MINISTRY OF AGRICULTURE

Natonal Directorate of Agricultural Economics

Working Paper Series

A Pilot Agricultural Market Information and Analysis System in Mozambique: Concepts and Methods

By

MOA/MSU/UA Research Team

Working Paper No. 2
June 19, 1991

Republic of Mozambique

NATIONAL DIRECTORATE OF AGRICULTURAL ECONOMICS

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ACKNOWLEDGEMENTS

The National Directorate of Agricultural Economics is undertaking collaborative research in the food security area with Michigan State University (the Department of Agricultural Economics) and with the University of Arizona (the Department of Agricultural Economics and the Bureau of Applied Anthropology Research).

We wish to acknowledge the financial and substantive support of the Ministry of Agriculture of Mozambique and the United States Agency for International Development (USAID) in Maputo to complete food security research in Mozambique. Research support from the Africa Bureau and the Bureau of Research and Development of AID/Washington have also made it possible for Michigan State University researchers to participate in this research, and to help conduct field activities in Mozambique.

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A PILOT AGRICULTURAL MARKET INFORMATION AND ANALYSIS SYSTEM IN MOZAMBIQUE: CONCEPTS AND METHODS

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A PILOT AGRICULTURAL MARKET INFORMATION AND ANALYSIS SYSTEM IN MOZAMBIQUE: CONCEPTS AND METHODS

I. INTRODUCTION

In early 1987, the Government of Mozambique embarked upon a series of major reforms in economic policy under the Economic Rehabilitation Program (ERP). As a result of these reforms and improving security in the countryside, market determined prices have come to play an increasingly important role in the production and consumption decisions of Mozambique's 16.5 million people. Nowhere is this more evident than in the agricultural sector. In various types of informal markets (*dumbanengues* and *candongas*), in more traditional municipal markets and even in many independent retail stores (*lojas*), prices of a large number of liberalized and still officially controlled agricultural products are determined in a market setting. Increasingly, it is in these markets that the majority of the population (especially urban) obtains its food. With the growing importance of market determined resource allocation in its economy, the government of Mozambique (GOM) has begun to perceive a need to collect systematic price and other related market information.

The purposes of the present document are: 1) to summarize briefly the design of the weekly data collection, analysis and dissemination components of the Agricultural Market Information and Analysis System (AMIAS), and 2) to specify the methods and procedures which will be followed to finalize the design and initiate the system.[1]

It is widely recognized that producers, marketing agents and consumers need detailed and accurate information to make basic business decisions in a decentralized market environment. Yet it is frequently overlooked in discussions about market liberalization that Governments also need improved information on which to base decisions about the type of changes that are desired and feasible in this process of market reform. Especially important to government is information on the effects of past policies, and on the likely consequences of modifications in market rules on informal marketing activity. It is critical that the government be better informed regarding prices, the direction of trade flows, and the level of activity in this large, complex and growing informal sector. Without such information, the unanticipated consequences which always result from policy decisions may be magnified, and the policy reform process may become unmanageable.

To begin providing this information on a consistent basis, the GOM, acting through the National Directorate, of Agricultural Economics of the Ministry of Agriculture, in collaboration with Michigan State University and the University of Arizona has, begun the design of a pilot AMIAS. The research team plans three components to the AMIAS: 1) weekly radio and written bulletins, 2) semestral situation and outlook reports, and 3) periodic research reports. Weekly reports will rely solely on weekly market data, while the semestral reports will

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[1] Two documents already produced under the project provide greater background and detail on this system. "Informing the Process of Agricultural Market Reform in Mozambique: A Progress Report", presented at the regional food security conference in Harare in November, 1990, provides background on the project. "Phase One Research Design: Concepts and Methods", which was distributed in Mozambique during October, 1990, provides a great deal of detail on the programming which allows much of the production of the weekly bulletin to be automated.

complement this with additional diagnostic information gathered on a monthly or less frequent basis. The periodic analytical reports will be primarily based upon data gathered through farm and trader level surveys which are currently being planned.

An initial design of the pilot AMIAS was developed during September, 1990. This design was based upon a detailed review of a similar system now functioning in Mali, as well as extensive discussions with Leopoldina Diaz, Director of the Pricing Department of the Division of Agricultural Economics, and Maria Nita Dengo, former Director of the Food Security Department of the Ministry of Commerce. The research team then collected first-hand information needed to revise this initial design during rapid market appraisal studies in October/November 1990 and January/February 1991. During these rounds of field work, personnel from Michigan State University and the University of Arizona worked in collaboration with the in-country research team and Ministry of Agriculture counterparts. The information was collected through observation and direct interviews with producers, and with traders in urban markets (both municipal markets and *candongas*) and urban and rural *lojas*.

II. DESIGN CONCEPTS

This section summarizes the proposed design of the weekly data collection component of the AMIAS, and discusses an example of the type of market information bulletin that will be produced. AMIAS design involves carefully defining the markets to be monitored, choosing the products for which data will be collected, and developing a method to deal systematically with non-standard units of sale, and training market reporters.

This design is subject to further refinements during the final training of each market reporter in his/her locality. These revisions, however, are expected to be minor. Thus, this section should be viewed as a close approximation of what will be the final design of AMIAS.

A. Market Definition

The definition of a market includes geographic location (a provincial capital, district capital, or rural area around a district capital), transaction level (retail, wholesale, assembly), and the "type" of market. The latter refers primarily to the distinction between municipal markets and *candongas* on the one hand, and *lojas* on the other hand.

1. Geographic Location

Table 1 indicates the provincial capitals, district seats and rural areas in which data will be collected. Markets in towns with an asterisk (*) have not been visited as of this date. Information for these locations will be gathered during the first two weeks of March (see section IV). The team has visited all the targetted towns in Nampula province, the principle geographic focus of the research.

Table 1. Geographic Location of Market Data Collection Activities of the AMIAS

PROVINCIAL CAPITALS	DISTRICT SEATS
Maputo	
Beira (*)	
Quelimane (*)	Mocuba
Nampula City	Ribaue
	Angoche
	Nacala
	Monapo
Pemba (*)	

A number of factors were considered in choosing these locations. Maputo, Beira, Quelimane and Nampula City were chosen due to their population concentrations and important role in attracting rural production. Within Nampula Province, the research team felt it important to have a geographic spread of markets, to reflect the differing production and marketing regimes of the province. The desire of local authorities that we work in "Priority Districts" was also considered, as was the need to include the principal markets of the province. More secondary and internal provincial capital markets may be added as the AMIAS becomes firmly established and the Mozambican agricultural marketing system continues to respond to the liberalized policy environment.

2. Level of Transaction

Prices and other market related information will be collected at three levels, defined as follows:

Retail: Sales by retailers to consumers (prices paid by consumers)

Wholesale: Sales by wholesalers to local retailers (prices paid by retailers)

Assembly: Sales by farmers to *lojistas* or other first buyers (prices received by farmers at a market place, i.e., not at the farm gate)

Price collection efforts to date in various organizations in Mozambique have been limited to the retail level, due to budgetary limitations as well as the difficult logistical and design challenges of collecting and disseminating wholesale and assembly level information on a regular basis. Thus, if successful, the AMIAS will generate the only existing price and market supply information at lower levels in the marketing system. This information is critical for monitoring the progress of market reform in rural areas.

The structure of food retailing and the often limited availability of product in all but provincial capitals make it necessary to report two separate retail prices in most towns. Vendors in municipal markets and *candongas* tend to sell in small and often non-standard units. In

contrast, *lojas* tend to sell in larger volumes and more frequently use standard units of measure. It is also hypothesized that *lojas* sell to a higher income clientele, but that they are able to charge lower per unit prices due to lower costs of operation. Thus, the research team has classified *lojas* as a functionally different type of retail outlet (or "market") from municipal markets and *candongas*.

Finally, municipal markets and *candongas* in district towns generally do not have all the products to be included in the AMIAS. This requires that *lojas* be included to ensure a complete product coverage. The fact that they are a functionally different type of market means that their prices should be reported separately from prices in municipal markets and *candongas*. It is also necessary to survey both types of retail outlets in a given location in order to determine the relative supply or availability of a given product in a given location.

Thus, each town will have two types of retail outlets for the purposes of the AMIAS. One will be the municipal market or the dominant *candonga*, and the other will be a specified set of *lojas*. The choice of municipal market or *candonga* depends on two factors. The first is which market transacts the largest volume. For purposes of price reporting, all else equal, such a market would be preferred to a smaller market. The second factor is which market is most representative in terms of serving a middle to lower income class of clientele. Given the very low incomes of the vast majority of Mozambicans, the research team feels it is preferrable to obtain information from markets which serve this clientele. The choice of a set of lojas to be monitored in each town or city will also be made as a function of relative transaction volume. Lojas to be selected will be those that represent the major shopping option for lower and middle-income consumers.

Actual retail price observation will be obtained by asking vendors what they are charging their clients (final consumers) for each good. The issue of the unit of sale will be treated below. Price observation was considered as an alternative means of collecting the data. This approach was rejected due to the low frequency of transactions in most markets, and the impossibility of the market reporter remaining inconspicuous while waiting to make the observations. The alternative of purchasing samples of each good was also rejected due to excessive financial and transaction costs. It should be noted that part of the market reporter training will be to assure that responses by merchants as to prices being charged will be compared against observations which the reporter will try to make in each market outlet.

Wholesale prices will be elicited by directly questioning local *armazenistas* as to what price they are charging local retailers for the product. Assembly prices will be obtained by directly asking *lojistas* what they pay farmers. Observational data collection was rejected at these levels for the same reason it was rejected at the retail level.

3. Market Level and Geographic Location

Table 2 summarizes the level of transactions to be observed in each market area. Wholesale transactions may be added in the other market locations once the AMIAS becomes firmly established.

Table 2. Transaction Levels to be Observed by AMIAS, by Geographic Location

Market Location	Retail		Wholesale	Assembly
	Mun. Mkt or *Candonga*	*Loja*		
Maputo	X	X		
Beira	X	X		
Quelimane	X	X		
Nampula City	X	X	X	
Mocuba	X	X	X	X
Ribaue	X	X	X	X
Angoche	X	X	X	X
Nacala	X	X	X	X
Monapo	X	X	X	X
Pemba	X	X		

B. Product Selection

Two principal criteria were utilized in selecting products to be monitored by the AMIAS. These were the impact of the product on the real incomes of rural producers/consumers and urban consumers, and whether or not the product is marketed more or less continuously throughout the entire year or at least during a significant portion of the year. The application of both these criteria resulted in the exclusion in the initial AMIAS design, of crops such as cotton and cashew, which are important income generators for significant numbers of farmers, but which are marketed during a very short period of time. The AMIAS may nevertheless attempt to collect some price data on these crops during the principal harvest period.

The research team also considers it important to collect data that will shed light on the terms of trade for rural producers. This latter objective requires the inclusion of some non-agricultural products in the AMIAS. With these criteria in mind, the Table 3 lists the products for which weekly data will be collected at each level. There are a number of factors to keep in mind regarding this list.

A general concern is how to standardize product quality in the absence of any formal system of grades and standards. This introduces problems for the collection and interpretation of price information. There may be significant quality variation within and between markets which is not readily detectable, but which will be reflected in greater price variability. This problem will be most relevant for non-processed products, and may be most influential in beans. To the extent possible, the AMIAS will attempt to standardize the quality of products for which data is collected. Nevertheless, the lack of any system of formal grades and standards means that some proportion of the price variability which is observed will be due to quality rather than true price differences. This issue will be revisited throughout the pilot stage of the AMIAS.

Other observations on product definition follow: first, white maize meal data is for meal from domestically produced white maize. Imported white maize from Swaziland is visually identifiable, and is priced at levels similar to yellow maize. Thus, the AMIAS would mix non-equivalent products and give a distorted view of white maize:yellow maize price relationships if it did not specify white maize meal produced from domestically grown white maize grain.

Imported oil may be soybean or sunflower. During rapid appraisals, prices have been observed to be similar, and neither is available at all times. To not increase unduly the number of products on which observations are taken, the AMIAS will simply record the price of whichever imported oil happens to be available, along with the domestic counterpart ("oleo de Monapo" - from cottonseed).

Table 3. Products to be Monitored by AMIAS

RETAIL	WHOLESALE	ASSEMBLY
White mz meal w/ farelo	White maize grain	White maize grain
Yellow maize meal w/ farelo		
Nhemba beans	Nhemba bean	Nhemba bean
Manteiga beans (castanha)	Manteiga bean (castanha)	Manteiga bean (castanha)
Manioc flour	Dried manioc	Dried manioc
Imported oil		
Cottonseed oil ("oleo de Monapo")		
Brown sugar		
White sugar		
Milled rice	Rough rice	Rough rice
Capulana (Texlom, 120 x 160 cm)		
Soap ("sabao")		

In Nampula City, both rapid appraisal trips showed no price difference between *arroz corrente* and *arroz extra*, even though *arroz corrente* has many more brokens. USAID data for Maputo also shows little or no systematic price difference. Thus, the AMIAS will collect prices without regard to the quality of the rice.

