

Kingdom of Morocco

**Ministry of Agriculture
And Agricultural Development**

PN ARX-556
9-71

USAID/Morocco

**Agriculture and Natural
Resources Office**

CEREALS MARKETING REFORM PROJECT

**DATABASE CONSIDERATIONS FOR
CEREALS TARIFF CALCULATIONS AND SURVEY
RECOMMENDATIONS FOR CEREALS
STOCK REPORTING**

by

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January, 1994

Report CMR - WP16

USAID Cereals Marketing Reform Project

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by Gregory C. Lassiter, DAI

Introduction

Background

The Moroccan Government (GOM) is undertaking a historic and wide-reaching liberalization of its cereals marketing system. For almost 60 years, Morocco's cereals subsector has been dominated by a state controlled marketing and processing chain. Under protective tariffs and import controls, Morocco's cereals prices are maintained at almost triple world prices, while direct subsidies for transport, storage, and flour reduces some of the impact on consumers. As Moroccan internal cereals prices have become increasingly out of synchronization with world prices, a complex and costly myriad of central planning and state control has evolved to supply and administer this system--particularly for bread wheat.

However, based on convincing analysis of the social and financial costs of this outdated, protectionist system, the GOM has accepted to liberalize the cereals importation and domestic marketing system, ending almost six decades of state control. Thus the state cereals marketing agency, ONICL, is scheduled to terminate its remaining cereals marketing operations as of the April 1, 1994 deadline¹, thus allowing private traders both to import cereals and to market them domestically. As part of this process, USAID's Cereals Marketing Reform (CMR) Project is assisting both the Direction de la Planification et des Affaires Economiques in the Ministère de l'Agriculture et de la Rèforme Agraire (MAMVA/DPAE) and the Office National Interprofessionnel de Céréales et Légumineuses (ONICL) in this transition.

This consultancy was originally designed to provide technical assistance to the GOM under the CMR project in two

¹Note at the time of the final edit: With the passage of GATT, it appears that Morocco once again will delay cereals trade liberalization. Instead of adopting a rather complex method for setting a variable levy (described in this report) on April 1, 1994, it now appears that Morocco will adopt an ad valorem tariff system for all cereals, to go into effect in January 1995.

specific areas²:

Task #1: Assisting MAMVA/DPAE in implementation of the database for monthly computing of the cereals import levy (prélevement)

Task #2: Assisting ONICL in designing information services in support of cereals marketing liberalization

Of the three week consultancy, approximately one week was scheduled for Task #1 and two weeks for Task #2. While both tasks are high priority activities of DPAE and ONICL, Task #1 required less time because it is only a small follow-up component of several consultancies by Lynn Salinger and Wallace Tyner (see project reports CMR-6 and CMR-WP15). Task #2, however, was seen as the first of several consultancies to assist ONICL in developing a food security balance sheet ("bilan céréalier") to complement its MIS system in providing market information for private grain traders in support of upcoming market liberalization.

However, at the end of the in-country phase of this consultancy, December 1 - 17, 1993, it has become apparent that USAID funding for both these activities is unlikely. Although the GOM and CMR staff understood that funding for both these activities were approved by USAID in July 1993, recent unexpected cuts in USAID/Morocco's budget has made it impossible to provide this funding.

Context for this consultancy

Given Morocco's long history of state control of cereals marketing, the next few months are a critical time for Morocco's "experiment" in grain market liberalization. It has become abundantly clear from virtually all interviews conducted under this consultancy, that ONICL staff are skeptical about the Moroccan private sector's ability to provide the marketing and distribution services currently provided by over 400 ONICL employees.

After almost six decades of state control, there is room for ONICL's skepticism, based on the fact that the private sector is inexperienced in undertaking activities that were previously prohibited. On the other hand, a surprising and disconcerting amount of skepticism seems to be based on unfounded pessimism about the private sector's ability to manage the national grain distribution system, as occurs in most free market economies.

As we see in the former centrally planned economies of

²The scope of work for this consultancy is provided in Annex A.

Eastern Europe and the NIS, the transition from state planning to free market systems is neither simple nor painless. It is clear that there will be many difficulties, bottlenecks, and problems during the early phase Morocco's grain marketing liberalization process. However, it is critical that cool minds and sound analysis prevail during the transition period. Otherwise, preexisting unfounded pessimism will dominate analysis of transition problems. This could doom marketing reform before liberalization has had time to succeed.

Thus CMR project activities are more important in 1994 than ever. Without a better understanding of how free market grain distribution can and should work--as CMR technical assistance has successfully provided in the past--it is difficult to be optimistic about Morocco cereals marketing liberalization.

Task #1: Assisting MAMVA/DPAE in implementation of the database for monthly computing of the cereals import levy (prélevement variable)

Computing the Variable Levy (Prélevement variable)

A methodology for computing the "variable levy"³, (known in French as the "prélevement variable") was previously developed by Lynn Salinger and Wallace Tyner (CMR-WP15). In order to ensure transparency to private sector cereals importers, the variable levy was originally scheduled to be in place by the April 1, 1994 deadline for liberalization. The levy is to be calculated monthly for all major cereals crops based on the difference between the "reference price"⁴ ("prix de référence") and the "theoretical import price" ("le prix théorique à l'importation"), lagged two months⁵. This permits a private trader to lock in a tariff and, most importantly, provide incentive to procure grain at lowest possible prices.

