

**Terms of Reference for the CRED
Millet and Sorghum Marketing Study (MSMS)**

AMTT/DAI Report No. 5

by
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INTRODUCTION

The purpose of the Millet and Sorghum Marketing Study (MSMS) is to fill the major gaps of knowledge about the marketing of major cereals in Chad. The conceptual approach for the study is the subsector commodity framework with emphasis on post-production activities and decision making. The basic methodology will be the extensive use of Rapid Reconnaissance (RR) to collect data and qualitative information about cereals marketing, with focus on several key regions where "market clusters" will be more intensively studied. The major contribution of the MSMS will be the generation of a new set of information on the cereals marketing system at all levels and its rapid dissemination.

These terms of reference are based upon the text contained in the FP, RFP, and AMTT contract (Appendix I). That "Detailed Statement of Work" presents an ambitious inventory of information desired in seven areas:

1. Production Trends
2. Production and Harvest Handling
3. Marketing Organization
4. Marketing Operation and Margins
5. Demand
6. Prices
7. International Trade

As we note below, existing knowledge in most of these areas is sparse. This creates ample opportunities to make significant contributions. The resources currently budgeted will enable us to generate a meaningful increase in our knowledge of the functioning of the Chadian cereals market. That has been our first priority in designing the study. On the other hand, the resources and time allocated for the MSMS are not sufficient for extensive primary data collection and field work in all areas. We do not propose to collect extensive longitudinal data which would require lengthy field work. Neither have we proposed elaborate farm management or consumption studies which would be necessary to fully evaluate production and demand conditions. We do suggest additional STTA to significantly strengthen the cross-border trade component of the MSMS study. At the same time, we have tried to build in sufficient flexibility so that the basic structure of the study can accommodate modest changes in focus as both research and other conditions suggest or require.

Using the proven methodology of combining Rapid Reconnaissance, retrospective interviews with informants throughout the marketing system, tapping into established sources of primary data (notably the SIM, but also NGO activities and other research), and making use of the best existing secondary sources of data, MSMS will provide AID and the Government of Chad (GOC) with a vastly superior base of information upon which to base policies and investment priorities.

SCOPE OF THE STUDY

The functional scope of a marketing system study was articulated in the Center for Research on Economic Development (CRED, the University of Michigan) study of the Burkina Faso grain market:

A marketing system provides a link between producers and consumers.¹ In functional terms this includes all aspects of redistribution of the product: sale and purchase at various levels, storage, transportation, processing, standardization, financing, risk-bearing, and market intelligence. The system is at least three-dimensional. It links economic actors, time and geographic space. ... [T]he objective [of the study] is to gain an understanding of the marketing system: how it functions and why the various participants do what they do. Ultimately the aim is to determine whether or not a marketing improvement program is needed, and if so, where and what kind of interventions are most appropriate.²

Thus, our study will extend from the farm gate to collection markets, consumer markets, and export markets. The geographic scope will broadly (though by no means comprehensively) cover surplus and deficit zones in both Sahelian and Soudanian regions of Chad. We will collect data from producers, traders, and consumers. The use of Rapid Reconnaissance to collect market information will allow us both a broad coverage (geographical and otherwise) and enable us to ask directly of market agents what potentials and constraints they perceive.

AVAILABLE INFORMATION AND DATA NEEDS

Despite numerous studies on cereals marketing that have appeared recently, understanding of Chadian cereals markets remains sketchy. Basic current information on the following aspects of the marketing system remain woefully incomplete or unavailable:

- production data, including trends, yields, and costs of production;
- patterns of flows, levels and types of inter-regional trade;
- degree of competition or monopoly power at the wholesale and retail levels;
- marketing costs, including transportation, official and unofficial charges, and traders' net margins;
- marketing and storage alternatives faced by producers;
- consumption patterns and potential demand for domestic and imported cereals;
- patterns and potentials of local and export demand for cereals.

¹ To this one should also add external markets.

² Jacqueline Sherman, Kenneth Shapiro and Elon Gilbert. The Dynamics of Grain Marketing in Burkina Faso. Volume 1: An Economic Analysis of Grain Marketing. The Center for Research on Economic Development/University of Michigan. 1987. p. 5.

Nonetheless, there does exist a wide range of reports on agricultural marketing which do contain substantial amounts of useful information.³ The MSMS will conduct a brief but comprehensive review of these studies and synthesize their results. We will avoid repetition in our efforts to fill major information gaps.