C. Dealing With Non-standard units

Non-standard units are the most commonly used units of measure in *candongas* and municipal markets, and even in some lojas. In order to include these various types of retail outlets in the AMIAS, the following method was developed to determine prices per kilogram (or liter in the case of oils) with acceptable accuracy:

> In municipal markets and *candongas*, (and lojas, when required) each market reporter will have a 1 liter container with graduated markings. The reporter will ask the vendor the price of a given product in the non-standard unit most commonly used by the vendor. Typical units include: various size powdered milk cans, beer cans, plastic cups, glass plates, glass cups and other measures. He/she will then ask the vendor to fill the one liter container, using the non-standard unit in which the price is quoted. The vendor should put only whole units in the liter

container. No fractions of units should be used. The reporter will then record 1) price per non-standard unit, 2) number of units in the liter container, and 3) number of milliliters, if this differs from 1,000. The price per kilogram will be calculated as follows:

(price/unit)*(# of units)*(1000/# of ml)*(liters/kg)

Liters/kg is the conversion factor.

The research team believes, based upon market visits and various experiments conducted during both rapid appraisal missions, that this procedure will be feasible and will give desired results, given the constraints and resources available to mount and eventually sustain a market information system.

D. Sample Bulletin

The weekly written bulletins will report basic price and market supply information. The bulletin will incorporate both tables and graphs, and will include short comments on each. It will not exceed 10 or 12 pages, and as much output as possible will be automated. Emphasis will be on assuring a continuous outflow of basic price and market supply information while saving as many person-hours as possible for the production of high quality semestral and periodic analytical reports. The radio report will convey selected price and market supply information drawn directly from the written bulletin. See Appendix A for an example of the type of bulletin which will be produced, and Appendix B for the DOS and SPSS/PC+ programming which largely automates this process.

III. FINAL DESIGN, TRAINING, AND IMPLEMENTATION

Prior to implementation of the AMIAS, the design must be finalized, market reporters must be trained for each location, and the programming for automation of the bulletin production must be up-dated to reflect the final design. Table 4 presents a timetable for the completion of these activities.

A. Finalizing the Design

Two types of information remain to be collected to finalize the design of the weekly market information component of the AMIAS. First, the details of market definition must be established for Beira, Quelimane, Mocuba, and Pemba. Second, empirical measures of product density must be obtained to determine conversion factors to be used in transforming non-standard unit prices to prices per kilogram (or per liter, in the case of oil). The in-country research team will establish the market definitions for Beira, Quelimane, Mocuba, and Pemba during the first two weeks of March.

Table 4. Schedule of Activities for the Final Design and Implementation of the Agricultural Market Information System

MSU/UA IN-COUNTRY PARTICIPATION	DATES	SUBSTANTIVE ACTIVITIES	DATES	ADMINISTRATIVE SUPPORT ACTIVITIES
Joint MSU/UA team participates with MSU in-country researchers and GOM counterparts	2/11-3/22	FINAL DESIGN OFFICE/FIELD WORK AND TRAINING PREPARATION ---------- On the basis of the Final Design Field Trip, make all necessary adjustments in the data collection and reporting procedures, programming, documentation, logistical distribution system and managerial procedures Prepare necessary materials for market reporter training	2/11-3/9	- Hire District staffs - Arrange location in Maputo for market reporter training - Arrange transport for Maputo and site-specific market reporter training
Joint MSU/UA team participates with MSU in-country researchers and GOM counterparts	3/25-3/27	MARKET REPORTER TRAINING I ---------- General training in Nampula	3/25-3/27	
Joint MSU/UA team participates with MSU in-country researchers, GOM counterparts, and Market Reporters	3/28-4/2	MARKET REPORTER TRAINING II ---------- Resolution of final details in each location by research team and market reporters	3/28-4/2	Research team breaks into two groups, each of which accompanies market reporter to his location to resolve final details
(FAX & phone consultations as needed with MSU/UA personnel in U.S.)	4/8-5/3	FOUR WEEK SYSTEM TEST ---------- Collect data and produce bulletins for four weeks without distributing bulletins. Identify and resolve any remaining problems	4/8-5/3	
	5/8	PUBLICATION OF FIRST BULLETIN	5/8	
Joint MSU/UA team participates with MSU in-country researcher and GOM counterparts	5/12-5/25	PRETEST OF QUESTIONNAIRE FOR FAMILY FARMER PRODUCTION AND MARKETING SURVEY	5/12-5/25	

The team will collect information for final market definition using Worksheets 1, 2, 4, and 5 in Appendix C. Worksheet 1 will be used to define municipal markets or *candongas* to be observed at the retail level, while Worksheet 2 will be used to define *lojas* at the retail level (recall that these are defined as two different markets in the AMIAS). Worksheet 1 will be used once for an entire municipal or *candonga*. However, Worksheet 2 must be filled-out for each *loja* to be included in the AMIAS in a given area. Worksheet 4 is used at the wholesale level, and Worksheet 5 at assembly markets. One of these four worksheets will be filled-out for each market. Each geographic location will thus have a packet consisting of the appropriate worksheets. For example, Maputo will have two sets of worksheets - one copy of Worksheet 1 for the municipal market which will be monitored, and one copy of Worksheet 2 for each *loja*. Nampula City will have three sets of worksheets - one copy of Worksheet 1 for the municipal market, one copy of Worksheet 2 for each of the *lojas* to be included, and one copy of

Worksheet 4 for the whole set of wholesalers who constitute the Nampula City wholesale market.

B. Training

The in-country research team in collaboration with MSU/UA personnel will conduct in March a two day training session for all market reporters in Nampula City. During this time, reporters will be taught, and will practice, how to effectively utilize and market the questionnaires which have been prepared for this purpose (see Appendix D). During the second portion of the training, market reporters will actually work with research team members to finalize the design for each market located at the market reporter's home base.

C. Implementation

Following the training of the market reporters, the AMIAS will be subjected to a four week test. During this time, data will be collected, transmitted, and processed as if the system were in full operation. However, the four bulletins which are produced will not be distributed. Rather, this time will be used to identify and solve any logistical and programming problems which may emerge. It these problems can be satisfactorily addressed during this time, weekly distribution of bulletins and production of radio broadcasts will begin at the end of this period.

APPENDIX A

SAMPLE WEEKLY BULLETIN

Republica de Moçambique

Ministerio de Agricultura/
Universidad Estatal de Michigan

Boletim Semanal de Informação de Mercado

Maio 11, 1991

***** FASE EXPERIMENTAL *****

Este representa o nosso primeiro boletim referente ao Sistema de Informaçao do Mercado a ser publicado pelo Projecto da Segurança Alimentar Ministério de Agricultura/Michigan State University. Este primeiro boletim, numa primeira fase, terá uma distribuiçao limitada enquanto persistir problemas e inconsistencias ainda por resolver. Entre as dificuldades que ainda prevalecem e que teem de ser ultrapassadas figuram-se as seguintes:

1. O facto dos preços por quilo de um produto num mesmo mercado diferenciar-se significativamente, estando estas variaçoes dependente das vendas em medidas nao estandardizadas (MNE - latas, copos, etc.), ou em kilograma. Efectivamente, os preços parecem ser relativamente mais baixos quando se trata de produtos vendidos em kilo comparado com os preços usando outros padroes de medidas. Para contornar esta situaçao optamos por, nos mercados onde existem estas situaçoes, reportar como preço a média dos preços dos vários padroes da venda (MNE ou Kilo) do específico produto nestes mercados. Este procedimento permitiu-nos minimizar os efeitos das variaçoes, e obter uma média aceitável dos preços pagos pelos consumidores nos diversos mercados. Para maior detalhe sobre as tecnicas do controle das variaçoes de preços nas medidas nao estandardizadas ver "working paper no.2 pg 7".

2. O preço de arroz é unifrome em muitos mercados, independentemente da qualidade. Em outros, porém, estabelece-se uma certa distinçao vendendo-se arroz de inferior qualidade por um preço relativamente mais baixo. Neste boletim, também recorremos ás médias dos preços para estes casos. Nao obstante, pretendemos no futuro uniformizar a recolha de preços deste produto usando apenas a qualidade classificada como arroz "corrente".

3. Um outro problema pendente refere-se as barras de sabao. Assumimos o peso de um kilo por cada barra, apesar de sabermos de antemao que, de um modo geral uma barra pesa menos. Cosequentemente, aos preços reportados há que se incrementar um

acréscimo de 20 a 25% caso se pretender maior acurácia do preço real por kilo deste produto pago pelo consumidor. A equipa está em vias de desenvolver um método para atingir maior acurácia do preço sem no entanto ter que se pesar a barra todas as semanas.

4. A estimativa dos preços da mandioca seca também apresenta uma certa dificuldade, isto devido ao próprio padrao de comercializaçao deste produto. Por exemplo, um "saco de 90 kg" ostenta menos que esse peso quando cheio com a mandioca seca. A padronizaçao do factor de conversao foi já desenvolvido e os inqueridores treinados e instruídos para proceder no sentido de garantir maior validade no registo dos preços deste produto.

RECOLHA DE DADOS E CRITERIOD DE APRESENTACAO

DEFINICAO DO MERCADO

Em cada localizacao geográfica os dados a nível de retalho sao separadamente recolhidos nos mercados seleccionados (mercado municipal, candonga ou outro tipo de mercado) e em certas lojas representativas pré-seleccionadas. Os grossistas, previamente identificados, sao visitados individualmente a fim de fornecerem dados para a caracterizaçao do mercado a este nível. Esta situaçao deve-se ao facto de nao existirem espaços geográficos (mercado) a esse nível, onde os preços poderiam ser recolhidos, o que nos obriga a fazer uma visita semanal aos grossistas nos seus respectivos armazens. No que concerne aos preços ao produtor, registou-se os preços pagos ao produtor pelos lojistas nas lojas nos principais pontos de trocas.

RECOLHA E APRESENTAÇÃO DOS DADOS

Nos mercados os preços sao obtidos perguntando a três vendedores sobre os preços que estão a praticar (a cobrar) por unidade de medidas em uso. Isso inclui casos de venda em medidas não estandartizadas (MNE). Quando tratar-se dessa última situação, os preços são registados nessa base e depois convertidos em preços por quilo, aplicando procedimentos (técnicas de conversão) desenvolvida durante os últimos 4 meses. Os dados das lojas, grossistas e produtores obtem-se entrevistando-se três elementos de cada um dos níveis, cujos nomes são provenientes da lista de identificação representativo de cada grupo préviamente estabelecida.

Por convensão seleccionou-se dois grupos de lojas distintas com o fito de se poder apresentar preços a nível de retalho e do produtor. O primeiro refere-se a grupos de lojas especializadas na venda de produtos básicos ao consumidor, portanto a esse grupo é solicitado informaçoes sobre os preços de venda ao consumidor. Porém, ao outro grupo que tende a especializar-se na compra de produtos agrícolas, é perguntado os preços que paga ao produtor.

Essas informações sobre os preços e disponobilidade do produtos no mercado obtidos de três comerciantes, a cada um dos níveis são enviados a Maputo e processado no computador usando um programa desenhado especificamente para esse projecto. As médias aparecem nos quadros de oferta do produtos e preços bem como nos gráficos.

RESUMO

20 DE ABRIL - 11 DE MAIO

Os preços das farinhas de milho branca e amarela no principal mercado da Beira parecem ter subido subitamente durante o mês passado e eram três vezes superior ao preço praticado em Maputo e Nampula no dia 11 de Maio. Os preços nas lojas foram muito mais baixos, mas essas lojas parecem fornecer apenas um pequeno número de consumidores comparado com o mercado principal. Os preços dos outros produtos na Beira são semelhantes aos dos mercados nas outras localidades.

Nesta mesma cidade não havia (não foi registado) comercializaçao a nível retalho do feijão nhemba, farinha de mandioca, e óleo de algodão (Monapo) e farinha de milho amarelo e açucar castanho apareceram mas com escassez relativo.

O óleo de algodão é extremamente escasso de um modo geral no País, apesar de ter existido uma quantidade razoável no mercado de Maputo no dia 11 de Maio. Os óleos (algodão e soja) eram inexistentes nos mercados de Ribaué e Angoche. Nao obstante, existiam quantidades reduzidas deste mesmo produto a nível de lojas nestas mesmas localidades.

O mercado, e até certo ponto as lojas no Ribaué exibem um alto grau de escassez da maior parte dos produtos inclusos na lista do SIMA.

A farinha de milho existe em todas as localidades, nos mercados ou em lojas. Porém, o mesmo facto não se aplica em relação a outros produtos, tais como farinha amarela que não existiam em (Pemba, Monapo e Ribaué), farinha de mandioca (Beira e Ribaué) e óleo de algodão que apesar de existir na maioria dos mercados, figurava inexistente em pelo menos duas localidades.

O milho branco apesar de não existir a nível de grossista na Beira, Nampula, Angoche e Nacala, era vendido nos mercados e lojas nestas mesmas localidades. Este facto reenforça a importância da questão relacionada ao surgimento da rede de distribuição comercial informal no país e torna-se crucial entender-se este circuíto.

Em Ribaué mostra-se que apenas a farinha amarela é vendida a nível do produtor. Feijão e farinha de mandioca não aparecem ainda no mercado neste distrito. Em Monapo, porém, o feijão nhemba tem surgido mas apenas a nível do produtor.