DPAE staff have developed a spreadsheet using Quatro-Pro software to compute the variable levy and they are fully competent in implementing it. They clearly have the expertise in

³This is essentially a variable import tariff designed to ensure a fixed domestic price.

⁴Fixed domestic producer price, set above international prices by the GOM to provide domestic producer incentive. The current reference prices are generally 2 - 4 times international prices, depending on the product.

⁵The formula for the theoretical import price is:

$$PTI_t = FOB\ price_{t,2} - bonus_{t,2} + transport_{t,2}$$

Quatro-Pro to develop the spreadsheets necessary to compute the monthly levy for all crops concerned. However, the system is not yet operational due to lack of international price data required for most crops.

Database

The primary purpose of this consultancy was to assist in setting up a data base, preferably based on electronic transfer of international price data, to automate this computation. The data that DPAE requires for these monthly levy calculations are summarized in Annex B.

Although the CMR project and this consultancy are responsible for cereals crops, the list in Annex B. contains several other crops and food items for which DPAE is responsible to compute import levies. However, the database development and electronic information access system will be designed to accommodate as many of these other food products as possible.

Unfortunately, DPAE has been unable to make much progress on obtaining most of the data required in Annex B. Assistance was provided by a USDA ERS consultant, John Dunmore, who has provided several leads on how to obtain this data. However, DPAE must finalize its data sources before the levy calculation database can be developed. Most importantly, electronic sources must be evaluated thoroughly in order to identify the most timely and efficient sources for the data in Annex B.

Another remaining gap in DPAE's levy calculation system is in the area of computer communications capacity. Under the USAID's Planning, Economics, and Statistics for Agriculture Project (PESAP or Project 182), a much needed and well-designed LAN (local area network or "réseau local") is currently being installed at DPAE. This will greatly enhance DPAE's already advanced data processing capacity and should have important and far-reaching impact on office efficiency, communication, and management.

However, DPAE external communication capacity is only at the design stage. Modems have been purchased to permit communication and data transfer from field offices. Telecommunications to permit international data transfer are desired, but implementation plans are not yet finalized.

The monthly levy calculation system requires that such international communications be incorporated into the LAN as quickly as possible. A temporary solution may be possible by using the CMR international communications link via MAGRIPAK and MCI Mail. DPAE needs a direct leased telephone line to MAGRIPAK in order to reduce telephone line interference problems. This hookup should be implemented immediately.

Follow-up Activities

The following follow-up activities⁶ are planned:

- Upon return to the US, consultant Greg Lassiter, in collaboration with USDA ERS trade division specialist John Dunmore, will evaluate the existing electronic data sources in the US and convey the results to DPAAE.
- DPAAE needs to order a direct leased line to access MAGRIPAK and finalize plans for developing an international communications link for the DPAAE LAN.
- Once data sources and electronic transfer mechanisms are finalized, DPAAE must develop software necessary to automate the retrieval, assembly, and analysis of data necessary for the monthly levy calculation.

Originally, it was intended that consultant Lassiter could assist with this electronic automation exercise, but given current budgetary cuts, this seems no longer possible.

Task #2: Assisting ONICL in designing information services in support of cereals marketing liberalization

Background

In June 1993, a major CMR consultancy and workshop assisted ONICL staff in analyzing the future role of the organization after grain marketing liberalization takes effect. As described in the his report⁷, Goldensohn concluded that ONICL still has a role to play after liberalization, despite the loss of its former cereals marketing responsibilities. One of the major future responsibilities foreseen for ONICL by Goldensohn, and agreed by workshop participants, is to provide grain marketing information to the private sector.

There are two major reasons justifying this recommendation. First, ONICL certainly has much relevant experience in collecting and analyzing grain marketing information, as will be described below. Second, national level grain marketing statistics are

⁶With recent adoption of an ad valorem tariff system, now planned for January 1995, these follow-up activities may be unnecessary. However, it may be necessary to monitor some or all of the data items listed in Annex B in order to follow trends in world (often US) prices, export subsidies, and international shipping rates.

⁷Max Goldensohn, "ONICL: Actualités et Avenir Institutionnel", juin 1993.

clearly a responsibility of the GOM, and ONICL as a parastatal inter-professional agency is well placed to provide these statistics. Both these reasons support the Goldensohn recommendation that ONICL be given this responsibility, rather than DPAA, which already provides market information and agricultural statistics for all major agricultural commodities.

However, there are also other reasons for placing ONICL in charge of marketing information which are far less justified. As previously mentioned, ONICL staff and supporters⁶ of Morocco's state controlled cereals distribution system, strongly feel that Morocco's private sector is too inexperienced to take on all of ONICL's previous responsibilities.

Thus it has been apparent during most interviews that most ONICL staff feel such marketing statistics are required because the private sector will be incapable of making correct marketing decisions without such guiding information. As will be discussed below, this recurrent pessimism about the private sector's ability and experience casts a shadow on future liberalization efforts and contains elements of a self-justifying prophecy.