One especially useful source of data that will immeasurably contribute to the MSMS is the price data have been collected by a number of agencies and organizations. The DSA's SIM unit has now collected standardized price data in 29 markets for over one year. Though relatively little analysis of those prices has yet been undertaken, MSMS researchers will work with Bruce Schulte (Market News Coordinator) and SIM personnel to produce baseline studies of seasonal price patterns and spatial price correlations. These price data will also be used as inputs in MSMS's analysis of marketing margins and returns to storage and trade.

Numerous government offices and NGOs also have data on market conditions. One of the initial activities undertaken by MSMS researchers will be to inventory all studies and data sources. Where possible, we will integrate their information into our study.

RESOURCES FOR THE STUDY

MSMS will be managed by Larry Herman during four TDYs with Greg Lassiter providing continuous backstopping and guidance. Herman will contribute 7 person months, carrying out specific research and analytical tasks and making periodic backstopping TDYs at critical points.⁴ Lassiter will devote 20% of his LOE solely to MSMS during the first year of AMIT, providing guidance and monitoring the ongoing field work in addition to his COP administration support. Most field work, data collection, interviews, and much of the analysis and writing will be carried out by two Chadian economists, Yacoub Abdelwahid (15 months) and Fauba Padacke (12 months).⁵ Abdelwahid will have primary responsibility for the market organization study while Padacke will take responsibility for the production, consumption, and foreign trade elements of the study. However, by design much of their work will be done jointly. 48 person-months of enumerators will also be used in administering interviews and carrying out surveys.

Additional STTA is proposed for research design (two weeks, John Staatz) and an institutional study (one month, Sheldon Gellar). The COP will try to coordinate the planned study of women in marketing with MSMS so that both design and data collection can be mutually reinforcing. We are also proposing unbudgeted STTA to support the cross-border trade component of the study (4 months, from NPA). Final design of this enhancement will be undertaken by Steedman and Herman during their missions later this fall.

³ The list of documents consulted attached to this TOR contains more than a dozen reports and studies that deal with cereals marketing in Chad.

⁴ During periods of Herman's "long-distance" backstopping from the U.S., we will attempt to establish an "electronic mail" mode of communication using bitnet or fidonet. Alternatively, Herman will review research materials through fax or regular courier service.

⁵ CVs for Abdelwahid and Padacke were attached to the original TOR. This document which also serves as their TOR.

Supplies and research materials will be provided by the parent AMTT project. Each Chadian economist will require access to a computer. Office space, supplies, and administrative support will also be provided by the AMTT project. One project four-wheel drive vehicle will be made available for the field trips of the study. Additionally, local transport for STTA will have to be provided for official travel by AMTT vehicles. The four enumerators planned for the "market cluster" study will be equipped with either bicycles or mopeds. Miscellaneous research equipment (scales and measures) will also be provided under the DAI AMTT budget.

STUDY OUTPUTS

The MSMS aims to provide information required by policy makers to improve policy. One of the key aspects of the Rapid Reconnaissance approach is to ask market participants directly what they perceive to be major market problems and what improvements they'd like to see. Another goal is to produce well-defined reports as quickly as possible so that they may be discussed by USAID and GOC and used to refine further study activities. We will produce RR trip reports and working papers while in the field⁶. As each working paper is completed we will distribute it and schedule half-day workshops to discuss the results. These discussions will help guide further RR missions and research activities. The final comprehensive report on the Chadian Cereals Marketing subsector, will be delivered 15 months following the startup of field research, to be followed by a national cereals conference.

During the course of field work MSMS will produce the following products, later to be revised and incorporated into the final report:⁷

- **Review of Cereals Production Patterns and Trends:** Using secondary sources we will describe what is known about production, yields, technologies, production costs, and storage of Chadian cereals. Existing data will be assembled and analyzed to show the evolution of production by region and crop. Existing studies of production systems will be synthesized. These results will be used to produce an initial estimate of percentage of national output marketed through formal and informal channels. A preliminary draft of this review will be prepared within the first two months of fieldwork, with primary responsibility assigned to the Felisa Padacke.
- **Review of Cereals Marketing Pattern and Trends:** Similar to the production review, this survey of existing data and studies will identify and quantify major market flows, spatial and

⁶ Only working papers will be finalized, translated, and widely distributed. RR Trip Reports are internal study documents and will not be translated.