Quadro 1. Oferta Semanal Nos Vários Mercados (Maio 11, 1991)

NIVEL DO MERCADO	PRODUTOS														
	FAR. DE MILHO BR.	FAR. DE MILHO AM.	FEIJAO NHEMBA	FEIJAO MANTEIGA	FAR. DE MANDIOCA	OLEO IMPORTADO	OLEO DE ALGODAO	ACUCAR CASTANHO	ACUCAR BRANCO	ARROZ	CAPULANA	SABAO	GRAO DE MILHO BR.	MANDIOCA SECA	ARROZ CASCA
MERC. MUN. OU CANDONGA															
MAPUTO	1	1	2	1	4	.	1	2	3	1	4	2	.	.	.
BEIRA	1	3	4	2	4	1	4	1	3	1	1	1	.	.	.
QUELIMANE	1	3	1	2	1	2	4	1	4	1	.	2	.	.	.
NAMPULA	2	3	2	2	2	2	4	3	2	3	4	1	.	.	.
MOCUBA	3	1	1	3	3	3	4	3	4	4	2	3	.	.	.
RIBAUE	4	4	4	4	4	4	4	4	4	4	2	2	.	.	.
ANGOCHE	3	4	2	4	2	4	4	4	4	3	2	3	.	.	.
NACALA	2	3	2	4	2	2	4	4	3	3	4	1	.	.	.
MONAPO	1	4	4	4	1	4	4	4	2	4	4	1	.	.	.
PEMBA	1	4	2	4	3	1	4	3	3	3	4	3	.	.	.
LOJA															
BEIRA	2	4	4	3	4	1	4	1	3	2	1	1	.	.	.
QUELIMANE	1	3	3	3	1	2	4	4	3	3	1	3	.	.	.
NAMPULA	3	4	4	4	4	4	4	4	4	4	1	3	.	.	.
MOCUBA	4	4	4	4	4	4	4	4	4	4	2	3	.	.	.
RIBAUE	1	4	3	3	4	3	3	4	3	4	3	3	.	.	.
ANGOCHE	2	3	3	3	1	3	3	4	3	2	2	2	.	.	.
NACALA	2	2	4	4	3	2	4	4	3	3	2	1	.	.	.
MONAPO	2	4	4	4	3	4	2	4	4	3	1	3	.	.	.
PEMBA	4	4	4	4	4	3	3	4	4	3	4	3	.	.	.
GROSSISTA															
BEIRA	.	.	4	4	.	.	.	.	.	.	.	.	4	4	4
QUELIMANE	.	.	3	3	.	.	.	.	.	.	.	.	1	4	4
NAMPULA	.	.	4	4	.	.	.	.	.	.	.	.	4	4	4
ANGOCHE	.	.	4	3	.	.	.	.	.	.	.	.	4	3	4
NACALA	.	.	2	4	.	.	.	.	.	.	.	.	4	2	2
PRODUTOR															
RIBAUE	.	.	4	4	.	.	.	.	.	.	.	.	1	4	4
NACALA	.	.	2	4	.	.	.	.	.	.	.	.	1	2	3
MONAPO	.	.	1	4	.	.	.	.	.	.	.	.	4	4	4

NOTAS

1. 1 = muito; 2 = regular; 3 = pouco; 4 = não existe. Este valores representam a média de respostas de três comerciantes aos quais foram perguntados a percepção sobre a existência do produto no dia da entrevista.
2. Os dados referentes aos feijoes(nhemba e manteiga), grão de milho branco, mandioca seca, e arroz casca sao recolhidos apenas aos niveis de grossistas e produtores.
3. "." nos quadros indica que os preços não foram recolhidos para esses produtos e mercados.

Quadro 2. Resumo da Oferta Semanal nos Vários Mercados (Maio 11, 1911)

NIVEL DO MERCADO	PRODUTOS														
	FAR. DE MILHO BR.	FAR. DE MILHO AM.	FEIJAO NHEMBA	FEIJAO MANTEIGA	FAR. DE MANDIOCA	OLEO IMPORTADO	OLEO DE ALGODAO	ACUCAR CASTANHO	ACUCAR BRANCO	ARROZ	CAPULANA	SABAO	GRAO DE MILHO BR.	MANDIOCA SECA	ARROZ CASCA
MERC. MUN. OU CANDONGA	2	3	2	2	2	2	3	3	3	2	3	2	.	.	.
LOJA	3	4	4	4	3	3	4	4	4	3	2	3	.	.	.
GROSSISTA	.	.	3	4	.	.	.	.	.	.	.	.	3	3	4
PRODUTOR	.	.	2	4	.	.	.	.	.	.	.	.	2	3	3

NOTAS

1. 1 = muito; 2 = regular; 3 = pouco; 4 = nao existe na maioria dos mercados

2. Aos niveis de Grossista e Produtor, os dados recolham-se so para feijão nhemba e manteiga, grão de milho branco, mandioca seca, e arroz casca

DISCUSSAO

Este quadro sumariza a simples média, relacionada à percepçao subjectiva da disponibilidade da produtos em nos diversos níveis do mercado no dia 11 de Maio. Os resultados claramente demonstram que a nível de retalho (mercados municipais, candongas, etc.) com as lojas exibia melhor oferta de produtos. Seis dos 12 produtos foram indicados como "4" (nao existentes) na maioria das lojas inqueridas, enquanto que, em contraste, praticamente nao se registou "4" (nao existe) nos mercados.

Os produtos com relativa ou pouca oferta a nível de retalho no dia 11 de Maio eram, farinha de milho amarelo, feijões nhemba e manteiga, oleo de algodão, e açucar amarelo e branco.

Quadro 3. Média dos Preços Semanais nos Vários Mercados (Maio 11, 1991)

NIVEL DO MERCADO	PRODUTOS														
	FAR. DE MILHO BR.	FAR. DE MILHO AM.	FEIJAO NHEMBA	FEIJAO MANTEIGA	FAR. DE MANDIOCA	OLEO IMPORTADO	OLEO DE ALGODAO	ACUCAR CASTANHO	ACUCAR BRANCO	ARROZ	CAPULANA	SABAO	GRAO DE MILHO BR.	MANDIOCA SECA	ARROZ CASCA
MERC. MUN. OU CANDONGA															
MAPUTO	609	430	891	1177	.	.	2000	1303	1300	1120	.	1932	.	.	.
BEIRA	1431	1834	.	1210	.	2500	.	1758	1351	1072	6000	1567	.	.	.
QUELIMANE	563	621	1029	898	349	2000	.	2393	.	1804	.	2700	.	.	.
MAMPULA	478	500	1000	2000	346	2500	.	2000	1967	1000	.	2205	.	.	.
MOCUBA	412	455	806	693	250	2000	.	2564	.	.	7500	3500	.	.	.
RIBAUE	.	.	.	.	.	.	.	.	.	.	10000	3333	.	.	.
ANGOCHE	534	.	1027	.	527	.	.	.	.	1531	3833	3200	.	.	.
NACALA	420	588	1106	.	358	2500	.	.	3079	2970	.	1250	.	.	.
MONAPO	198	.	.	.	257	.	.	.	3480	.	.	1999	.	.	.
PEMBA	618	.	1611	.	463	4667	.	2393	2547	1797	.	2000	.	.	.
LOJA															
BEIRA	320	.	.	1200	.	2250	.	1100	1250	1188	6250	1550	.	.	.
QUELIMANE	583	400	450	1700	350	2467	.	.	2000	2000	7667	2375	.	.	.
MAMPULA	500	.	.	.	.	.	.	.	.	.	6100	2208	.	.	.
MOCUBA	.	.	.	.	.	.	.	.	.	.	7000	2500	.	.	.
RIBAUE	475	.	400	500	.	3000	3000	.	2500	.	8000	2167	.	.	.
ANGOCHE	195	300	385	400	200	2500	2500	.	1000	950	3750	1667	.	.	.
NACALA	317	300	.	.	250	2300	.	.	600	617	7167	1100	.	.	.
MONAPO	450	.	.	.	300	.	3050	.	.	1000	6633	2000	.	.	.
PEMBA	.	.	.	.	.	3480	2750	.	.	1362	.	1484	.	.	.
GROSSISTA															
BEIRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
QUELIMANE	.	.	451	1500	.	.	.	.	.	.	.	.	257	.	.
MAMPULA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ANGOCHE	.	.	.	440	.	.	.	.	.	.	.	.	.	200	.
NACALA	.	.	165	.	.	.	.	.	.	.	.	.	.	170	250
PRODUTOR															
RIBAUE	.	.	.	.	.	.	.	.	.	.	.	.	190	.	.
NACALA	.	.	200	.	.	.	.	.	.	.	.	.	150	160	170
MONAPO	.	.	270	.	.	.	.	.	.	.	.	.	.	.	.

NOTAS

1. Os preços de óleo refere-se a Mt/Litro. Os preços da capulana referem-se a Meticais por medida de 120cmx160cm de tecido normalmente vendidos. Todos os outros preços são em Meticais/Kg.

2. A recolha dos preços nos mercados e nas lojas faz-se para todos os produtos indo desde farinha de milho branco até sabão. O "." no quadro refere-se a casos em que o(s) produto(s) não existiam (não apareciam) nos mercados. Este facto é registado com o n0."4" no quadro 1 (oferta Semanal dos Vários Mercados) nestas localidades. Por exemplo o feijão nhemba no mercado e lojas na Beira foi registado com "." neste quadro de preços. No quadro sobre a oferta dos produtos (Quadro 1) a mesma situação já é representada com "4", indicando que não havia oferta deste produto.

Os preços dos três últimos produtos (milho branco, mandioca seca, arroz com casca) não foram recolhidos para este nível. O "." não representa falta de oferta de produtos mas sim, a falta de recolha de preços.

3. Aos níveis de grossista e produtor, recolheu-se os preços para apenas feijão nhemba e manteiga, grão de milho branco, mandioca seca e arroz com casca. O "." nestas colunas a níveis de grossista e produtor indica falta de oferta, reflectindo também no quadro 1 pelo n0. "4". O "." nas outras colunas e a esse nível regista que os preços não foram recolhidos.

PRECOS RETALHISTAS EM MERCADOS

* Os preços não foram recolhidos em Maputo entre Abril 20 e 27

Grafico 1

Os preços da farinha de milho branco aumentaram num ritimo estável mas muito elevado, enquanto que os preços em Nampula e Maputo decresceram durante este período.

Não existiam estes produtos no mercado de Nampula no dia 20 de Abril enquanto que em Maputo a recolha começou a partir de 4 de Maio.

Apesar do aumento já referenciado na Beira, a oferta parece ter-se mantido estável ao nível de "muito" durante estas quatro semanas. A oferta em Nampula também mudou do nível "pouco" no dia 27 de Abril para "regular" no dia 11 de Maio. Em relação a Maputo verificou-se que a oferta também aumentou transitando da categoria "regular" em 4 de Maio para "muito" em 11 de Maio.

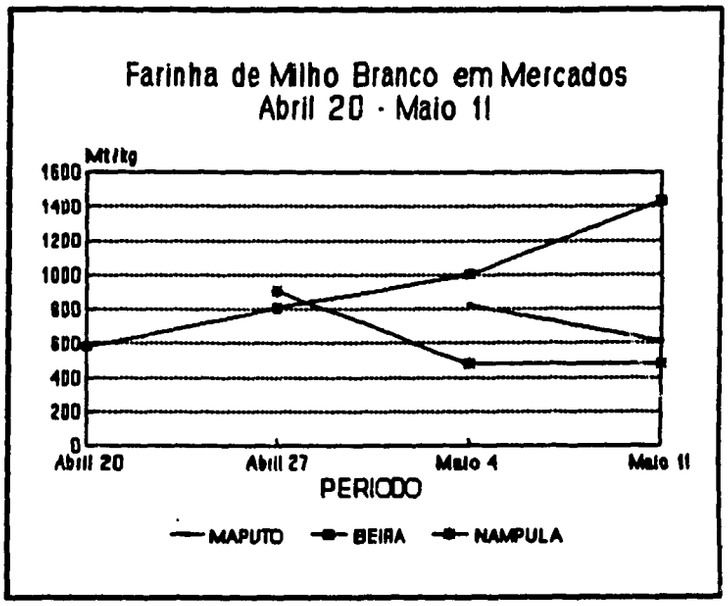


Grafico 2

Os preços da farinha de milho amarelo na Beira mostrou o mesmo padrão apresentado no gráfico 1, aumentando sensivelmente e depois bruscamente. Em Nampula e Maputo, houve um decréscimo relativo dos preços também seguindo o padrão verificado no gráfico anterior.

A oferta na Beira decaiu indo de "regular" no dia 20 de Abril para "pouco" durante as semanas seguintes. Isto manifesta uma certa consistência na a subida e descida dos preços, e pode explicar parcialmente a subida do preço da farinha do milho branco. Não havia este produto no mercado de Nampula no dia 20 de Abril e 4 de Maio, e "pouco" nos dias 27 de Abril e 11 de Maio. Em Maputo, a oferta manteve-se em "muito" nos dias 4 e 11 de Maio.

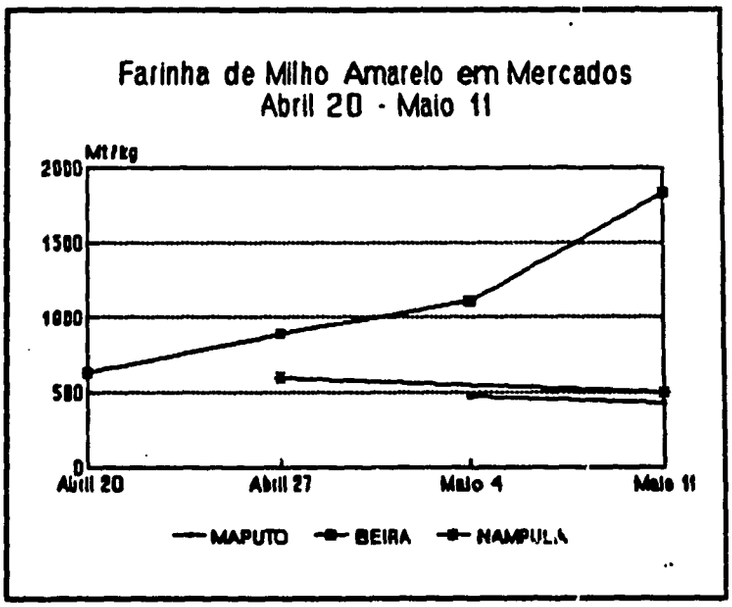


Grafico 3

Os preços nas cidades de Nampula e Beira desceram bruscamente entre 27 de Abril e 11 de Maio, enquanto que em Maputo houve um aumento moderado entre 4 e 11 de Maio.