The Goldensohn report recommends that ONICL information coverage focus mainly on local market prices for cereals, world market prices, and the foodgrain balance sheet ("bilan céréalier"). In addition, both Goldensohn and ONICL recognize a related need for developing ONICL's internal management information system or SIG ("système d'information générale").

ONICL already has in place an impressive local market price data system called the SIM or "système d'information des marchés", which has been developed with technical assistance from the CMR project over the past 18 months. In addition, ONICL has developed mechanisms to assemble international market prices, as a result of its multi-decade experience as the national cereal importer. Plans are currently being formulated to develop a computerized SIG over the next year.

This consultancy is aimed at assisting ONICL in developing a periodic foodgrain balance sheet to supplement the existing SIM system as guide to grain traders and importers under the upcoming liberalized marketing system. In addition, this consultancy addresses computer hardware and communications issues that affect the SIM and foodgrain balance sheet activities, as well as ONICL's SIG planning.

Current Foodgrain Balance Sheet (Bilan Céréalier)

⁶Including even some "private" grain traders who, as registered "commerçants agréés", now benefit from guaranteed market shares under the current state controlled system.

Under the current state controlled grain marketing system, ONICL's normal operations generate most of the data for a foodgrain balance sheet. The "Division de la Commercialisation" maintains centralized records of its grain imports and local grain purchases. The "Division de l'Approvisionnement" has developed an extensive network of administrative statistics which tracks ONICL grain distribution from point of origin (typically port of entry for imports), transport to distributor warehouse or mills, stocks held by intermediaries and end users, millings, and flour stocks.

Thirty-five regional offices ("services extérieures") send reports to ONICL's headquarters in Rabat. Most data are provided on a daily basis by fax, telex, or telephone, with plans to automate the system to permit electronic transfer by modem. Some data are provided only on a biweekly basis.

The "Division des Etudes, des Statistiques et de la Documentation" is technically responsible for the SIM, which transmits market prices daily via modem from each regional office to Rabat. In addition, some SIM summary results are published in both French and Arabic in a monthly bulletin.

While the ONICL's current information system is quite impressive, it has some major flaws which limit its applicability for use under liberalization. First, except for the SIM, this information system currently applies only to grain marketed by ONICL, but not to grain marketed by the private sector. Thus ONICL's future market information system must include existing and new private sector cereals marketing participants--including suppliers, traders and end users.

In addition, much of ONICL's current data comes from written declarations required by a subsidy system which will not exist after liberalization goes into full effect. For example, grain transport and storage reporting is currently required in order to allocate transport and storage subsidies, both of which are scheduled to end in April 1994. Flour milling reporting is linked to flour subsidies paid on "Farine Nationale", which will be phased out gradually under liberalization.

Thus, each type of data in the current system (inputs, transport, grains stocks, industrial flour millings, and flour stocks) must be analyzed in light of the requirements of a liberalized marketing system. A number of future options emerge:

- some current data types will no longer need to be collected (eg. quantities of grain and flour transported);
- some data categories may be collected largely as before, with perhaps new systems to spot check accuracy

and improve collection efficiency (eg. larger scale commercial wheat and flour stocks, industrial wheat millings, etc. Collection of these data are authorized under terms of the proposed revisions to the "ONICL Dahir⁹"); and

- some data types will require totally new collection procedures under free market conditions. Some of these will be relatively easy to accomplish (imports of cereals through the proposed "deposit" system), while others will be quite challenging (eg. on-farm grain stocks and commercial stocks held by small traders) and will require some methodological experimentation over time (discussed below).

Another drawback of the current ONICL internal market information system is that it is not yet centralized or automated. Data aggregation and analysis tends to take place in several different offices within ONICL for a variety of different purposes (distribution planning, import requirement projections, subsidy calculation, internal financial control, etc.).

As a result, information is not available in a centralized place. In addition, there appears to have been some history of compartmentalization, if not secretiveness, within the organization. Current plans for a computerized SIG may reduce the compartmentalization of data analysis and availability. Under liberalization, secretiveness will disappear since the objective of ONICL's information services is to make such data as public as possible so that the private sector can use it to make informed marketing decisions.

A final potential problem with ONICL's future marketing information system is that after liberalization, private sector participants may be reticent to provide accurate data. ONICL is considered an "interprofessional" institution, representing a bridge between cereals subsector participants and the GOM. However, it is perceived by most private sector agents both as an arm of the GOM and as a potential predatory competitor, due largely to importing practices it has engaged in for various GOM drought relief programs.

For example, earlier this year, private importers were allowed and encouraged to import barley to overcome a domestic shortage. After much private sector investment in imports, ONICL decided to import barley and undercut prices causing substantial private sector financial losses, not to mention loss of confidence in ONICL. Thus ONICL may not be perceived as an objective and disinterested information intermediary.

⁹Royal Decree.

Even more importantly, ONICL may not be perceived as a confidential information intermediary. One of the basic tenets of any data collection and statistical service is that the accuracy of response depends greatly on assurance of confidentiality of individual respondents. In theory, the 1973 "Dahir" provided ONICL authority to maintain confidentiality of its data sources. However, in practice, GOM tax authorities have been granted access to ONICL data sources, which they have used to investigate private sector firms on suspicion of tax evasion.

