for each SIM employee.

AID and the PRMC can play a useful role in this area by asking the SIM to develop detailed terms of reference for every position. This request was recommended in the 1994 technical note completed by the PRMC consultant and included in the OPAM contract plan. Illustrative of the current situation are the responsibilities of the communication position which, as currently defined, do not entail more than two hours of work per week. (On a side note, this work is actually completed by either the analyst or division chief.) It is only by restructuring the SIM in this manner that SIM agents will be able to complete the tasks assigned to them, and thus undertake the innovations needed to satisfy user needs and respond to a dynamically evolving cereal market.

Towards this aim, developing a set of performance criteria for individual employees and for the SIM as an institution would be a valuable tool in guiding SIM activities and assuring that agents carry out their assigned tasks. The SIM chief should have the authority to enforce rules and evaluate the work of SIM agents using a clearly defined set of performance criteria. By acknowledging those who work and disciplining those who do not, employees are made more accountable to each other and to the SIM.

Although some type of outside evaluation would have to take place for the SIM head, especially if the SIM becomes autonomous, it could be very disruptive to have an external body try to make managerial and staff-evaluation decisions for the SIM on a day-to-day basis. The PRMC and the SIM need to find the appropriate mechanism that allows the former to provide input into policies and to evaluate overall performance of the unit while avoiding any micro-management.

In the same vein, I believe that the PRMC must more clearly specify the terms of reference of the technical advisor at the SIM. This assistance could be more productive and useful to the SIM with a precise scope of work and explicit set of tasks. Following the aforementioned organizational restructuring, the PRMC should meet with the director of the SIM to define such that they complement those of SIM staff. For example, I believe that it is not good use of his time and skills to be involved in data entry. He could however play a valuable role in working on extension programs.

AID's PRMC advisors will need to be assertive in persuading the SIM to create a user panel, to evaluate and modify the data collection system, and in developing an organizational terms of reference. The SIM

may be resistant to changes in market coverage and explicit terms of reference. The failure to better respond to user needs and to pare the budget in the short term, however, would probably have far greater negative implications for the SIM in the future.

#### 4. Data analysis

Recent work by MSU and Johny Egg at Montpellier has examined the evolution of market information systems raising the question of the amount of analysis that should be undertaken by a SIM. As discussed above, I believe that in the short term, the SIM should focus its efforts on satisfying the information needs of farmers, village associations and traders through radio broadcasts and government and donor policy makers through weekly price reports, an expanded monthly report, and occasional special reports. If carried out conscientiously and thoroughly these activities will leave very little time for additional analysis. I do not believe that users should expect or request further analysis from the SIM. This does not imply that the analytical ability does not exist in the SIM. It is a question of priorities, the available human resources, and comparative advantage.

Collecting reliable data, managing large databases and disseminating information quickly is not easy work. Performing these tasks effectively demands organization and attention to detail. AID and the PRMC have invested a lot of resources to improve the capacity of the SIM to carry out this work for the cereal market. I believe that the SIM should concentrate on consolidating the considerable progress that it has made in this area. Additional effort could be made to strengthen this function by developing an expanded data base and, as suggested earlier, integrating secondary information into radio broadcasts and publications. work.

If there is interest in further expansion, given its experience in collecting data and managing databases, it may make more sense in the short term for the SIM to expand horizontally by adding more products to the system. Adding groundnuts to the survey in Kita showed that SIM enumerators can collect data for other products without overtaxing the system. The products to include would depend on the users and vary by market and season. Recent survey results have shown that users are interested in agricultural inputs. Efforts to promote agricultural exports, on the other hand, may justify collecting and disseminating local (Bamako and Baguinda) and European market prices for mangos or other horticultural crops.

In the short term, analysis should therefore consist of 1) doing that which is necessary to verify data quality, 2) more consistently using the basic price analysis techniques discussed above, and 3) combining rapid reconnaissance information with secondary data, price and quantity analysis to improve the monthly and special reports. Some observers believe that the SIM is the logical institution to carry out more refined analyses of the cereal market. Although this may be true, given the limited human capital available in the short term

(there is only one individual with a Master's degree in Agricultural Economics), I believe that further analysis of this type would only distract the SIM from focusing on the primary and secondary data collection and dissemination functions assigned to it. As the pool of trained agents improves in the future, the SIM will have greater capacity to undertake more additional analysis responsibilities.

In the event that there is an immediate interest in analysis on a particular issue, Aldridge and Staatz suggest that the SIM contract out to other institutions or individuals. Using a Malian or expatriate graduate student to carry out the work with support from his or her professor is also an effective model to accomplish more sophisticated analyses. Although the student would use his or her own equipment

and be responsible for the work, his or her presence at and collaboration with the SIM would enable a transfer of knowledge and skills.

In the short term, I think that there is a need to do work in the following areas:

- develop time-series models needed for market outlook work;
- building on the dissertation work of Nango Dembélé, I believe there is important work to be done on promoting cereal exports: assessing regional demand for Malian cereals, particularly with large institutional buyers such as the various *Caisses de Péréquation*; studying contracting mechanisms, export regulations and quality standards and their relevant constraints. The results could be synthesized and published in a pamphlet for distribution by the Chamber of Commerce and discussion on the radio. This topic may present opportunities to collaborate with the PRED project;
- use the extensive SIM database to do analysis of traders' buying and selling strategies or to perform more sophisticated price analysis;
- study structure and performance of markets in deficit areas.

All of these topics would generate information useful to the SIM in their efforts to better respond to users' information needs.