A oferta deste produto na Beira parece ter sido estável durante este período a nível de "regular". Em Nampula, porém, não existia este produto no mercado no dia 20 de Abril. A oferta aumentou a nível de "pouco" e depois "regular" nas semanas procedentes. Em Maputo, a oferta transitou de "regular" para muito entre 4 a 11 de Maio.

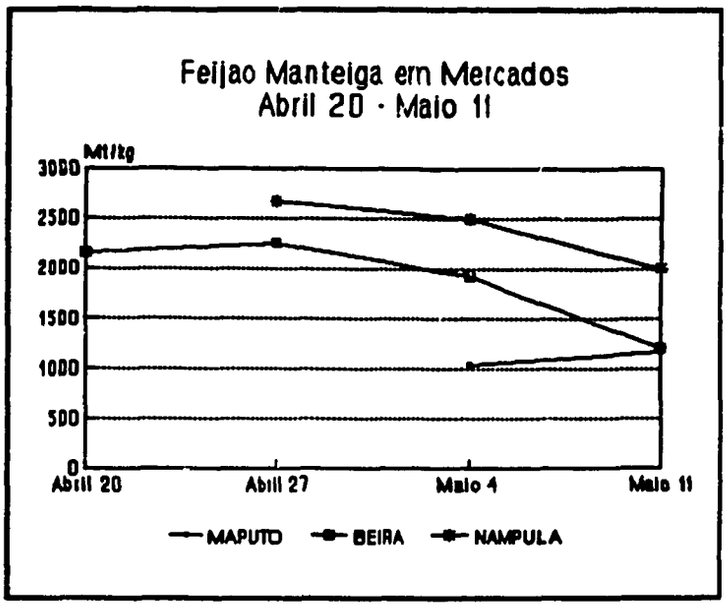


Grafico 4

Os preços mantiveram-se relativamente estável em Nampula e Beira e decaíndo ligeiramente no primeiro e aumentando também ligeiramente no último.

No mercado de Xipamanine em Maputo não existia oferta de óleos doados durante este período. No caso do mercado central em Nampula também não havia produto no dia 20 de Abril, mas depois ascendeu a "regular". A oferta no mercado da Beira mudou de "pouco" para "regular" e depois para "muito" também durante este período.

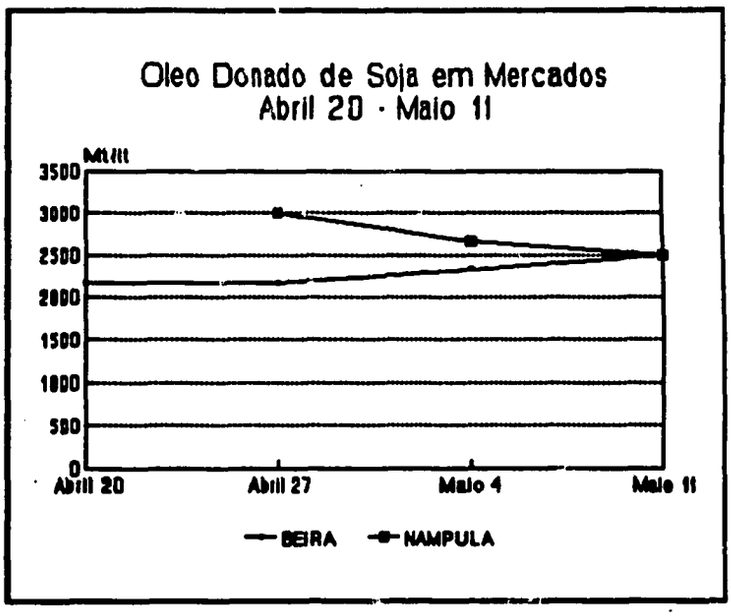


Grafico 5

Não existiam farinha de mandioca nos mercados de Maputo e Beira durante as quatro semanas apresentadas neste gráfico. Em Nampula também não havia disponibilidade deste produto no dia 20 de Abril para depois passar para "pouco" e regular durante esse mesmo período. O preço desceu sensivelmente a 30% a medida que a oferta ia aumentando.

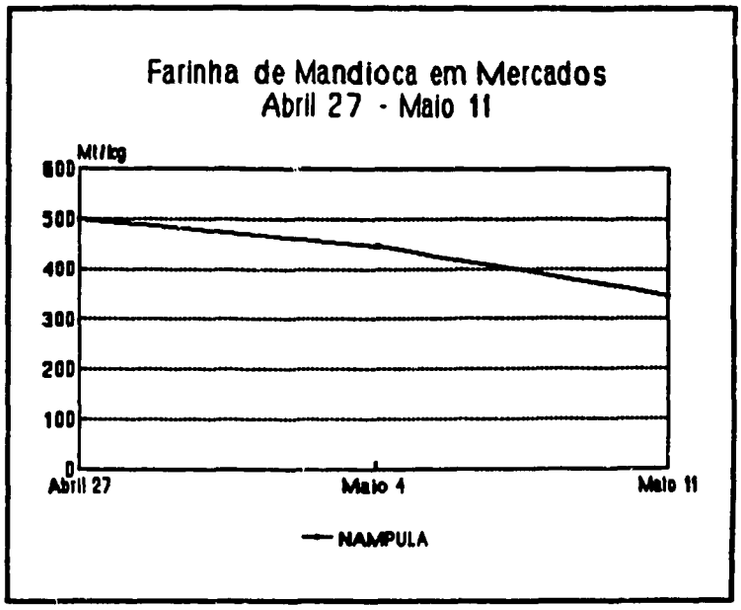
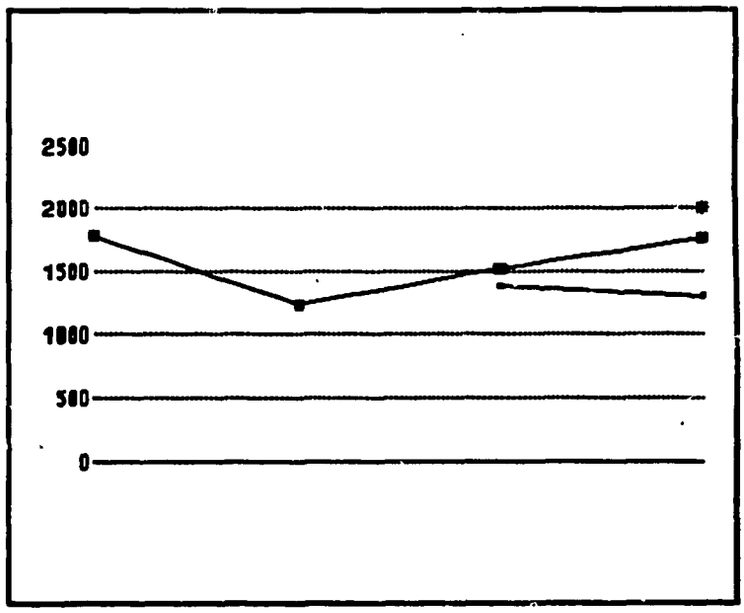


Grafico 6

O preço não exibiu um padrão claro nem na Beira nem em Maputo.

A oferta na Beira era "regular" no dia 20 de Abril e "muito" para o resto das semanas. Este produto estava ausente no mercado de Nampula até 11 de Maio. A partir daí passou a ser "pouco". No caso de Maputo havia "muito" oferta no dia 4 de Maio passando a ser "regular" no dia 11 do mesmo mês.



PRECOS A NIVEL ARMAZENISTA

Grafico 7

Em condiçoes normais os preços a nível de grossistas em Nampula, Nacala e Monapo deveriam aparecer neste gráfico. Porém, os grossistas de Nampula e Monapo não tinham milho branco durante este período. Os grossistas em Nacala venderam este produto durante todas as semanas até se esgotar no dia 11 de Maio. O preço permaneceu constante em 150 Mt/Kg, durante este período.

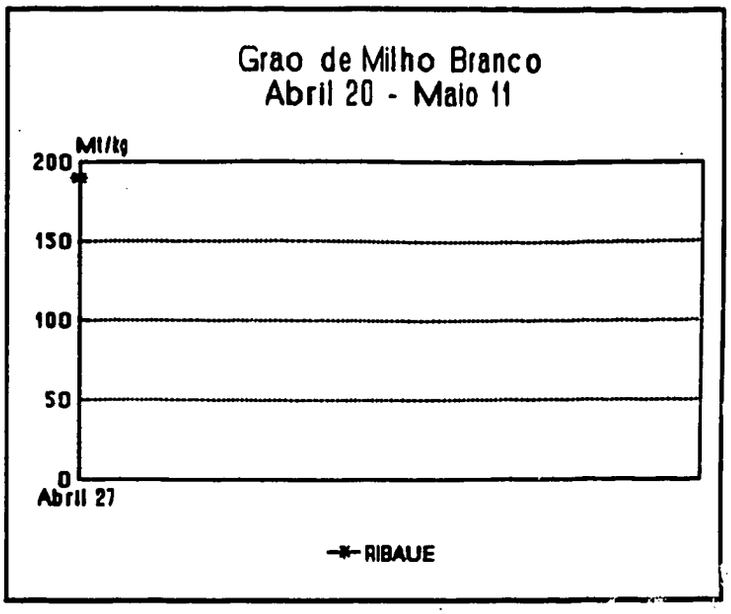
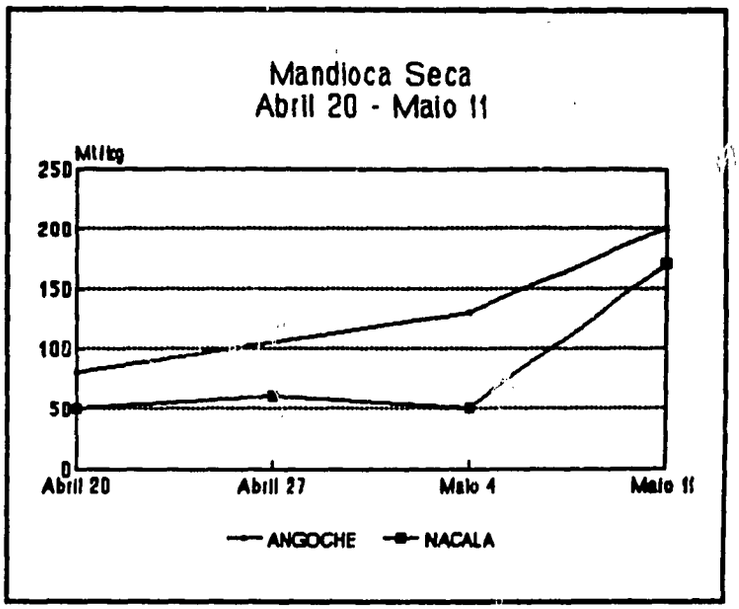


Grafico 8

Este gráfico deveria supostamente comparar os preços de feijão manteiga a nível de grossistas respectivamente em Nampula, Nacala e Monapo. Todavia não houve observações deste produto nestes distritos neste período, isto é de 20 de Abril a 11 de Maio.

Grafico 9

Os grossistas em Nampula não tiveram mandioca seca durante estas quatro semanas. Os preços em Angoche e Nacala seguiram o mesmo padrao com tendenia a aumentar durante este período. Apesar da subida dos preços, o fornecimento em Nacala, aumentou de "pouco" para "regular" a partir de 20 de Abril. A oferta em Angoche mudou de "regular" para "pouco" neste mesmo período.



PRECOS A NIVEL DO PRODUTOR

Grafico 10

De Mocuba não se recebeu dados durante este período, por isso não aparece neste gráfico. Os comerciantes em Ribaué e Monapo pagaram um preço bastante estável aos produtores(190-200Mt/Kg).

A oferta era de "muito" em Ribaué e Monapo durante 20 a 27 de Abril. O padrao manteve-se em "muito" em Ribaué por todo o período,enquanto que em Monapo demonstrou não ter haver trocas comerciais a 11 de Maio a este nível para este produto.

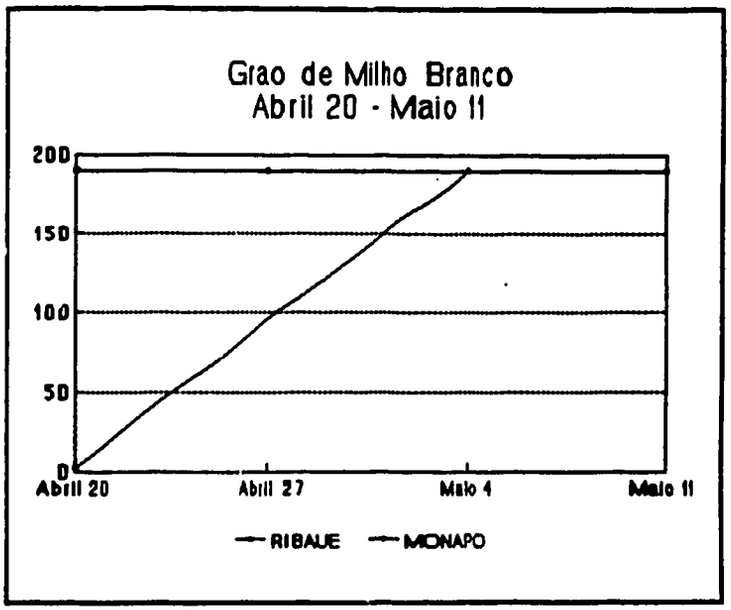


Grafico 11

Neste caso também nao se recebeu dados de Mocuba e Monapo esteve sem fornecimento deste produto durante todo o período. Registou-se uma pequena oferat em Ribaué a nível de "pouco" a 4 de Maio, para a seguir nao se registar nenhuma troca comercial.