Given this history of data access by tax authorities, it would seem unlikely that ONICL can ensure confidentiality to private sector marketing participants from which data must be collected. Without confidentiality, accuracy of response cannot be ensured.

ONICL information system changes in progress

Historically, ONICL has been a particularly information intensive institution. As national cereals importer, distributor, and marketing agent, ONICL has been collecting, analyzing, and using detailed cereals marketing information for decades. In recent years, it has adopted computer technology at a faster rate than many GOM agencies. It is currently in the process of even more rapid advances.

Currently, ONICL operates one UNISYS minicomputer utilizing a UNIX operating system, plus 56 IBM compatible microcomputers. The Minicomputer is primarily used for internal accounting and financial control--a particularly large activity given ONICL's massive cereals trading activities.

ONICL's microcomputers are used primarily for office automation and data analysis. One of their more advanced applications is to provide a data communications linkage between ONICL's headquarters in Rabat and its field office. Of ONICL's 35 field office, 32 currently have one microcomputer and a modem. These are used to enter daily SIM market price data. From headquarters, a microcomputer with modem automatically telephones each field office computer daily to transfer regional market prices to the central data base. Software is being developed to permit all field office data to be transferred to the home office.

Microcomputers at ONICL's headquarters are all stand-alone units and are not yet linked by any network. However, plans have been made to link all microcomputers to the minicomputer and some wiring is already in place. The objective is to utilize the minicomputer to store a centralized database, using Oracle software, and permit all microcomputers to serve as remote terminals so that they can access the centralized database. This linkage system utilizes regular telephone lines, so each

microcomputer needs a modem, a supply of which has already been purchased.

Since the minicomputer uses the UNIX operating system and the microcomputers use the DOS operating system, this is not a LAN or local area network ("réseau local") in the true sense. According to ONICL, translation software ("passerelle") exists to transfer UNIX files to and from DOS, and appears to work without problem.

Thus the primary purpose of this telephone linkage would be twofold: 1) to permit office staff to operate a dumb terminal to allow them to work in UNIX and access SIG data, including the Oracle format marketing information, or, more likely, 2) to copy Oracle format marketing information files from UNIX to DOS so they can be analyzed and manipulated with standard DOS software such as Lotus, SPSS, graphics software, or word processing. There are several drawbacks to such a system, to be discussed below, but it could provide some features (such as remote access to UNIX format accounting information) that would complement a true LAN.

ONICL is currently in the process of developing a comprehensive management information system or SIG ("système d'information général"). One of the objectives is to develop centralized databases with computerized access. Developing linkages between the DOS microcomputers and the UNIX minicomputers is one aspect of the SIG.

According to the Director of the Centre Informatique, a user needs assessment will be undertaken to determine ONICL's software, communications, and information requirements. Given the widespread use of microcomputers throughout the ONICL headquarters and field offices, it appears that this user needs assessment comes at a timely moment in ONICL's evolution, particularly given the reorganization that will undoubtedly accompany market liberalization.

ONICL's internal computer services development has important implications for the development of its market information services, including publication of a periodic foodgrain balance sheet. In some ways, ONICL is technologically ahead of DPAA because the SIM has quickly and effectively implemented decentralized data entry at the field offices and automated electronic transfer of data to the main office data base. A DOS microcomputer in ONICL's Centre d'Informatique provides summary tables and graphical analysis of both regional and national prices on a daily basis. ONICL's obvious next step is to implement a network linking microcomputers throughout the its headquarters building.

In terms of networks, DPAA is moving ahead of ONICL, due to

the pending installation of a local area network (LAN or "réseau local"), due for implementation in January. **It is important the ONICL data processing and technical staff closely follow LAN development events at DPAAE and other GOM departments that are installing them.**

The LAN at DPAAE will have at least seven significant advantages over the DOS-UNIX interface linkage system currently planned at ONICL:

1) True LANs permit all microcomputers to be linked and permit each to run programs under the DOS operating system. The proposed ONICL system only links a microcomputer to the UNIX minicomputer by turning the microcomputer into a dumb terminal, essentially allowing it to run UNIX programs on the minicomputer from a remote site. However, DOS programs are not available in the dumb terminal mode. Except for a few programmers, most ONICL technicians undoubtedly prefer to work in DOS software (Lotus, Wordperfect, SPSS, etc.) rather than UNIX.

2) A true LAN provides a variety of advantages over a UNIX file transfer system. A major advantage is that a true LAN permits more efficient sharing of peripheral equipment, such as printers, modems, and storage space. For example, one regular sized laser printer of the type used by the CMR project could easily accommodate 10 - 15 users. The printer would simply be located in a central location, such as a hallway. Printer memory chips or "background printing", such as used by Wordperfect" mean that users can send a document to the printer and resume computing immediately, without any need to wait for their (or competing users) print jobs to finish.