## 5. Public information versus fee-based services

As a part of its restructuring and specification of its terms of reference, the SIM needs to develop clear policies for dealing with demands of consultants, of the OPAM direction, and research institutions to conduct extra research or produce graphs and tables not included in its regular work. The last few years have seen a significant increase in the number of requests for this type of work for which the participating SIM agent is remunerated. It seems neither fair nor productive in the long term for some SIM personnel to carry out the basic data management and analysis while other agents benefit from the former's work and the SIM data to do perform specific tasks for which they are paid. This practice, in my opinion, could lead to internal conflicts within the SIM.

It leads to the question of what services constitute the basic public functions of the SIM and what should be considered as fee-based services. One could imagine, for example, subscribers of written reports being required to pay a small fee to defer the cost of reproduction and postage. Outside demands would need to be evaluated on a case by case basis.

## 6. Training

USAID/Mali has invested a lot in long- and short-term training at the SIM (four two-year programs at Michigan State University and one three-month short-course at the University of Michigan). The completion of the short-term training and the return of two of the long-term trainees has already had a very positive impact on the operation of the SIM. The analytical and technical skills acquired by these individuals have given the SIM the capacity to perform independently many tasks that it was formerly unable to accomplish. For example, the SIM can quickly and more effectively carry out the basic data collection and dissemination tasks, with greater attention given to producing reliable, accurate information. Their return also gives the SIM a greater capacity to conduct timely policy-relevant analyses of issues related to the cereal market.

In addition to the benefits derived from their technical competence, their positive attitudes, personal initiative, work habits and commitment have injected a new dynamism to the SIM that was badly lacking. Funding this project without parallel long-term training in the United States would not have produced the same results. The positive changes implemented collaboratively with the SIM during the course of the project would probably not be sustainable without these returning staff members. Further, I would not be proposing the aforementioned changes if the SIM did not have the skills and leadership of those returning from training at Michigan State.

Should the advisory panel, the consultative commission, and the PRMC decide that the SIM should undertake more analysis or become a fully autonomous, self-sufficient agency in the future, it seems to me that additional long-term training beyond the four agents currently in training may be necessary. In the short term, however, I believe that AID and the PRMC should consider the following issues related to training at the SIM:

a. Given the small number of Malians with academic training in agricultural economics and with expertise in agricultural marketing systems, it would be very beneficial to the SIM for Abdel Kader Sanankoua to complete a Master's degree at Michigan State if monies were made available. With his current funding ending in September 1995, two years of additional funds would be required to finish his Master's degree. This training, combined with his journalism background, would be very valuable in the development of marketing extension programs and improving the quality of radio broadcasts.

b. Management training for the head of the SIM.

If the SIM becomes an autonomous administrative unit, I believe that it would be very beneficial for the head of the SIM to participate in a short management training course. One cannot assume that an individual has the training and skills necessary to manage such a unit. Training in accounting would also be needed if the SIM were to become an autonomous unit.

c. Training in Geographic Information Systems

Cartographic presentation of SIM data can become an effective tool in disseminating information on the cereal market. If the SIM is to take advantage of new GIS software that they will hopefully be purchasing, it would be very useful for a SIM staff member to receive additional training in this area.

## 7. **Role of the cooperative agreements**

It is important to recognize that the work completed by this project over the last three years has been part of a larger, long-term relationship between MSU and the SIM dating back to 1988. Through the mechanism of the cooperative agreements between USAID and Michigan State, and the support that USAID/Mali has given them through its various add-ons, MSU has been able to work collaboratively with the SIM for over seven years. The previous empirical and methodological research conducted in Mali under the Food Security in Africa Cooperative Agreement since 1985 laid the groundwork for and supported the implementation and growth of the SIM. In addition to building upon this previous work in Mali, the project benefitted from analysis and methods developed elsewhere in the cooperative agreements. The research focus, the cumulative learning and the continuity provided by the cooperative agreements were instrumental in enabling this project to complete work with the SIM that may not have been possible under a basic technical assistance contract.

## 8. Other issues

Aside from the aforementioned areas that AID and the PRMC will undoubtedly examine in the near future, the list below concerns additional issues for AID to consider in their future planning.

### a. Endowment fund

Although the long term sustainability of the SIM will depend on a financial commitment of the Malian government, it may be prudent for AID and the PRMC to consider the creation of an endowment fund similar to that created by AID for a market information system for Arabica coffee in Cameroon.

### b. Developing regional communications networks

As discussed above, efforts by this project to develop links with neighboring country SIMs in order to exchange data proved to be very difficult. A lack of equipment and understanding of the potential value of timely information exchange prevented us from putting in place a sustainable system.

Supporting efforts to develop regional communication networks with other countries would facilitate the timely transfer of data between SIMs, thereby improving the information made available to those interested in import and export markets.

In the short run, MSU intends to facilitate exchange of information among SIMs through the INSAH/PRISAS devaluation project by equipping each national team with modems and e-mail connections. The SIMs participating in the studies will be able to periodically exchange price data and other market information.

### c. Improving statistics for agricultural and food policy

AID has invested a lot of resources in improving the availability and quality of agricultural statistics in Mali. In particular, efforts have centered on price data collected by the SIM and data for famine prevention at the SAP. While it is important that the progress made at the SIM is not allowed to lapse, AID may also want to consider updating other data useful for agricultural and food policy analysis. For example, the DNSI needs to renew their data for several consumption parameters (e.g., elasticities). It would also be valuable to have a better capacity to estimate farm level cereal stocks. Providing resources to organizations such as the DNSI to update this information would greatly improve the statistics available for these types of analysis. Moreover, many data collection agencies need training in database management. For example, neither the DNSI nor OMBEVI (Office Malien de Bétail et de Viande) maintain computerized price series for commodities they monitor.

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