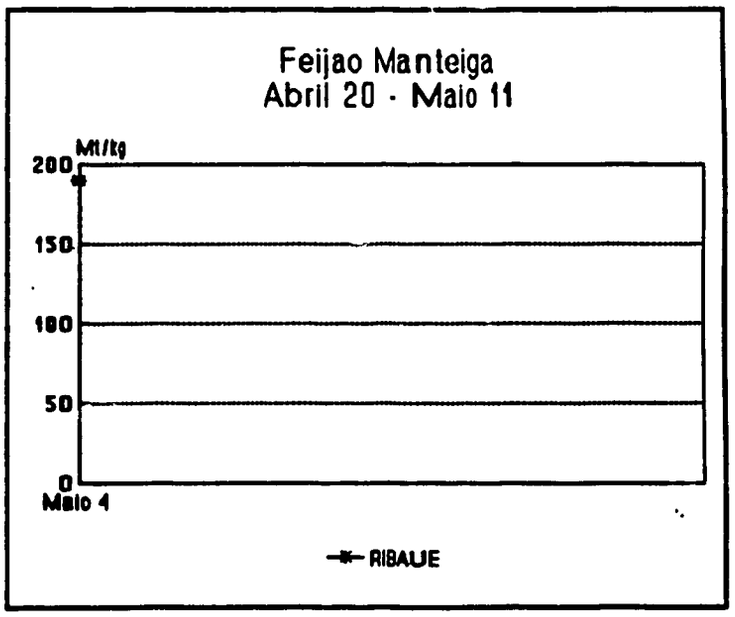
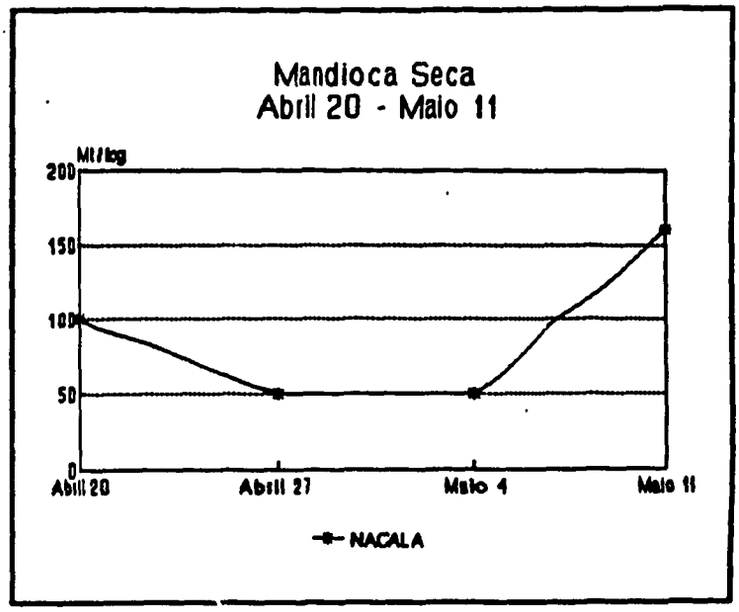


Grafico 12

Os comerciantes de Angoche e Ribaué, não fizeram compra de mandioca seca aos produtores durante o período inteiro. Os preços em Nacala demostram uma grande variaçao, reduzindo a 50% de 20 a 27 de Abril, para depois triplicar entre 4 a 11 de Maio.

Apesar desta instabilidade nos preços, a oferta parece ter permanecido relativamente estável em "regular" durante todo o período.



APPENDIX B

DOS AND SPSS/PC+ PROGRAMMING AND DOCUMENTATION TO AUTOMATE PRODUCTION OF WEEKLY BULLETIN

DATA ENTRY AND PROCESSING PROCEDURES

WEEKLY MARKET INFORMATION BULLETIN

1. In DOS, type FASEUM.

   This command runs a batch file which changes to the SEMANA subdirectory and copies the Data Entry template file to the file name which will be used for entering data[1]. **Be sure to delete the empty case after entering all data.** See Instrucoes para Personal de Data Entry for more detail.

2. In DOS, type DADOS.

   This command runs a batch file which enters SPSS Data Entry

3. In SPSS,

   a) GET C:\PSA-M\SEMANA\SEMANA.SYS,
   b) fill with data from questionnaires,
   c) SAVE the file under the same name,
   d) run a cleaning pass, and
   e) PRINT the cleaning report.

4. While still in the file, note on the printed cleaning report the values of MERCADO and PROD corresponding to each case listed in this report.

   This is necessary to keep track of the offending cases, since in later operations the file will be sorted, and the case numbering order will change.

5. EXIT to DOS, then type FASEDOIS.

   This command runs a batch file which copies the file just filled with data (SEMANA.SYS) to a file which will hold the cleaned data (SEMANA-L.SYS)

6. If the cleaning pass gives the message "File is clean", skip to step number 8.

7. In DOS, type DADOS.

   See above

8. In SPSS,

   a) GET SEMANA-L.SYS,
   b) correct data in accordance with cleaning report,

---

[1] All batch files first change to the C:\PSA-M\SEMANA subdirectory.

c) SAVE with the same name, and
d) EXIT to DOS.

This file holds data which has been cleaned on the basis of the Data Entry cleaning pass. One must still run SPSS procedures to identify other errors and outliers

9. In DOS, type PRE-KILO

This command runs a batch file which enters SPSS and runs the PRE-KILO.INC file. This INC file:

a) JOIN MATCHes SEMANA-L.SYS with 2 table files - one to add province and transaction level based upon market number, and one which adds conversion factors based on product and local unit of measure

b) calculates price per kilo for each product

c) saves the file as SEM-KILO.SYS

10. In DOS, type LIMPO.

This command runs a batch file which enters SPSS and runs the LIMPO.INC file. This INC file uses SPSS/PC+ procedures to identify outliers and DE errors not caught with the DE cleaning pass

11. In DOS, type COPY C:\PSA-M\LISTING\LIMPO.LIS C:\PSA-M\LISTING\LIMPO(project week).LIS

Project week is a three digit number (**). For example, during week 6 of the project, C:\PSA-M\LISTING\LIMPO.LIS would be copied to C:\PSA-M\LISTING\LIMPO006. Any number at the end of any file (in this case LIMPO006) always refers to the week of the project. **You must increment this number each week by one, or you will overwrite the previous week's file and lose it.** This procedure allows us to save the listing file from each week's cleaning as a safeguard against the possibility that data adjustments are not always documented each week. With the listing file from LIMPO.INC, ex-post documentation will be facilitated.

12. Enter WP and:

a. RETRIEVE C:\PSA-M\LISTING\ESQUEL.LIS,
b. RETRIEVE C:\PSA-M\LISTING\LIMPO??? into this file,
c. print and examine this file, and decide on needed corrections and adjustments to original data.
The changes only need to be made in the original data (i.e., not in C_PKILO), because PRE-KILO.INC will be run again following this procedure to regenerate the proper values for C_PKILO.

e. EXIT WP (F7)

13. If no changes are needed, proceed to step no. 17.

14. If changes are needed, type DADOS from DOS to enter Data Entry, and:

    a. GET C:\PSA-M\SEMANA\SEMANA-L.SYS,
    b. Make necessary corrections and adjustments,
    c. save under the same name, and
    d. EXIT to DOS

15. In WP, explain within the file C:\PSA-M\TEXTO\AJUSTES any data adjustments which were made in SEM-KILO.SYS[2]

16. Type PRE-KILO to recalculate the prices per standard unit.

17. In DOS, type COPY SEM-KILO.SYS SEM-FIN.SYS. This name indicates that this file is the final weekly file.

18. In DOS, type SEM-MEST

    This command runs a batch file which enters SPSS and runs the SEM-MEST.INC file. This INC file JOIN ADDs the final weekly file SEM-FIN.SYS to the master file MESTRE.SYS

19. In DOS, type COPY SEM-FIN.SYS C:\PSA-M\MESTRE\SEMAN(project week). Follow the numbering procedure explained in step 11.

    This procedure creates a permanent record of the weekly file in the master subdirectory (MESTRE)

20. In DOS, type QUADOFER.

    This command runs a batch file which runs the QUADOFER.INC file. This INC file produces a weekly market supply table broken down by market level and individual markets within each level.

21. In DOS, type OFER-RES.

    This command runs a batch file which runs the OFER-RES.INC file. This INC file produces a weekly summary market supply table broken down only by market level.

22. In DOS, type QUADPREC.

---

[2] A data correction is any change made to data in a Data Entry file which has the sole purpose of making entered values correspond with values written on the questionnaire. A data adjustement refers to a change made to data whose entered value is the value on the questionnaire but which is considered incorrect for other reasons. The former do not have to be documented. The latter do have to be documented.

This command runs a batch file which runs the QUADPREC.INC file. This INC file produces the weekly summary price table

23. In DOS, type COPY C:\PSA-M\TEXTO\BOLETIM C:\PSA-M\TEXTO\BOL

This procedure prevents one from inadvertently corrupting BOLETIM, the WP template file for the weekly bulletins.

24. Enter WP and:

a. RETRIEVE C:\PSA-M\TEXTO\BOL,
b. RETRIEVE (F10) C:\PSA-M\LISTING\QUADPREC.LIS in the appropriate position,
c. edit the price table,
d. RETRIEVE (F10) C:\PSA-M\LISTING\QUADOFER.LIS in the appropriate position,
e. edit the market supply table,
f. save the file under the same name, and
g. EXIT WP

25. In DOS, type GRA-MEST

This command runs the GRA-MEST batch file, which copies the master file MESTRE.SYS to GRA-MEST.SYS. This latter file will be used by GRAFICO.INC to produce graphs. This procedure ensures that no procedures (other than the JOIN ADD in step 12) will be done with the master file, and thereby protects it from inadvertant corruption

26. Start SPSS and

a. Type REV 'C:\PSA-M\INCLUDE\GRA-BOL.INC',
b. ctrl-home to beginning of file,
c. change N_ANO, N_MES and N_DIA to last day of reporting period,
d. save file with F9 under same name, and
e. return to first command and RUN FROM CURSOR (F10)

27. As SPSS puts you into Harvard Graphics for each graph, edit the graph and EXPORT it as an HPGL file to C:\PSA-M\TEXTO\GRAFA ... GRAFB ... GRAFC ... etc (see Graphing Procedures in Harvard Graphics for more detail).

Be careful not to overwrite the previous graph by entering the wrong letter at the end of the name. These letters refer to the order in which the graph will appear in the weekly bulletin. These will be lettered consecutively, and will be overwritten each week

28. Enter WP and:

a. change to the C:\PSA-M\TEXTO subdirectory,
b. RETRIEVE C:\PSA-M\TEXTO\BOL,

c. run the GRAFICOS macro by pressing Alt-F10, then typing "graficos" and pressing Return (this macro fills each empty graphics box with the appropriate graph),
d. add comments for each graph,
e. save the file under the name C:\PSA-M\TEXTO\BOL-project week.DOC. Follow the same three digit numbering system as in steps 11 and 19. This is the weekly bulletin,
f. print in high quality, and
g. EXIT WP.

NOTES ON THE INTERPRETATION OF LIMPO.LIS OUTPUT

This file has 5 different types of output, each of which is useful for identifying different types of data problems not caught by the SPSS Data Entry cleaning pass. This output is printed in LIMPO.LIS along with all executed SPSS commands from LIMPO.INC. These commands clutter things up a bit, so you might want to delete them, leaving only the output which is discussed below.

1. 2 CROSSTABS of a price variable (PRECO) against P1

2. A table with counts of the number of observations for each product in each market

3. Frequencies on DIA and MES

4. A large section which lists, by product, the values of MERCADO, P3, P4, P6, and C_PKILO

5. A final section which checks for correct values of P1.

<u>CROSSTABS</u>

This CROSSTABS routine is executed first on SEMANA-L.SYS (i.e., on the data before it is converted to price per kg), and second on SEM-KILO.SYS (i.e., on the data after this data has been converted to prices per kilo. .

The XTAB is of P1 (oferta) against a new variable called PRECO. PRECO can take on only 2 values:

= 0 when P6 has the system missing (SYSMIS) value
= 1 otherwise

When there is no product in the market, P1 = 4, and P6 <u>should</u> have the SYSMIS value. When there is product in the market (P1 = 1, 2, or 3), P6 should have a price, and thus <u>should not</u> have the SYSMIS value. Thus, in a good data set:

PRECO = 0 when P1 = 4
= 1 when P1 = 1, 2, or 3

This will be reflected in the CROSSTABS output as follows:

Crosstabulation: P1 OFERTA By PRECO

PRECO-> P1	Count	.00	1.00	Row Total
MUITO	1		77	77 23.0
REGULAR	2		52	52 15.5
POUCO	3		89	89 26.6
NAO EXISTE	4	117		117 34.9
	Column Total	146 43.6	189 56.4	335 100.0

When this same CROSSTABS routine is run on SEM-KILO.SYS, the results should be identical to those from the first. In other words, all observations with MUITO, REGULAR, or POUCO for P1 should have a value of 1.00 for PRECO, while all observations with NAO EXISTE for P1 should have a value of 0 for PRECO. A violation of this pattern indicates that there was an error in converting prices to a kilogram basis.