3) A LAN also permits more efficient central storage of data. Larger, more cost effective hard disk drives can be placed in a central location but still accessed by any user¹⁰. Commonly used software and databases can be stored on a central hard disk, eliminating the need for duplicate storage on each computer. Sharing peripherals and centralized data storage can result in significant cost savings.

4) A major benefit of a LAN is its ability to promote more rapid office automation and greater efficiency gains. For example, most new LAN adopters are amazed by the efficiency increases cause by electronic mail ("courrier électronique"). In many fast-paced institutions, such as ONICL, it is often difficult to communicate with office staff when phones are busy or when people are in meetings, traveling, or just away from

¹⁰LAN management software permits restricting access of individual users to specific files, hard disk partitions, software, or peripheral devices.

their desks momentarily. Electronic mail permits inter-office memos to be sent from computer to computer, or copied to a group of computers, and responded to when convenient. With a modem, electronic mail can be sent to field offices and to international addresses

5) A true LAN also has important implications for development of ONICL's SIG. Given ONICL's previous investment in its minicomputer and its UNIX based accounting system, it probably makes sense to consider the minicomputer as one peripheral to an eventual LAN. Rather than each microcomputer needing a modem to transfer files from the minicomputer, as currently planned, the LAN would only need one modem to link the entire network (hence all microcomputers) to the minicomputer. However, most other SIG components can be more efficiently developed with commercial DOS software. Many commercial products already exist for SIG purposes.

6) Other applications that become possible with a LAN include CD-ROM access. Many databases are now being published on CD-ROM, such as prices and economic statistics, commercial and legal information, documents, catalogues, encyclopedias, etc. Another potential application is document storage and retrieval. Documents can be digitized and stored on CD-ROM. This can be used as an efficient method of storing internal documents. It can also create an electronic library to automate ONICL's existing documentation center. Both CD-ROM and digitization costs continue to fall, so they may become cost effective options for ONICL in the near future.

7) With a LAN and the increased options it provides to a microcomputer user, Windows becomes a more powerful tool for increasing personal productivity. In Windows, the user can switch instantly from one application to another and integrate results from one application into another. For example, while working in Wordperfect to write a report, you can jump to Lotus to calculate a spreadsheet, cut and paste the spreadsheet into the Wordperfect text, jump to electronic mail to check for messages, jump to a market information report to find data, jump to a modem to tap into an ONIC database in Paris, etc.

Recommendation: It is important that ONICL install a true microcomputer based LAN. A first step is to collaborate with other GOM units currently using LANs, in order to share their experience in installing and implementing a LAN. Next, ONICL needs to hire an outside consultant, experienced in LAN design and implementation to participate in ONICL's pending computer user needs assessment.

If ONICL's "computer user needs assessment" will not take place soon or if ONICL needs further technical information on microcomputer based LAN systems, a local LAN supplier or

consultant should be engaged immediately to provide a preliminary recommendation of ONICL's LAN needs".

Although ONICL appears to have a strong Centre Informatique and makes extensive use of microcomputers, there is reason to assume that microcomputer LAN expertise must be obtained from the outside. ONICL does have in-house expertise in minicomputers and stand-alone microcomputers, but there is little reason why it would have developed expertise in microcomputer LAN technology, particularly since this is such a rapidly evolving area.

In addition, ONICL's Centre Informatique has much to gain and little to lose in utilizing outside LAN expertise. First, ONICL's existing minicomputer system and UNIX software investment is not at risk, as a new LAN will supplement, not replace the existing system. Second, current computer support staff have much to gain by becoming experienced in the newest innovations in microcomputer LAN technology, both in terms of professional development and personal job satisfaction.

Foodgrain Balance Sheet: Recommended ONICL Initiatives

Building on past experience, it makes good sense that ONICL publish a periodic foodgrain balance sheet. As discussed above, ONICL's current "internal" cereals stock and utilization information is not sufficient once liberalization takes effect in April 1994.

ONICL is well motivated to develop this capacity. Everyone concerned agrees that publishing foodgrain balance sheet information is important. This is particularly true early in the transition period from state control to liberalization. During this period there may be some market disruption until private sector trading patterns stabilize. Until trading patterns stabilize, the private sector will need timely information on cereals stocks and flows in order to schedule imports and marketing more efficiently.

In addition, there is a strongly held belief that the private sector will permanently need ONICL generated marketing information. This need remains to be seen. Once marketing patterns stabilize under liberalization, private traders and cereals users will typically make their marketing decisions based on local market prices and internally generated stock information. In liberalized economies, grain traders tend to develop their own sources of national or regional stock

"A potential source of this preliminary technical advice is DPAA's LAN consultant from the USDA, who is currently funded under USAID's 182 project.

information, which focus in detail on the channels where they operate.

However, where the government is the position to collect unique data sets (in Morocco: import plans, stock levels, aggregate millings, in addition to harvest forecasts, etc.), this information may contribute significantly to the set of information sources that an evolving private cereals subsector will require. These are complimentary to the private data sources that firms develop that relate to specific clients and transactions. National statistics are also needed by GOM officials to monitor fair trading practices or natural catastrophes, and by small traders and consumers to keep large traders honest.