⁷ For each report the principal researcher is indicated. However, all work will be monitored, supported, reviewed, and approved by Lassiter and Herman prior to translation and distribution.

season patterns of trade and prices, and major trends as far as they are currently known. The SIM has collected data on trade flows which we will examine and analyze. We will assess the role of domestic cereals trade to total trade in food crops and agricultural products. We will also assess border trade and export potential within the UDEAC region and outside of it. A preliminary draft of this review will be prepared within the first two months of fieldwork, with primary responsibility assigned to the Yacoub Abdelwahid.

- **Annotated bibliography and inventory of data sources:** Concurrent with the two review papers, we will produce a data base of documentation, data, and sources of information on the cereals subsector. All relevant government and non-government offices will be solicited for information and contacts. Special attention will be paid to studies carried out by PVO projects. A library for documents and data and a roster of contacts will be maintained in the AMTT offices. Steedman and Lassiter will assist Abdelwahid and Padacke in this task.
- **Market Typology Study:** In conjunction with the SIM and Bruce Schulte we will assist in the design and implementation of a second market typology study to be undertaken from December 1992 through February 1993. SIM's first typology study (1990) identified 167 markets by location, frequency, distance to nearest city, distance to border, and presence of traders and vehicles. The MSMS role in the design of the new study will ensure that data necessary for our national market evaluation are collected. MSMS researchers will combine this activity with their first Rapid Reconnaissance of markets, and enable them to call upon the experience of DSA personnel during these visits. DSA personnel will be responsible for producing the Typology Study, with collaboration from Abdelwahid, Padacke, and Herman.
- **Institutional Survey and Analysis:** We will produce a descriptive and analytical report on the institutional, cultural, and political environment in which cereals are produced and marketed. This will focus on institutions that directly impinge upon production and marketing decisions and cross-border trade. These may include: input supply, production research and extension, credit institutions, the ONC, cooperatives and unions, trade associations, cereal banks, transportation, women's organizations, the legal framework, and NGO interventions. We will attempt to provide a historical perspective and to evaluate the impact important institutions are having on production and marketing to identify opportunities as well as constraints. This will help to identify major issues to be explored further by some of the other studies called for in the Market and Policy Analyses Component of AMTT. We will use one month of STTA to bring in a consultant who has experience in this area. He will collaborate with the two Chadian field researchers. (Preliminarily identify Sheldon Gellar who has worked extensively in this area.)

This activity should take place during the second or third quarter of the study, though it would be best to coordinate it with one of Herman's TDYs to be able use the team approach.

- **Production Unit and Producer Outlet Study:** Using secondary sources as a base and complemented by RR interviews with cereal producers throughout Chad, we will describe the nature of the household economy and the role of cereals, the farmer's role in the market, with attention paid to gender division with regard to production and marketing. We will describe the contribution of millet and sorghum to nutrition and cash income. We will identify which farmers produce marketed surplus and under what conditions. We will also focus on handling, storage, and processing technology and practices, including estimates of post-harvest losses. Using group interviews of both men and women in a wide range of areas, we will develop rough estimates of explicit and implicit production, storage, and marketing costs for producers. Through our interviews we will investigate labor competition between cereals, alternative cash crops such as cotton, and off-farm employment.

The major focus of this element of MSMS will be on evaluating marketing alternatives at the producer level including timing and location of sales and purchases, storage options, and access to local and regional markets. Using an approach that we call "market clusters", producer-level interviews will be coordinated with market and trader interviews and price data collection to identify regional variations in farm-gate purchase and sale opportunities. We will ask producers for perceptions of competition, their knowledge of local and regional prices, and their opinions regarding impediments to increased production and sales. We will be able to answer questions such as whether traders provide other services such as credit? Is there a correlation between storage options and market vulnerability? It needs to be emphasized that we do not have the resources to conduct full-fledged farm management studies in order to assess producer behavior in detail. Our objective is to produce timely and reliable qualitative information from over a wide range of Chadian production zones. To that end the results from producer-level RR missions will be used to produce immediate draft reports that will be available to USAID and GOC. Padacke will have primary responsibility for this part of the study, supervised by Lassiter.