OBSERVATION COUNTS BY MARKET AND PRODUCT

This section produces a table identical in appearance to the supply table. However, it is filled not with supply data but with the number of observations that were made on each product in each market. Any number up to 3 is valid, since there may be only 1 or 2 traders to interview, and if there are more than three, we select only three. Any number above 3 indicates a problem in the data. The most likely cause is an error in inputting the product code or the market code. You should go back into SEMANA-L.SYS and determine what is causing the problem.

FREQUENCIES ON DIA AND MES

Since all data should be collected on the same day of the same month, these frequencies should show only 1 observed value for these variables. If any of the frequencies shows more than one value, this could be due to:

- The fact that some enumerators collected data on a different day. In this case, the data should be left as it is, but we should find out why the day of data collection was changed.

- An error on the part of the enumerator in writing the day or month down, or on the part of the data entry person in inputting the values. In either of these cases, the data should be adjusted.

LISTING OF MERCADO, P3, P4, P5, AND C_PKILO

This section produces a list, broken down by product and ordered by market number, of the variables MERCADO, P3, P4, P5, P6, AND C_PKILO. This output should be used to identify possible outliers and other problems with the data. The output looks as follows:

```
* THE FOLLOWING IS A PRODUCT-BY-PRODUCT PRINTOUT OF THE
* INDIVIDUAL PRICES OF EACH PRODUCT, ORGANIZED BY MARKET.
* USE THIS OUTPUT TO CHECK FOR CORRECT UNITS, PRICE OUTLIERS,
* AND OTHER PROBLEMS WITH THE DATA

* FARINHA DE MILHO BRANCO

process if (prod=1).
list mercado p3 p4 p5 p6 c_pkilo.
```

MERCADO	P3	P4	P5	P6	C_PKILO
1	1	2	850	200	646.41
1	1	2	900	200	610.50
1	1	2	850	200	646.41
3	1	6	850	100	969.62
3	1	6	900	100	915.75
6	1	3	750	100	549.45
6	1	2	600	100	457.88
6	2	.	.	1000	1000.00
7	1	2	400	100	686.81
7	1	2	400	100	686.81
7	1	2	400	100	686.81
8	1	2	600	100	457.88
8	1	2	600	100	457.88
8	1	2	550	100	499.50
9	1	5	750	100	915.75
9	1	4	800	100	686.81
9	1	4	800	100	686.81
103	2	.	.	600	600.00
103	2	.	.	600	600.00
107	2	.	.	300	300.00
107	2	.	.	300	300.00
107	2	.	.	300	300.00

```
* FARINHA DE MILHO AMARELO

process if (prod=2).
list mercado p3 p4 p5 p6 c_pkilo.
```

MERCADO	P3	P4	P5	P6	C_PKILO
1	1	2	800	200	758.73
1	1	2	750	200	809.31
1	1	2	900	200	674.42
3	2	.	.	500	500.00
3	2	.	.	500	500.00
3	2	.	.	500	500.00
6	1	3	900	100	505.82
6	1	3	900	100	505.82
6	2	.	.	800	800.00
7	1	2	500	100	606.98
7	1	2	500	100	606.98
7	1	2	500	100	606.98
8	1	2	600	100	505.82
8	1	2	600	100	505.82
8	1	2	600	100	505.82
9	1	3	950	100	479.19
101	2	.	.	400	400.00
103	2	.	.	600	600.00
103	2	.	.	600	600.00
103	2	.	.	600	600.00
107	2	.	.	300	300.00
107	2	.	.	300	300.00
107	2	.	.	300	300.00

This same type of output is continued for all products.

DATA LISTING TO CHECK FOR CORRECT VALUES OF P1

Market reporters in some markets often find fewer than 3 traders of a given product. Faced with this situation, they correctly enter a line of data for each of the traders they find. However, they sometimes make the mistake of entering the value 4 for P1 on the remaining lines for that product. For example, if they only find 1 trader of white maize meal, they may enter 1 line of data, then enter "4" for P1 on the remaining 2 lines for that product. This should not be done.

This final section in LIMPO.INC gives output to check to make sure that this has not been done. Specifically, this section lists the values of MERCADO, PROD, and the average of P1 (MEDIO) for those products and markets where values of 4 and values other than 4 have been entered for P1. If the product was found in the market, no cases for that product and market should show the value 4 for P1. Those that do should be deleted.

GUIDE FOR SPSS/DE PERSONNEL

(Steps 1, 2, and 3 of Procedures)

I. TO ENTER DATA

At the C:> prompt, type:

FASEUM

This will change you to the proper subdirectory (C:\PSA-M\SEMANA) and copy and empty DE file (SEMANA.SYS) to the SEMANA subdirectory. This file is now ready to be filled with data. When the C:> prompt appears again, type:

DADOS

This will start SPSS/DE. The main menus appear. To select items from the main menu, you need to press the SHIFT key and the function key at the same time. On the main menus the SHIFT key is represented as an "up-arrow". Select the FILES branch by pressing:

SHIFT-F2 (hold down the SHIFT key while pressing F2)

The Get/Save Files menu will appear. Select GET FILE by pressing

F2

It will prompt you for type of file to get. SPSS/PC will already be highlighted and that is the type you want to get, so just press

ENTER

It will then prompt you for a file name. Type

SEMANA

It will read in the structure of the template file. A message will appear that it is completed and press a key to continue

press the **space bar** to continue

The next step is to enter the data. Select the DATA branch from the main menu by pressing

SHIFT-F5
press the **space bar** to get rid of menus

This will give you a form to start entering data. This completes the steps to enter your data. Be sure to SAVE before exiting SPSS/DE.

II. TO SAVE DATA

To get the main menu back, press

F1

Select FILES from the main menu by pressing

SHIFT-F2 (hold down the SHIFT key while pressing F2)

From the Get/Save files menu, select SAVE FILE by pressing

F3

It will prompt you for what type of file to save. SPSS/PC will be highlighted, so just press

ENTER

It will ask for a filename to save the file under. The suggested name will be SEMANA, which is what you want. So just press

ENTER

If for some reason the program does not fill-in the name SEMANA, type it in and then hit ENTER

The program will then ask you if you want to save the file in compressed mode. You don't and the default answer is NO, so just press

ENTER

SPSS/DE should then start counting through the cases as it saves them. When it is done a message will appear to press a key to continue

press the **space bar** to continue

This completes the saving process.

III. TO RUN A CLEANING PASS AND PRINT THE CLEANING REPORT

Select CLEANING from the main menu by pressing

SHIFT-F6

The cleaning menu will appear. Select CLEAN FILE by pressing

F6

The program will now scan through the data searching for violations of the ranges and rules that have been specified in SEM-ESQ.SYS. When it is done, the cleaning menu will appear again. Select PRINT THE REPORT by pressing

F5

You will then be asked for the destination of the report. You want to print the report, so be sure that your printer is turned on and ready for printing. PRN is a special device name that sends the results to the printer. Type

PRN

When the printing finishes, you are done. Exit SPSS/DE by pressing

SHIFT-F10

You should then be at the C:> prompt.

GRAPHING PROCEDURES IN HARVARD GRAPHICS

1. SPSS processes the graphs and puts you into HG. HG then places the graph before you on the screen

2. To edit the graph,

   a) press ENTER, and
   b) type the title, subtitle, and footnote

3. To reduce the size of the titles so that they will fit on the page, press F8, then F7 (Options and Size)

4. Change the size of the title and subtitle to 5

5. To see the chart, press F2

6. If the chart is OK, press ESC twice to go to the Main Menu

7. Select IMPORT/EXPORT, then EXPORT PICTURE

8. To export the figure,

   a) Change the directory to C:\PSA-M\TEXTO,
   b) enter the name of the graph (GRAFA, GRAFB, etc.),
   c) select standard quality for the picture,
   d) select HPGL as the graphics format, and
   e) hit RETURN

9. To return to the Main Menu, press ESC.

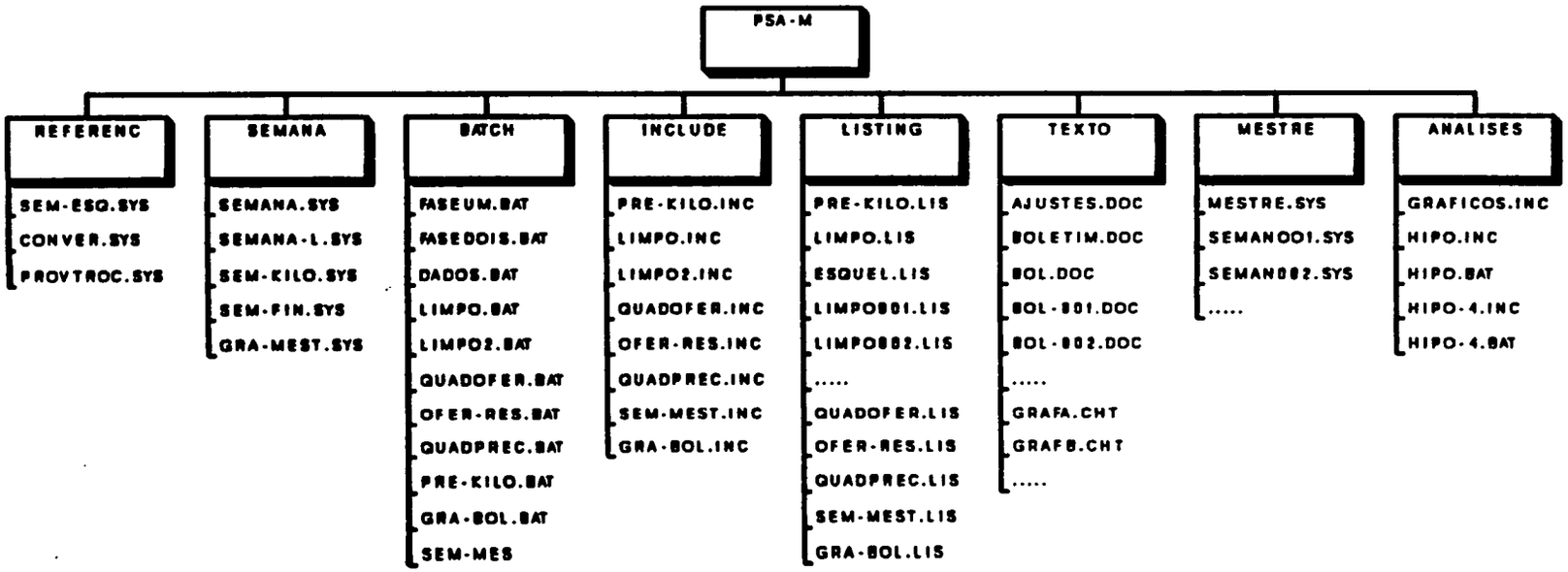
10. Select GET/SAVE/REMOVE, followed by SAVE CHART

11. a) Change the name to GRAFA, GRAFB, etc.,
    b) change the directory to C:\PSA-M\TEXTO, and
    c) hit RETURN 3 times to save the chart

12. Press ESC, then E to exit to SPSS. SPSS will then prepare the next graph.

13. Follow these same procedures for all succeeding graphs

PSA-M HARD DISK STRUCTURE



FILE AND SUBDIRECTORY DOCUMENTATION FOR MOZAMBIQUE MARKET INFORMATION SYSTEM

All files are contained in subdirectories within the C:\PSA-M directory. This contains all files relating to the Mozambique Food Security Project. No files should be located within this directory, but rather within the following subdirectories

A. \REFERENC

This subdirectory holds files which should not be changed in any way in the production of the bulletin. These include the data entry file and system files used in TABLE lookup commands. The data entry file is an empty file containing variable definitions for the market information system. Data are entered into this file, which is then saved under a different name (see subdirector; SEMANA).

1. SEM_ESQ.SYS: Template file for entering retail, wholesale and assembly level data

2. PROVTROC.SYS: File used in TABLE lookup function to add the variables PROVINCIA and TROCAS (transaction level) to each case, by market number

3. CONVER.SYS: File used in TABLE lookup function to add the variable T2A (conversion factor) to each case. This conversion factor is used to convert all reported prices to prices per kilogram, liter, or meter, depending on the product

4. MER-GRO.SYS & MER-RET.SYS: Files used by the QUADOFER.INC and QUADPREC.INC files to ensure that all wholesale and assembly markets (MER-GRO.SYS) and retail markets (MER-RET.SYS) appear in the price and supply tables even if they did not report data for that period.

B. \SEMANA

This subdirectory contains uncleaned and cleaned files of the most recent weekly market data. Once data are entered into the SEM_ESQ.SYS template file (see above), this is saved into the SEMANA subdirectory and goes through a series of cleaning steps. The resulting files are replaced each week with files containing the new week's data.

1. SEMANA.SYS: Weekly file of uncleaned data

2. SEMANA-L.SYS: Weekly file of data cleaned on the basis of the DE cleaning pass

3. SEM-KILO.SYS: Weekly file of data cleaned on the basis of the DE cleaning pass and containing the JOIN MATCHed variables PROVINCIA, TROCAS, T2A, and the calculated variable PRE-KILO (price per kilo or other standard unit).