Resolving data gaps

There are several data gaps in the current ONICL internal cereals balance sheet information system which need to be resolved before liberalization. These data gaps include:

- information on private sector storage, including on-farm storage;
- information on private sector sales and utilization, including on-farm storage draw down;
- structure, conduct, and performance of private grain trading system (particularly as it evolves under total private control); and
- expected loss of accuracy in existing data reporting system after market liberalization.

Private sector storage: ONICL, in close collaboration with DPAE, needs to develop a periodic¹² private sector cereals storage survey. DPAE probably should take responsibility for the on-farm component with ONICL taking responsibility for private traders, millers (including "minoteries artisanales"), other industrial users, and SCAMS.

There are serious potential accuracy problems with storage reporting surveys, particularly on-farm storage, in Morocco. Much time and effort needs to be devoted to developing survey questionnaires, testing, and verification. While accuracy is less important than consistency, neither will be easy to ensure

¹²ONICL prefers a survey which provides data for a monthly foodgrain balance sheet, similar to the system now used. The feasibility and cost effectiveness of a monthly survey needs to be evaluated.

under Moroccan conditions.

The major cause of inaccuracy in stock surveys is that the respondent has every reason to keep asset information confidential, particularly speculative liquid assets such as grain stocks. Tax avoidance is one obvious motivation to underreport stocks. While a fairly universal motivation, there are other important legitimate reasons to be reticent to report stocks. If the respondent is not absolutely certain that the information is confidential, there are justifiable commercial reasons to withhold stock information. When stocks are unusually high or low (the situations of most interest to a stock reporting system), a private trader would not like this information made available to a local competitor because of the deleterious effect it could have on local prices.

ONICL has a serious problem in this regard because it has not been able to maintain confidentiality. In the past, GOM tax authorities have had access to ONICL records and has used the declarations of individual companies for tax investigations. In addition to the tax avoidance issue, post-liberalization statistical reporting from the private sector may be jeopardized by the perception that ONICL is both a GOM agent and former, if not future, competitor.

Therefore, in order for ONICL to take responsibility for the foodgrain balance sheet reporting system, it must be able to credibly guarantee to all individual respondents that data collection will be absolutely confidential. This will require a modification of the new Dahir to ensure that ONICL will no longer be required to release raw survey information (including respondent identification information) to tax authorities, any other GOM office, or any individual other than authorized ONICL statistical agents.

Such an ONICL confidentiality pledge must be made as publicly as possible. This pledge should include a commitment to convince private grain traders and end users that ONICL is no longer a potential competitor and will no longer intervene in cereals marketing. **If ONICL cannot ensure confidentiality and objectivity to its survey respondents, then such cereals reporting should be undertaken by DPAE.**

Special studies and rapid reconnaissance surveys: In order to take responsibility for private sector grain storage and marketing surveys, ONICL needs to augment its capacity for special studies. These special studies serve an important purpose because they give ONICL technical staff a closer understanding of how the private sector operates. Designed correctly, they give quick and timely results which help refine national questionnaire and survey methodologies. They also keep participating technical staff in closer touch with the private

sector's evolving adaptation to cereals marketing demands.

Given ONICL's past experience, which emphasized central planning of grain marketing, but only limited monitoring of free market behavior, **rapid reconnaissance surveys** could be a very effective first step towards developing a food security balance sheet. Rapid reconnaissance (RR) techniques emphasize quick turn-around surveys using inter-disciplinary teams, informal group interviews, and qualitative, rather than quantitative "first cut" information gathering.

For example, to understand the issues involved in on-farm storage, ONICL and DPAE should assemble an inter-disciplinary team as soon as possible. The team should include a storage specialist, marketing specialist, agronomist, economist, sociologist, statistician, survey specialist, and a private grain trader. Participation by high level ONICL administrators should be strongly encouraged¹³. Team members should be drawn from the outside for specialties not found in-house.

The ONICL team would first review existing literature and finalize objectives for the survey. A list of qualitative, open-ended questions would be developed. Only one week would be needed for these tasks. With assistance from the Services Extérieures, two weeks of field trips would be undertaken to conduct group interviews to obtain answers to the original set of questions. Team meetings would be held each evening to discuss interview results and revise questions. During week 4, a report would be drafted and finalized which summarized findings and indicated follow-up "quantification" survey work to be conducted by the eventual survey system¹⁴.

¹³Even participation in only 1 - 2 days of field interviews by high level officials provides substantial benefits to rapid reconnaissance surveys.

¹⁴One of the major reasons that RR can be executed in only one month is that no effort is put into quantification or statistical analysis. This is left for a later stage which can benefit from objective sampling and larger scale data collection based on full-time enumerators, rather than high-paid technical staff. Because RR is a adaptive process, objectives clarify over the month long period, so the eventual quantified survey work can be very focused and efficient.