- **Market Organization Study:** Using the Structure-Conduct-Performance paradigm, we will evaluate the degree of competition in various regions and in different types of markets (local, regional, major consumption). Using data from the market typology study, Rapid Reconnaissance market surveys, producer and trader interviews, and our "market cluster" approach, we will describe the major marketing channels and flows, the characteristics of key participants at different stages of marketing, with specific focus on the participation of women.

We will collect data on number of traders active in various markets, sources and destinations of marketed grain, and standard operating procedures in markets. Our "market cluster" approach will be used to describe local flows and more widespread RR missions (and data collected through the SIM) to examine national flows. We will estimate market concentration ratios for regional and national channels and locate sources of potential market power. We will describe entry conditions, specialization in trade (commodity, distance, level), degree of commodity processing and other structural characteristics. We will look for evidence of price and non-price competition. We will identify impediments to competition, including collusive and other anti-competitive behaviors, transportation difficulties, and the presence of official and unofficial charges. Abdelwahid will be principally responsible for the analysis and reports, but data will be collected by both researchers during reconnaissance missions to major and secondary markets during the entire period of field work.

- **Evaluation of Market Operation and Marketing Margins:** Using case study methods and data from trader surveys, we will prepare detailed trading budgets, enumerating marketing costs and prices at key transaction points and along major channels. We will identify costs of transportation, storage, handling and processing, assembly and debulking, and intermediation. We will also examine returns to capital and risk. In particular we will examine constraints and potentials to increased processing through milling, the prevalence and consequences of road checkpoints and "taxes sauvages", and effect of road conditions by locale and season. We will assess the capacity of the marketing system to meet the principal performance criteria of agricultural markets, including: low-cost distribution; responsiveness in directing flows from surplus to deficit and consumption zones; allowing prices to signal economic values; and meeting the social and economic goals of Chad's development strategy, most notably, food security. We will determine the impact of government interventions on costs and performance. The main objective of this part of MSMS will be to identify specific constraints to more efficient market performance and potential cost-reducing interventions. Abdelwahid will be principally responsible for the analysis and reports, but data will be collected by both researchers during reconnaissance missions to major and secondary markets during the entire period of field work.
- **Price Analysis and Market Integration Study:** Using price data generated by the SIM and MSMS market surveys, we will analyze the evolution of cereals prices, spatial and seasonal price patterns, and the structure of prices (producer, wholesale, retail). We will identify secular trends in nominal and real prices, especially with regard to other crop and food prices. We will assess seasonal and geographical variation in prices against knowledge of storage and transportation costs. These results will be used to determine the degree of spatial and temporal market

integration and to assist in the estimation of returns to trade and storage activities. "Market cluster" data will enable us to examine market integration at the local level in several locations. Using international and UDEAC regional prices we will determine the openness of the Chadian cereals market. These price analyses will be undertaken by both field researchers and Herman in conjunction with Bruce Schulte (Market News Coordinator).

- **Demand Study:**⁸ Using official data and secondary sources we will first determine the state of knowledge regarding size, seasonality, regional patterns, and other characteristics of domestic demand for cereals. We will attempt to distinguish between urban and rural consumption patterns. However, one constraint that we face is the absence of reliable population data. During Rapid Reconnaissance and trader interviews we will attempt to evaluate the penetration of imported cereals and rice. We are particularly interested in the implications of Chad's "thin" market and the effects on prices and producers' revenues when production fluctuates. This in turn has implications for increased investment in cereal production by farmers.

As part of our production unit study we will design a questionnaire to be administered to women concerning consumption patterns. A full-fledged consumption survey is beyond the means of the MSMS. We will consult with other specialists to investigate the advisability of attempting more detailed surveys of consumers and food preparers in N'Djamena and elsewhere to improve knowledge regarding preferences, substitution of rice and imports for traditional cereals, and household consumption levels. In order to avoid producing a cursory study of demand, we will require additional STTA to carry out and supervise this task.

- **Cereals Import and Export Study:**⁹ Using data gathered from secondary sources, trader interviews, RR of "border" markets in Chad in selected markets in CAR, Cameroon, Nigeria, and Niger, we will evaluate the current dimensions of international trade in cereals. We will collect information on traders' reported activities through retrospective interviews. Traders' willingness to engage in cross-border trade and factors that affect their willingness to trade will be examined. Using data collected as part of our price study we will identify regional trade potential. We will identify impediments to increasing cross border trade including official and unofficial charges. Much of the data for this study will be collected as part of our market

⁸ The difficulties of undertaking a meaningful demand study with the resources available are apparent. This cursory design envisioned the possibility of additional STTA to carry out and enhanced but still modest demand study. A revised scope of work for this component will be produced during Herman's December mission.