4. SEM-FIN.SYS: Identical to SEM-KILO.SYS with the exception that data has now been through its final cleaning based on descriptive statistics calculated by SPSS

5. GRA-MEST.SYS: Identical to the master file (see below), but renamed and placed in this subdirectory for use in generating graphs for the weekly bulletin

C. \BATCH

All files in this subdirectory are DOS batch files which are used to control the production of the weekly bulletin. All batch files first change to the \PSA-M\SEMANA subdirectory.

1. FASEUM.BAT: Copies the data entry file SEM-ESQ.SYS to SEMANA.SYS, in preparation for data entry

2. DADOS.BAT: Enters SPSS Data Entry

3. FASEDOIS.BAT: Copies the filled file SEMANA.SYS to SEMANA-L.SYS in preparation for cleaning based upon the Data Entry cleaning report

4. PRE-KILO.BAT: Runs the SPSS file PRE-KILO.INC

5. LIMPO.BAT: Runs the SPSS file LIMPO.INC

6. LIMPO2.BAT: Runs the SPSS file LIMPO2.INC

7. QUADOFER.BAT: Runs the SPSS file QUADOFER.INC

8. OFER-RES.BAT: Runs the SPSS file OFER-RES.INC

9. QUADPREC.BAT: Runs the SPSS file QUADPREC.INC

10. SEM-MEST.BAT: Runs the SPSS file SEM-MEST.INC

11. GRA-MEST.BAT: Changes the name of the MESTRE.SYS file to GRA-MEST.SYS to be used in processing the graphs. This helps protect the master file from inadvertent corruption

12. GRA-BOL.BAT: Runs the SPSS file GRA-BOL.INC

D. \INCLUDE

This subdirectory contains all SPSS INC files. These files are the heart of the system, performing all procedures necessary to generate tables and graphs for the weekly bulletin

1. PRE-KILO.INC: JOIN MATCHes SEMANA-L.SYS with the 2 table lookup files and calculates prices per kilogram or other standard unit. Resulting file is saved as SEM-KILO.SYS

2. LIMPO.INC: Generates descriptive statistics on the data from SEM-KILO.SYS, for use in the final cleaning of the data, including identification and adjustment of outliers. After cleaning based on this information, the data file is saved as SEM-FIN.SYS in the SEMANA subdirectory

3. LIMPO2.INC: An optional file which produces diagnostics for cleaning broken down by product.

4. QUADOFER.INC: Uses data from SEM-FIN.SYS to produce a detailed weekly market supply table broken down by market level and markets within each level.

5. OFER-RES.INC: Uses data from SEM-FIN.SYS to produce a weekly summary weekly market supply table broken down only by market level.

6. QUADPREC.INC: Uses data from SEM-FIN.SYS to produce the weekly summary price table

7. SEM-MEST.INC: JOIN ADDs SEM-FIN.SYS to MESTRE.SYS to update the master file

8. GRA-BOL.INC: Uses data from GRA-MEST.SYS to generate graphs in Harvard Graphics

E. LISTING

This subdirectory contains all listing files from the SPSS INC files. These are useful for detecting and tracing any errors which may have occured during processing. These files are replaced each week with files from the current week's processing run

1. PRE-KILO.LIS: Output from PRE-KILO.INC.

2. LIMPO.LIS: Output from LIMPO.INC

3. LIMPO001.LIS, LIMPO002.LIS, etc.: Listing files from LIMPO.INC for each week of the project

4. LIMPO2.LIS: Output from LIMPO2.INC

5. QUADOFER.LIS: Output from QUADOFER.INC. This file is used to incorporate the detailed market supply table into the WP template file (BOL.DOC) for the weekly bulletin

6. OFER-RES.LIS: Output from OFER-RES.INC. This file is used to incorporate the summary market supply table into the WP template file (BOL.DOC) for the weekly bulletin

7. QUADPREC.LIS: Output from QUADPREC.INC. This file is used to incorporate the price table into the WP template file (BOL.DOC) for the weekly bulletin

8. SEM-MEST.LIS: Output from SEM-MEST.INC

9. GRA-BOL.LIS: Output from GRA-BOL.INC

10. ESQUEL.LIS: This is a WordPerfect template with expanded margins and a reduced font. LIMPO.LIS should be retrieved into this file so that the table will fit onto a page.

F. \TEXTO

This subdirectory contains all Word Perfect files, and all files needed for all bulletins

1. AJUSTES.DOC: A WP file containing explanations of all data adjustments based upon SPSS DESCRIPTIVES and other procedures in LIMPO.INC. A *data adjustment* refers to a change made to data whose entered value is the value on the questionnaire, but which is considered incorrect for other reasons. All changes of this type must be documented in AJUSTES.DOC. *Data corrections* refer to changes made to data so that their entered value will correspond to the value on the questionnaire. Such changes do not need to be documented.

2. BOLETIM.DOC: A WP template file for constructing the weekly market information bulletin. <u>This file should never be altered</u>. When a bulletin is to be produced, this file will be retrieved, the bulletin will be created, and it will be saved to one of the names listed immediately below.

3. BOL.DOC: A copy of BOLETIM.DOC, ready for creating the bulletin for the current week. Once finished, the file is saved to one of the following names

4. BOL-001.DOC: The weekly bulletin (in WP) for the first week of the project.

5. BOL-002.DOC: The weekly bulletin for the second week of the project. Subsequent bulletins will be numbered consecutively: BOL003.DOC, BOL004.DOC, etc.

6. GRAFA.CHT: The first graph to be included in the weekly bulletin. This and all other graphics files will be exported from Harvard Graphics in HPGL format in order to be loaded directly into the WP Graphics utility for creation of the bulletin. These graphs will be replaced each week with updated graphs.

7. GRAFB.CHT: The second graph to be included in the weekly bulletin. All subsequent graphs for the bulletin will be lettered consecutively: GRAFC., GRAFD., etc. Graphs produced but not used in the bulletin will be saved in the \ANALISES subdirectory.

G. \MESTRE

This subdirectory contains the master file of all data collected to date, and cleaned weekly files for each week of the project

1. MESTRE.SYS: The master file

2. SEMAN001.SYS, SEMAN002.SYS, etc.: Cleaned data files for each week of the project

H. \ANALISES

This subdirectory contains all files produced during data analysis beyond what is needed for the weekly bulletin

1. HIPO.INC: This is a file of regression codes which tests, by product, hypotheses using all data accumulated to date. The hypotheses are 1) that prices for the same product are lower in lojas than in mercados, 2) that our supply variable P1 correlates as expected (positively) with price, and 3) that, within markets, goods are more expensive when sold in NSUs as compared to sales in kg.

2. HIPO-4.INC: This file is identical to HIPO.INC, with the exception that the regressions are run only on the past 4 weeks of data.

3. HIPO.BAT & HIPO-4.BAT: Batch files to run HIPO.INC and HIPO-4.INC.

DISPLAYS OF SPSS SYSTEM FILES

The following section presents output from the SPSS DISPLAY ALL command for SEM-ESQ.SYS, PROVTROC.SYS, CONVER.SYS, and SEM-KILO.SYS. For each file, this command presents each variable with its variable label, value labels and variable type (numeric or string).

DISPLAY OF SEM-ESQ.SYS

```
Variable: DIA            Label: DIA DO MES DA ENTREVISTA
 No value labels         Type: Number  Width:  2  Dec: 0     Missing: * None *

Variable: MES            Label: MES DA ENTREVISTA
 Value labels follow     Type: Number  Width:  2  Dec: 0     Missing: * None *
     1.00   JANEIRO                            2.00   FEVREIRO
     3.00   MARZO                              4.00   ABRIL
     5.00   MAIO                               6.00   JUNHO
     7.00   JULHO                              8.00   AGOSTO
     9.00   SEPTEMBRO                        10.00   OCTUBRO
    11.00   NOVEMBRO                         12.00   DIZEMBRO

Variable: MERCADO        Label: MERCADO ONDE DATA FOI COLECTADA
 No value labels         Type: Number  Width:  3  Dec: 0     Missing:    999.00

Variable: PROD           Label: PRODUTOS

  Value labels follow    Type: Number  Width:  2  Dec: 0     Missing:     99.00

      1.00   FAR. DE MILHO BR.                 2.00   FAR. DE MILHO AM.
      3.00   FEIJAO NHEMBA                     4.00   FEIJAO MANTEIGA
      5.00   FAR. DE MANDIOCA                  6.00   OLEO IMPORTADO
      7.00   OLEO DE ALGODAO                   8.00   ACUCAR CASTANHO
      9.00   ACUCAR BRANCO                    10.00   ARROZ
     11.00   CAPULANA                         12.00   SABAO

-----------------------------------------------------------------------------
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     13.00   GRAO DE MILHO BR.                14.00   MANDIOCA SECA
     15.00   ARROZ CASCA


Variable: P1             Label: OFERTA
 Value labels follow     Type: Number  Width:  1  Dec: 0     Missing:      9.00
      1.00   MUITO                             2.00   REGULAR
      3.00   POUCO                             4.00   NAO EXISTE

Variable: P2             Label: RAZOES DA OFERTA OBSERVADA

  No value labels        Type: Number  Width:  2  Dec: 0     Missing:     99.00


Variable: P3             Label: UNIDADE DE MEDIDA

  Value labels follow    Type: Number  Width:  2  Dec: 0     Missing:     99.00

      1.00   UNIDADE                           2.00   KILO
```

3.00	LITRO	4.00	SACO DE 50 KILOS
5.00	SACO DE 90 KILOS	6.00	LATA DE 10 LITROS
7.00	LATA DE 20 LITROS	8.00	

Variable: P4 Label: NUMERO DE UNIDADES
No value labels Type: Number Width: 2 Dec: 0 Missing: 99.00

Variable: P8 Label: RAZOES PREVISAO

No value labels Type: Number Width: 2 Dec: 0 Missing: 99.00

Variable: P7 Label: PREVISAO OFERTA (4 SEMANAS)

Value labels follow Type: Number Width: 1 Dec: 0 Missing: 9.00

1.00	MUITO	2.00	REG
3.00	POUCO	4.00	NAO EXISTE
5.00	NAO SABE		

Variable: P6 Label: PRECO UNITARIO
Value labels follow Type: Number Width: 6 Dec: 0 Missing: 999999.0

1.00	MELHOR	2.00	PIOR
3.00	IGUAL		

Variable: P5 Label: no. de ml
No value labels Type: Number Width: 4 Dec: 0 Missing: 9999.00

Variable: ANO Label: ANO DA ENTREVISTA

No value labels Type: Number Width: 2 Dec: 0 Missing: * None *

DISPLAY OF PROVTROC.SYS

Variable: MERCADO Label: MERCADO

Value labels follow Type: Number Width: 3 Dec: 0 Missing: 999.00

.00	MAPUTO	1.00	BEIRA
2.00	QUELIMANE	3.00	NAMPULA
4.00	MOCUBA	5.00	RIBAUE
6.00	ANGOCHE	7.00	NACALA
8.00	MONAPO	9.00	PEMBA
100.00	MAPUTO	101.00	BEIRA
102.00	QUELIMANE	103.00	NAMPULA
104.00	MOCUBA	105.00	RIBAUE
106.00	ANGOCHE	107.00	NACALA
108.00	MONAPO	109.00	PEMBA
200.00	MAPUTO	201.00	BEIRA
202.00	QUELIMANE	203.00	NAMPULA
204.00	MOCUBA	205.00	RIBAUE
206.00	ANGOCHE	207.00	NACALA
208.00	MONAPO	209.00	PEMBA
300.00	MAPUTO	301.00	BEIRA
302.00	QUELIMANE	303.00	NAMPULA
304.00	MOCUBA	305.00	RIBAUE
306.00	ANGOCHE	307.00	NACALA
308.00	MONAPO	309.00	PEMBA

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Variable: PROVINCA Label: PROVINCIA DO MERCADO

Value labels follow Type: Number Width: 1 Dec: 0 Missing: 9.00

1.00	MAPUTO	2.00	SOFAL
3.00	ZAMBEZIA	4.00	NAMPULA
5.00	CABO DELGADO		

Variable: TROCAS Label: NIVEL DA TRANSACAO

Value labels follow Type: Number Width: 1 Dec: 0 Missing: 9.00

1.00	MERC. MUN. OU CANDONGA	2.00	LOJA
3.00	GROSSISTA	4.00	PRODUTOR

DISPLAY OF CONVER.SYS

Variable: PROD Label: PRODUTO
Value labels follow Type: Number Width: 2 Dec: 0 Missing: 99.00

1.00	FARINHA DE MILHO BRANCO	2.00	FARINHA DE MILHO AMARELO
3.00	FEIJAO NHEMBA	4.00	FEIJAO MANTEIGA
5.00	FARINHA DE MANDIOCA	6.00	OLEO IMPORTADO
7.00	OLEO DE ALGODAO	8.00	ACUCAR CASTANHO
9.00	ACUCAR BRANCO	10.00	ARROZ
11.00	CAPULANA	12.00	SABAO
13.00	GRAO DE MILHO BRANCO	14.00	MANDIOCA SECA
15.00	ARROZ CASCA		

Variable: P3 Label: UNIDADE DE MEDIDA
Value labels follow Type: Number Width: 1 Dec: 0 Missing: 9.00

1.00	UNIDADE	2.00	KILO
3.00	LITRO	4.00	SACO DE 50 KILOS
5.00	SACO DE 90 KILOS	6.00	LATA DE 10 LITROS
7.00	LATA DE 20 LITROS	8.00	