Classical survey methods based on quantified survey questionnaire development, testing, and implementation tends to be more time consuming, more expensive, and less focused. However, RR really represents only an alternative strategy for quantified questionnaire development. The RR stage essentially tests hypotheses and survey goals well before quantified data collection

Key areas where RR techniques can help ONICL develop its market information system include:

- storage--capacity and seasonal stocks
- storage losses
- market supply--better quantification of marketed quantities within the current SIM system
- trader behavior
- information quality control ("fiabilité")
- user survey--to determine private sector needs and confidence in SIM information

Based on the above RR surveys, more effective monthly questionnaires can be developed on storage in collaboration with DPAAE. This will probably include a farm-level grain disposition questionnaire to be implemented by DPAAE. Such a questionnaire would essentially be a farm level balance sheet recording periodic stocks, consumption, purchases, and sales¹⁵. Despite accuracy problems for individual farms, such surveys provide reasonably reliable estimates of regional deficits and grain movement.

To develop and enhance its credibility as an objective and disinterested interprofessional agency, ONICL should publish its existing "internal" grain stock information in its existing monthly bulletin "Marché des Céréales et des Légumineuses". As RR activities develop and private sector information collection evolves, ONICL should use its bulletin to keep the public informed of all developments and solicit feedback from the public on the usefulness of the information presented.

To be credible and useful, the ultimate "bilan" will need to be published either quarterly or monthly on predetermined release dates. ONICL may want to consider making the "bilan" available electronically via modem in order to assure timeliness, particularly if exact bulletin release dates cannot be guaranteed.

systems are designed.

¹⁵Periodicity of this questionnaire depends on survey objectives. Typically monthly questionnaires are required for monthly reporting, although quarterly data collected on a rotating subsample can also provide monthly estimates with less reporting burden to individual respondents.

Conclusion

To ensure successful cereals market liberalization, it is essential that ONICL move as quickly as possible to develop its market information capacity to include a periodic foodgrain balance sheet. Even more importantly, ONICL needs to demonstrate to the private sector its commitment that it will be a truly objective, disinterested, and non-competitive "interprofessional" agency. Without establishing such private sector credibility quickly, ONICL's cereals stocks information initiatives could hamper liberalization, rather than complement it.

Most importantly, before taking on statistical responsibilities in the areas of private cereal stocks, ONICL must be able to ensure absolute confidentiality of individual respondents' data. If ONICL's current lack of data confidentiality continues, then DPAAE should be given responsibility for basic data collection, although ONICL could still collaborate on analysis and publication.

Annex A. Scope of Work

CMR PROJECT, RABAT, MOROCCO

TERMS OF REFERENCE FOR:

**Dr. Gregory Lassiter, Short-Term Consultant,
Development Alternatives, Inc.**

TIME PERIOD AND LEVEL OF EFFORT: Nov.-Dec., 1993 (21 days)

POSITION: Agricultural Data Base Specialist/ Ag Economist
OBJECTIVES: (1) Assist personnel from MAMVA/DPAE in the construction of data base for the monthly calculation of variable cereals import levies, and (2) Assist personnel from ONICL in the design of new cereals information products, particularly the proposed bread wheat supply and utilization data base ("le bilan céréalier").

TASKS FOR CONSULTANT AND ORGANIZATION OF THE ASSIGNMENT:

(1) In collaboration with personnel from ONICL (and perhaps working with someone from ONIC-France, which has recently undergone substantial restructuring itself as a result of changes in EEC and French agricultural marketing policy), conduct an analysis of ONICL's overall objectives and likely future functions under free market conditions (the assumptions on future market structure and functioning above).

(2) A study report, in French, will be the primary responsibility of Mr. Goldensohn, with as much assistance as possible coming from ONICL personnel. A draft outline of the report should be presented at the end of the first week of work. The report should discuss implications of future objectives/functions on:

- o ONICL's organizational structure;
- o the tasks to be assigned to central and field units in the new structure;
- o current and future personnel, the general nature of their future jobs, and the type of training and qualifications appropriate for the function;

Annex A. Scope of Work (continued)

- o the mixture of organizational outputs (reports, services, etc.) directed either to the public (private sector) or to other GOM units;
- o its funding mechanisms and supervisory bodies, and its relationships with private and public sector users of its future services; and
- o other aspects of "organizational life" that seem important.

3) In order to carry out the above assignment, most of the consultant's time will be spent interviewing ONICL personnel in the central divisions, consulting available documentation, and holding group meetings at appropriate times.

In addition, it would be important to visit at least three or four provincial offices to see how ONICL operates at the field level. These field visits should probably include Casablanca (also visit SOSIPO, *Société des Silos Portuaires*, a wholly-owned subsidiary which runs all country's port silo facilities in seven ports) due to the importance of activities there, Meknes/Fes where CMR has done some work with ONICL personnel and discussed future roles with the two regional directors, and perhaps one other location).

In addition, it would be very useful for the consultant to meet with key policy makers elsewhere in MARA, with USAID ag office staff, and with other key individuals in the private and public sector organizations that make up the Moroccan cereals "interprofession". CMR COP will help ONICL personnel formulate this list of persons and make appointments for interviews.

(4) Given the sensitivity of restructuring a mature government agency, it is important that this initial diagnostic assignment be:

- o as frank as possible in the clear enumeration of new functions and their implication for the organization, and
- o as participatory as possible so that significant numbers of ONICL staff feel that their voices have been heard concerning the direction of future organizational change.