⁹ As in the case of a demand study, the difficulties of undertaking a comprehensive cross-border trade study with the resources available are considerable. In this case, however, the anticipated four additional months of STTA will facilitate a substantial enhancement of this component. The budgetary enhancement will be arranged during Steedman's October mission with a revised scope of work for this component produced during Herman's December mission.

surveys and trader interviews. Padacke will be responsible for carrying out this task. However, this study can more effectively be carried out and greatly enhanced if it can be integrated with the NPA funded cereals commodity study, using four months STTA for an agricultural economist and an agricultural marketing specialist.

- **Policy Survey and Analysis:** We will identify government policies that affect millet and sorghum production and trade. These will include: agricultural research and extension, input supply, credit, food imports, price controls, market regulations, tariffs and trade restrictions. We will analyze the impact of policies on production and trade, identify and evaluate the effect of recent changes in policy, and develop recommendations emanating from other components of the MSMS. Among the specific policies we will investigate are: prefecture-level taxes and restrictions on cereals movements; Chadian export restrictions; import restrictions and production policies in neighboring countries; policies of road maintenance. Herman will be responsible for this piece with assistance from both field researchers. A draft will be prepared in July 1993.

PLAN OF WORK AND METHODOLOGY

The study will commence in September or October 1992, with field work being carried out over twelve months. Three months of post-field analysis and writing will precede the draft report which is scheduled for December 1993. The study will be divided into five phases:

- Phase I [September 1992 - October 1992]: Examination of secondary sources and preparation of reviews of production and marketing. Backstopping visit by Steedman.
- Phase II [November 1992 - December 1992]: Initial Pass Rapid Reconnaissance, design of Typology study with SIM personnel, design of questionnaires, selection of zones, enumerator recruitment. Backstopping visit by Staatz.
- Phase III [January 1993 - July 1993]: Subsequent Passes RR: Producer interviews, survey in market clusters, trader interviews. Data collection for foreign trade study and demand study. Backstopping Visit by Herman.
- Phase IV [July 1993 - September 1993]: Wrap up of surveys and interviews, initial analysis and preparation of preliminary reports, institution and policy studies. Backstopping visit by Herman
- Phase V [October - December 1993]: Post field analysis and write up. Presentation of final draft report, national cereals conference.

Phase I [Sept - Oct 1992]: During the first two months of field work Abdelwahid and Padacke will conduct a comprehensive review of existing documentation and data sources on cereals production and marketing in Chad. Each will prepare a summary paper that will be reviewed by Lassiter and Herman (see

description above). Both Chadian economists will also use the first two months to familiarize themselves with SIM, to begin discussions with the AMTT LTTA staff and with personnel at DSA, and generally to refine the research agenda. They will also visit the N'Djamena market and observe collection of data by SIM enumerators.

Charles Steedman will come for two weeks (end October) once both Chadian researchers are in place to clarify their terms of reference, assist them in making contacts and assembling documents, to resolve any logistical issues which remain outstanding.

Phase II [Nov - Dec 1992]: Following completion of the first phase, both Chadian economists will prepare for their first-pass RR mission sometime in November. Prior to their joint RR, they will conduct several visits of the N'Djamena market and began to meet informally with traders. The initial RR mission should be scheduled so that they will visit at least four market areas (two in the Sahel and two in the Soudanian zone) over a two week period (or over two trips). Lassiter and/or Schulte will participate in this initial RR foray. Following guidelines outlined by Sherman, Shapiro, and Gilbert (1987) and by Holtzman (1986) they will prepare questionnaire guides. This first pass will aim at the following objectives:

- Familiarization with cereals markets, standard operating procedures, transportation infrastructure.
- Establishing contact with several traders in each market
- Identifying major channels
- Determining feasibility of establishing "market cluster" surveys.

Given that this RR mission should occur during the peak marketing period, it should give the researchers an excellent first look at cereals markets in operation. If at all possible, the RR team should attempt to arrange group interviews with producers in each location. Preparation for this RR mission will require prior notification of regional MinAg (DSA) officials to arrange for such meetings.

During the second phase the field researchers will collaborate with SIM personnel on the design of the market typology study. For purposes of MSMS we should make sure that data collected by SIM personnel meet the needs of our study. This includes specifying explicitly the criteria for classifying markets as collection, assembly, export, etc. The typology study could serve as the sample frame for later market selection. MSMS researchers will then participate in the typology study, visiting a selection of markets. The typology study itself will continue through February, carried out by DSA (SIM) personnel, and not MSMS researchers. The MSMS researchers may assist in writing up the final typology study.

The design of questionnaires for MSMS data collection will take place during the second phase, prior to the arrival of Herman in December. Questionnaires from CRED's Burkina study will be used to guide the design. Market survey forms for market observations will also be prepared, if possible, using a format similar to the SIM's S and T series questionnaires. The main purpose of these survey forms is to collect data (both

quantitative and qualitative) that will enable us to evaluate evidence of competitive structures. Market surveys will also distinguish market participants by gender¹⁰. First-pass questionnaires for both traders and producers will also be designed at this time. John Staatz will try to arrange his backstopping TDY during this research design phase.

A tentative schedule of RR missions will be established. The selection of zones and markets should be done according to the following criteria:

- coverage of both surplus and deficit regions
- coverage of main marketing axes as determined in Phase I and by initial RR mission (e.g., eastern, central,...)
- coverage of a variety of types of markets (collection, assembly, border)
- coverage of some markets not in the SIM system
- secondary markets located near major markets in producing zone for purposes of establishing "market clusters"
- Logistical considerations

It is well understood that the criteria established here are somewhat ephemeral as a market identified as a collection market in a certain period may change its status and become a consumption market; similarly, the concepts of surplus and deficit regions may lack permanence. Nonetheless, the objective will be to select as representative a sample of zones and markets as possible.

The concept of "market clusters" that we have proposed as part of our methodology involves the selection of several markets and villages in a region. Ideally, the major regional market in each cluster will be in the SIM data collection network. MSMS researchers will then identify two to four markets and two to four villages within the same region (within 25 or 50 kilometers). This "market cluster" will be studied as an integrated unit. Since price data is being collected for the SIM market, MSMS will arrange for the collection of comparable price data in the regional markets over the six months of Phase III. Additionally, price data will be collected from producers during group interviews throughout the survey period. Though the data will be collected over too brief a period to make sophisticated statistical analysis of seasonally variations useful, they will enable us to determine how well markets are integrated from farm gate to major regional market. In addition to the collection of price data, regular market surveys and trader interviews will be collected. We expect to have an excellent base of qualitative and quantitative data to use to describe and analyze marketing at the regional and local level. Though we recognize that such micro surveys risk yielding results that are highly localized, we feel that in conjunction with the wider scope of our RR missions, this will enable us to produce a more complete and reliable evaluation of marketing at all levels. Further, by focussing attention in several key regions, we expect to develop better rapport with key informants, improving the reliability of information recorded.

¹⁰ As noted, it will be very helpful if some part of the STTA planned for AMTT's WID study could be coordinated both with the MSMS research design and the data collection itself. There should be considerable economies of scope to be realized. (Logistically, however, this could place a strain on project vehicles.)

The planned method for implementing our "market cluster" study is to train an enumerator for each cluster, provide each with transportation (bicycle), and have them establish a regular cycle of market and village visits for administration of questionnaires and surveys. Supervisory visits by MSMS or other AMTT personnel would be required at least bi-monthly. This approach applied to four village clusters will establish a very good body of information about the workings of markets at the regional level. Another advantage of this approach is that it will facilitate the more regular collection of data on producer behavior, including consumption information. Of course, this approach will require careful design of methodology and questionnaires, conscientious training of enumerators, and vigilant supervision by the MSMS researchers and AMTT COP.¹¹

Refinements of research design should arise out of the preliminary reports, discussion with DSA/SIM personnel, and consultation with the AMTT COP. John Staatz of Michigan State University will make a consulting visit during Phase II to give advice on research design. Staatz is an expert on market information systems (SIM) and the implementation of similar marketing studies.