It may, therefore, make sense to conduct meetings with each central division or several of them together. The CMR COP will try to arrange some of these groups sessions in advance. It may also be quite useful to have an initial meeting between

Annex A. Scope of Work (continued)

the consultant(s) and the ONICL Director and his division chiefs to assure maximum cooperation in this important task.

It is recommended that initial conclusions and recommendations be presented in a public meeting (at least with the Director and key staff members) in the first part of the third week so that preliminary results can be debated openly and any resulting changes be incorporated into the final draft document by the end of the week.

There should be a final summary debriefing given to USAID/Rabat in the form of an informal seminar.

(5) This work will be done under the supervision of COP Wilcock. Twenty-three days of consulting services are authorized: 3 days of preparation in the US, 15 days of work in Rabat, 3 days of travel, and 2 days of follow-up (if needed.)

Annex B. DPAA List of Data Required to Compute the Variable Levy

MARA/DPAA/DAE/SCE

DONNEES EXIGES AFIN DE CALCULER LE PRELEVEMENT VARIABLE

NOTE: CHAQUE PRODUIT EXIGE LE "EEP" (BONUS/RESTITUTION, S'IL EXISTE) ET LE COUT DE TRANSPORT DU MARCHÉ APPROPRIÉ

DESIGNATION	DEFINITION	PRIX
I. PRODUITS DE BASE		
A) CEREALES		
BLE DUR	HARD AMBER DURUM #1	MINNEAPOLIS + TRANSPORT TO GOLFE
BLE TENDRE	HWR #2	FOB GOLFE
ORGE	FEED BARLEY #2	MINNEAPOLIS + TRANSPORT TO GOLFE
MAIS	YELLOW CORN #2	FOB GOLFE
SORGHO	YELLOW SORGHUM #2	FOB GOLFE
DARI	?	?
RIZ PADDY ROND	5% BRISURES	FOB THAILAND
RIZ PADDY AUTRES	5% BRISURES	FOB THAILAND
MILLET	?	?
B) GRAINES OLEAGINEUSES		
TOURNESOL NON DECORTIQUEE	SUNFLOWER SEEDS	ROTTERDAM CIF
COLZA ET NAVETTE	RAPESEED	ROTTERDAM CIF
SOJA	SOYBEAN	ROTTERDAM CIF
COTON	COTTON	?
CARTHAME NON DECORTIQUEE	CARTHAM	?
ARACHIDES EN COQUES	PEANUTS	ROTTERDAM CIF
II. DERIVES DES PRODUITS DE BASE		
A) DERIVES DES CEREALES		
1/ FARINES		
BLE DUR	APPROPRIATE VARIETY	APPROPRIATE MARKET
BLE TENDRE	APPROPRIATE VARIETY	APPROPRIATE MARKET
MAIS	APPROPRIATE VARIETY	APPROPRIATE MARKET
ORGE	APPROPRIATE VARIETY	APPROPRIATE MARKET
SORGHO OU DARI	APPROPRIATE VARIETY	APPROPRIATE MARKET
RIZ	APPROPRIATE VARIETY	APPROPRIATE MARKET
MILLET	APPROPRIATE VARIETY	APPROPRIATE MARKET
2/ SEMOULES ET GRUAUX		
BLE DUR	APPROPRIATE VARIETY	APPROPRIATE MARKET

DESIGNATION	DEFINITION	PRIX
BLE TENDRE	APPROPRIATE VARIETY	APPROPRIATE MARKET
MAIS	APPROPRIATE VARIETY	APPROPRIATE MARKET
ORGE	APPROPRIATE VARIETY	APPROPRIATE MARKET
SORGHO OU DARI	APPROPRIATE VARIETY	APPROPRIATE MARKET
RIZ	APPROPRIATE VARIETY	APPROPRIATE MARKET
MILLET	APPROPRIATE VARIETY	APPROPRIATE MARKET
3/ RIZ USINE		
RIZ ROND	APPROPRIATE VARIETY	APPROPRIATE MARKET
RIZ LONG	APPROPRIATE VARIETY	APPROPRIATE MARKET
B) DERIVES DES GRAINES OLEAGINEUSES		
1/ TORTEAUX		
SOJA	SOYBEAN MEAL	ROTTERDAM CIF
TOURNESOL	SUNFLOWER MEAL	ROTTERDAM CIF
COLZA	?	HAMBURG FOB
NAVETTE	?	?
COTON	?	?
CARTHAME	?	?
ARACHIDE	PEANUT	ROTTERDAM CIF
2/HUILES BRUTES (VEGETABLE RAW OIL)		
HUILE DE SOJA	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE D'ARACHIDE	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE DE TOURNESOL	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE DE CARTHAME	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE DE COLZA, NAVETTE, MOUTARDE	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE DE PALME	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE DE MAIS	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE DE SESAME	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE DE COCO	APPROPRIATE VARIETY	APPROPRIATE MARKET
HUILE DE PALMISTE ET DE BABASSU	APPROPRIATE VARIETY	APPROPRIATE MARKET
B) DERIVES DES PLANTES SUCRIERES		
SUCRE BRUT	APPROPRIATE VARIETY	APPROPRIATE MARKET
SUCRE RAFFINE	APPROPRIATE VARIETY	APPROPRIATE MARKET