During Phase II we will effect the selection and training of enumerators. Six to eight enumerators will be required to carry out market surveys and administer questionnaires, with total enumerator time of around 48 months. Recruitment of female enumerators will be encouraged to facilitate collection of data from women producers and traders. It should be noted that enumerators will also serve as translators in zones where Chadian Arabic is not spoken, principally in the south.

Enumerator Requirements

	<u>Enumerators</u>	<u>P Months</u>
N'Djamena market trader interviews	1	8
Market Clusters	4	24
RR assistance	2	12
Backup and special projects (demand study)	1	4

Phase III [Jan - Jun 1993]: The third phase represents the intensive data collection part MSMS. The two Chadian researchers will make regular RR trips, covering a wide expanse of markets, based upon the specific methodology determined in Phase II. Herman's second supervisory trip is scheduled for late December and early January, during which time he will discuss the finalized plan for data collection

¹¹ One caution to undertaking too ambitious a program of data collection is the phenomenon of researcher "melt down" when confronted with massive volumes of data. One of the principal advantages of the Rapid Reconnaissance methodology is that data collection is manageable because it is directly undertaken by the researcher. Our "market cluster" methodology is something of a hybrid, facilitating the collection of more comprehensive data within a region but still leaving the data set manageable for rapid analysis and write up.

methodology and accompany the Chadian researchers on their first RR mission. It is anticipated that each Chadian researcher will take a ten-day RR mission each month. This means that one AMTT vehicle will need to be assigned full time to MSMS during this phase. Each RR pass will either expand the data base by visiting more market zones, supervise ongoing data collection in the "market cluster" study, or involve administering new questionnaires on increasingly focussed or sensitive subjects to key informants. This approach is described in CRED's Burkina study.

In general, Abdelwahid will focus on market surveys and interviewing traders about domestic markets. He will supervise one enumerator who will conduct interviews of traders (wholesale and retail) in the N'Djamena market. It is expected that this enumerator will gain the confidence of key informants who will prove invaluable for understanding marketing not only in the capital, but nationally and internationally. Padacke will focus on the producer unit study and interviews and implementation of the cross-border trade component. This latter will involve RR missions to markets with reported volumes of imports or exports of cereals, follow-up questionnaires of traders who respond positively to questions about cross-border trade, visits to border posts, and RR to major markets across Chad's border. As noted earlier, in the event that the NPA funded commodity study of cereals trade is integrated with the MSMS, Padacke will work with the STTA called for under those TOR.

Should a consumption study be deemed advisable, it will be designed during the second and third phase of the study. In the U.S. Herman will consult with personnel at IFPRI, in particular Christopher Delgado, who have experience with such studies to get their opinions about the prospects of implementing a "low-budget" demand study.

As noted earlier, it will be desirable for at least part of the AMTT WID study to be coordinated with the data collection phase of MSMS.

Toward the end of Phase III we would foresee the one-month consultancy of the institutional consultant (Sheldon Gellar). He will present a draft of his report while in Chad.

Phase IV [July-Sep 1993]: Herman's final six-week supervisory visit is scheduled for June-July 1993. During that time he will discuss what data remains to be collected, filling in gaps in our knowledge. He will also administer a questionnaire to key informants on the preliminary results of the study to this point and on policy recommendations. Herman will consult officials about his policy study at this time. Most importantly, Herman will oversee the production of draft reports of the remaining chapters described earlier. He will assist both Chadians in their preliminary analysis. It is during this phase that we have scheduled early drafts on the core elements of the study:

- Production Unit and Producer Outlet Study (Padacke)
- Market Organization Study (Abdelwahid)
- Market Operation and Margins Study (Abdelwahid)

- Price Analysis and Market Integration (Team)
- Demand Study (Padacke or STTA)
- Cross-Border Trade Study (Padacke or STTA)
- Policy Survey and Analysis (Herman)

The preliminary reports drafted by Padacke and Abdelwahid may be presented in English or French. All others will be prepared in English. In all cases French summaries of preliminary reports will be prepared.

Phase V [Oct-Dec 1993]: During this time Abdelwahid will continue work on analysis and write up of results in the U.S. [If possible, we would like to be able to continue Padacke so that he too may participate in this phase.] Abdelwahid will continue to receive support from Herman, who will devote one-third time to the project (through a course buy down) for analysis and write up. Presentation of the draft final report is scheduled for December, 1993. The National Cereals conference is tentatively scheduled for December, 1993.

DOCUMENTS LIST

Documents Relevant to Chadian Cereals Subsector:

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TABLE 1
MSMS Research Calendar

X = Research Activity, T = Trip Report, W = Working Paper, F = Final Report

<u>Activity</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep-Dec</u>					
Installation	XX																	
Review of Cereals Production Patterns and Trends	XXXXXXXXXX	W																
Review of Cereals Marketing Patterns and Trends	XXXXXXXXXX	W																
Annotated biblio, data inventory	XXXXXXXXXX	W																
Steedman TDY			XXX															
Prep for and Initial RR mission				XXXXX	T													
Design Market Typology Study			XXX	XXX														
Design of Market survey forms and questionnaires (trader, producer)				XXXXX														
Establish schedule for RR missions and selection of research sites					XXXX													
Staatz TDY				XX														
Selection and training of enumerators				XXXX														
Herman TDY					XXXXXXX													
RR missions: collection of data, trader interviews, producer interviews					XXX	T	XXX	T	XXX	T	XXX	T	XXX	T	XX	T	X	T
Foreign trade survey							X	X	X	X								
Demand survey							X	X	X	X	X	X						
Institutional Survey (Gellar TDY)									XXXXX	W								
Production Unit and Producer Outlet Study										XXX	W							
Market Organization Study											XXX	W						
Market Operation and Margins Study												XXX	W					
Price Analysis and Market Integration Study												XXX	W					
Demand Study													XXX	W				
Cereals Cross-Border Trade Study												XXX	W					
Policy Survey and Analysis												XXX	W					
Post-field Analysis													XXXXXXXXXXXX					
Presentation of Draft Report													F					
Natl Cereals Conference													XXX					

APPENDIX I

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4. MILLET AND SORGHUM STUDY

OBJECTIVES

The objectives of the study are twofold:

- 1) In the short- and medium-term, to provide the national MIS with improved information against which to perform trend analyses;
- 2) to provide A.I.D. and the GOC with information on Chad's major contributor to GDP on which to base future public and private investment priorities and plans.

TEAM COMPOSITION AND DURATION

The study will be managed by the COP/Policy Analyst over a one-year period, targetted to start in CY 1992. Twelve person months of short-term TA are included in the budget, in order to establish illustrative costs. These might be used to hire one graduate researcher and two or three Chadian researchers; or to hire Chadian researchers and have a more senior short-term consultant make periodic visits. The COP is expected to develop the detailed scope of work and resources for the study within his or her first six months in country, with home office input as appropriate.

DETAILED STATEMENT OF WORK

- 1) Production Trends: Principal zones of production and varieties. Evolution by region and total of: quantities, area, yields. Common technologies used and costs of production. What proportion of production is sold and when? Which farmers produce most of the marketed surplus?
- 2) Production and Harvest Handling: Describe handling, storage and processing technology and practices and identify the ways these techniques could be improved. Types of products transformed. Estimate losses and discuss ways in which losses could be reduced. Identify conservation and conditioning practices and recommend improved methods.
- 3) Marketing Organization: Describe the organization and major marketing channels. Identify key participants, by gender, at different stages of marketing in which market power may be concentrated. Identify institutional arrangements, such as men's and women's farmer organizations, contract farming schemes, trade associations, etc. which play an important role.

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- 4) **Marketing Operation and Margins:** Identify major crop flows at the local and regional level. Quantify storage capacity at the village level. Using case study methods, prepare detailed trading budgets, which enumerate marketing costs and prices of traded product at key transaction points. Identify the costs of transportation and intermediation.
- 5) **Demand:** Evaluate the size, seasonality and other characteristics of domestic demand for the commodity, with particular attention to urban market consumption patterns. To what extent are locally produced or imported rice substituting for millet and sorghum. Estimate consumption and apparent demand by region and total.
- 6) **Prices:** Examine available secondary and primary price data to assess the magnitude of seasonal and secular trends, the degree of market integration and returns to storage. How variable are commodity supplies and prices by season or from year to year, and how does this variability affect farmer production, storage and purchase/sale strategies. Evolution of average producer, wholesale and retail prices by region and total. Evaluate international prices and prices in the UDEAC region.
- 7) **International Trade:** Analyze border trade and export potential within the UDEAC region and outside it. Assess contribution to foreign exchange.