Variable: T2A Label: FACTOR DE CONVERCAO

No value labels Type: Number Width: 6 Dec: 3 Missing: 100.00

DISPLAY OF SEM-KILO.SYS

```
Variable: DIA            Label: DIA DO MES DA ENTREVISTA
  No value labels        Type: Number  Width:  2  Dec: 0     Missing: * None *

Variable: MES            Label: MES DA ENTREVISTA
 Value labels follow    Type: Number  Width:  2  Dec: 0     Missing: * None *
      1.00   JANEIRO                          2.00   FEVREIRO
      3.00   MARZO                            4.00   ABRIL
      5.00   MAIO                             6.00   JUNHO
      7.00   JULHO                            8.00   AGOSTO
      9.00   SEPTEMBRO                      10.00   OCTUBRO
     11.00   NOVEMBRO                       12.00   DIZEMBRO

Variable: MERCADO        Label: MERCADO ONDE DATA FOI COLECTADA
  Value labels follow    Type: Number  Width:  3  Dec: 0     Missing:   999.00

       .00   MAPUTO                          1.00   BEIRA
      2.00   QUELIMANE                       3.00   NAMPULA
      4.00   MOCUBA                          5.00   RIBAUE
      6.00   ANGOCHE                         7.00   NACALA
      8.00   MONAPO                          9.00   PEMBA
-----------------------------------------------------------------------------
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    100.00   MAPUTO                        101.00   BEIRA
    102.00   QUELIMANE                     103.00   NAMPULA
    104.00   MOCUBA                        105.00   RIBAUE
    106.00   ANGOCHE                       107.00   NACALA
    108.00   MONAPO                        109.00   PEMBA
    200.00   MAPUTO                        201.00   BEIRA
    202.00   QUELIMANE                     203.00   NAMPULA
    204.00   MOCUBA                        205.00   RIBAUE
    206.00   ANGOCHE                       207.00   NACALA
    208.00   MONAPO                        209.00   PEMBA
    300.00   MAPUTO                        301.00   BEIRA
    302.00   QUELIMANE                     303.00   NAMPULA
    304.00   MOCUBA                        305.00   RIBAUE
    306.00   ANGOCHE                       307.00   NACALA
    308.00   MONAPO                        309.00   PEMBA

Variable: PROD           Label: PRODUTOS
 Value labels follow    Type: Number  Width:  2  Dec: 0     Missing:    99.00
      1.00   FAR. DE MILHO BR.               2.00   FAR. DE MILHO AM.
      3.00   FEIJAO NHEMBA                   4.00   FEIJAO MANTEIGA
      5.00   FAR. DE MANDIOCA                6.00   OLEO IMPORTADO
      7.00   OLEO DE ALGODAO                 8.00   ACUCAR CASTANHO
      9.00   ACUCAR BRANCO                  10.00   ARROZ
     11.00   CAPULANA                       12.00   SABAO
-----------------------------------------------------------------------------
```

```
     13.00   GRAO DE MILHO BR.                14.00   MANDIOCA SECA
     15.00   ARROZ CASCA

 Variable: P1            Label: OFERTA
  Value labels follow   Type: Number  Width:  1  Dec: 0     Missing:     9.00
     1.00   MUITO                              2.00   REGULAR
     3.00   POUCO                              4.00   NAO EXISTE

 Variable: P2            Label: RAZOES DA OFERTA OBSERVADA
   No value labels       Type: Number  Width:  2  Dec: 0     Missing:    99.00

 Variable: P3            Label: UNIDADE DE MEDIDA

   Value labels follow   Type: Number  Width:  2  Dec: 0     Missing:    99.00

     1.00   UNIDADE                            2.00   KILO
     3.00   LITRO                              4.00   SACO DE 50 KILOS
     5.00   SACO DE 90 KILOS                   6.00   LATA DE 10 LITROS
     7.00   LATA DE 20 LITROS                  8.00

 Variable: P4            Label: NUMERO DE UNIDADES
   No value labels       Type: Number  Width:  2  Dec: 0     Missing:    99.00

 Variable: P8            Label: RAZOES PREVISAO

   No value labels       Type: Number  Width:  2  Dec: 0     Missing:    99.00
```

```
 Variable: P7            Label: PREVISAO OFERTA (4 SEMANAS)
  Value labels follow   Type: Number  Width:  1  Dec: 0     Missing:     9.00
     1.00   MUITO                              2.00   REG
     3.00   POUCO                              4.00   NAO EXISTE
     5.00   NAO SABE

 Variable: P6            Label: PRECO UNITARIO
   Value labels follow   Type: Number  Width:  6  Dec: 0     Missing: 999999.0

     1.00   MELHOR                             2.00   PIOR
     3.00   IGUAL

 Variable: P5            Label: no. de ml
   No value labels       Type: Number  Width:  4  Dec: 0     Missing:  9999.00

 Variable: ANO           Label: ANO DA ENTREVISTA
   No value labels       Type: Number  Width:  2  Dec: 0     Missing: * None *
```

```
Variable: PROVINCA        Label: PROVINCIA DO MERCADO

  Value labels follow     Type: Number  Width:  1  Dec: 0     Missing:     9.00

      1.00    MAPUTO                            2.00    SOFAL
      3.00    ZAMBEZIA                          4.00    NAMPULA
      5.00    CABO DELGADO
-----------------------------------------------------------------------------
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Variable: TROCAS          Label: NIVEL DA TRANSACAO
  Value labels follow     Type: Number  Width:  1  Dec: 0     Missing:     9.00

      1.00    MERC. MUN. OU CANDONGA            2.00    LOJA
      3.00    GROSSISTA                         4.00    PRODUTOR

Variable: T2A             Label: FACTOR DE CONVERCAO
  No value labels         Type: Number  Width:  6  Dec: 3     Missing:   100.00

Variable: C_PKILO         Label: * No label *
  No value labels         Type: Number  Width:  8  Dec: 2     Missing: * None *

Variable: DATA            Label: * No label *
  No value labels         Type: Number  Width:  8  Dec: 2     Missing: * None *
```

PRODUCT AND MARKET CODE SUMMARIES

MARKET NUMBERS

Market Location	Retail		Wholesale	Assembly
	Mun. Mkt or *Candonga*	*Loja*		
Maputo	0	100	200	
Beira	1	101	201	
Quelimane	2	102	202	
Nampula City	3	103	203	
Mocuba	4	104	204	304
Ribaue	5	105	205	305
Angoche	6	106	206	306
Nacala	7	107	207	307
Monapo	8	108	208	308
Pemba	9	109	209	

PRODUCT CODES

RETAIL	Code	WHOLESALE & ASSEMBLY	Code
White mz meal	1	White mz grain	13
Yellow mz meal	2		
Nhemba beans	3	Nhemba bean	3
Manteiga beans	4	Manteiga bean	4
Manioc flour	5	Dried manioc	14
Imported oil	6		
Cottonseed oil	7		
Brown sugar	8		
White sugar	9		
Milled rice	10	Rough rice	15
Capulana	11		
Soap ("sabao")	12		

RANGES AND CLEANING RULES FOR DATA ENTRY FILE (SEM-ESQ.SYS)

Range specifications for variable DIA:

1 THRU 31,99

Range specifications for variable MES:

1 THRU 12,99

Range specifications for variable MERCADO:

0 THRU 399,999

Range specifications for variable PROD:

1 THRU 16,99

Range specifications for variable P1:

1 THRU 4,9

Range specifications for variable P3:

1 THRU 7,9,.

Range specifications for variable P4:

0 THRU 20,99,.

Range specifications for variable P7:

1 THRU 5,9

Range specifications for variable P6:

1 THRU 100000,999999,.

Range specifications for variable P5:

1 thru 1000,9999,.

Rule PROD1:

(prod=1 and p1 ne 4) implies p3 in 1 thru 2 or p3 in 4 thru 7

Rule MERPROD:

mercado in 0 thru 99 implies prod in 1 thru 12,14,16

Rule ARMAPROD:

mercado in 200 thru 399 implies prod in 3 thru 4 OR PROD IN 13 THRU 15

Rule PROD6:

(prod=6 and p1 ne 4) implies p3 = 3 or P3 = 6 or p3 = 7

Rule PROD7:

(prod=7 and p1 ne 4) implies p3 = 3 or p3 = 6 or p3 = 7

Rule PROD11:

(prod=11 and p1 ne 4) implies p3 = 1

Rule PROD12:

(prod=12 and p1 ne 4) implies p3 = 1 or p3 = 2

Rule LOJPROD:

MERCADO IN 100 THRU 199 IMPLIES PROD IN 1 THRU 12

Rule PROD2:

(prod=2 and p1 ne 4) implies p3 in 1 thru 2 or p3 in 4 thru 7

Rule PROD3:

(prod=3 and p1 ne 4) implies p3 in 1 thru 2 or p3 in 4 thru 7

Rule PROD4:

(prod=4 and p1 ne 4) implies p3 in 1 thru 2 or p3 in 4 thru 7

Rule PROD5:

(prod=5 and p1 ne 4) implies p3 in 1 thru 2 or p3 in 4 thru 7

Rule PROD8:

(prod=8 and p1 ne 4) implies p3 in 1 thru 2 or p3 in 4 thru 7

Rule PROD9:

(prod=9 and p1 ne 4) implies p3 in 1 thru 2 or p3 in 4 thru 7

Rule PROD10:

(prod = 10 and p1 ne 4) implies p3 in 1 thru 2 or p3 in 4 thru 7

Rule PROD13:

(prod = 13 and p1 ne 4) implies p3 = 2 or p3 = 4 or p3 = 5.

Rule PROD14:

(prod = 14 and p1 ne 4) implies p3 = 2 or p3 = 4 or p3 = 5.

Rule PROD15:

(prod = 15 and p1 ne 4) implies p3 = 2 or p3 = 4 or p3 = 5.

BATCH FILES

These files are DOS files which control the production of the bulletin. Among other functions, they access SPSS INCLUDE files, and it is these INCLUDE files which produce the tables and graphs which go into the bulletin.

```
rem  DADOS.BAT
rem
rem  Changes to the SEMANA subdirectory and runs SPSS/DE.
rem
CD\PSA-M\SEMANA
SPSS/DE
```

```
rem  FASEUM.BAT
rem
rem  Changes to SEMANA subdirectory, copies skeleton data entry form to a file
rem  called SEMANA.SYS.
rem
CD\PSA-M\SEMANA
COPY C:\PSA-M\REFERENC\SEM-ESQ.SYS SEMANA.SYS
```

```
rem  FASEDOIS.BAT
rem
rem  Changes to SEMANA subdirectory, copies the filled weekly system
rem  file SEMENA.SYS, to a new file SEMENA_L.SYS, in preparation for
rem  for cleaning changes.
rem
CD\PSA-M\SEMANA
COPY SEMANA.SYS SEMANA-L.SYS
```

```
rem  PRE-KILO.BAT
rem
rem  Changes to SEMANA subdirectory, runs the SPSS include file PRE_KILO.INC
rem
CD\PSA-M\SEMANA
SPSS C:\PSA-M\INCLUDE\PRE-KILO.INC
```

```
rem  LIMPO.BAT
rem
rem  Changes to SEMANA subdirectory, runs the SPSS include file LIMPO.INC
rem
CD\PSA-M\SEMANA
SPSS C:\PSA-M\INCLUDE\LIMPO.INC
```

```
rem  QUADPREC.BAT
rem
rem  Changes to SEMANA subdirectory, runs the SPSS include file QUADPREC.INC
rem
CD\PSA-M\SEMANA
SPSS C:\PSA-M\INCLUDE\QUADPREC.INC


rem  QUADOFER.BAT
rem
rem  Changes to SEMANA subdirectory, runs the SPSS include file QUADOFER.INC
rem
CD\PSA-M\SEMANA
SPSS C:\PSA-M\INCLUDE\QUADOFER.INC


rem OFER-RES.BAT
rem
rem Changes to SEMANA subdirectory, runs SPSS include file
rem OFER-RES.INC, which calculates mean responses for P1 by
rem market level
rem
CD\PSA-M\SEMANA
SPSS C:\PSA-M\INCLUDE\OFER-RES.INC


rem  SEM-MEST.BAT
rem
rem  Changes to SEMANA subdirectory, runs the SPSS include file SEM_MEST.INC
rem
CD\PSA-M\SEMANA
SPSS C:\PSA-M\INCLUDE\SEM-MEST.INC


rem  GRA-MEST.BAT
rem
rem  Changes to SEMANA subdirectory, copies the master data file (MESTRE.SYS)
rem  to a working copy (GRA_MEST.SYS) to be used in constructing graphs.
rem
CD\PSA-M\SEMANA
COPY C:\PSA-M\MESTRE\MESTRE.SYS GRA-MEST.SYS

rem  GRA-BOL.BAT

cd\psa-m\semana
spss c:\psa-m\include\gra-bol.inc
```

INCLUDE FILES

```
* PRE-KILO.INC.

set more off.
set listing = 'c:\psa-m\listing\pre-kilo.lis'.
get file = 'semana-l.sys'.

* AGRUPAR PROVINCIA E NIVEL DE TRANSACAO POR MERCADO NO FICHEIRO

sort cases by mercado.
join match file=*
/table='c:\psa-m\referenc\provtroc.sys'
/by mercado
/map.

* ADICIONAR FACTOR DE CONVERSAO

sort cases by prod p3.
join match file=*
/table='c:\psa-m\referenc\conver.sys'
/by prod p3
/map.

* DERIVAR PRECO PER KILO DE PRECO LOCAL.

compute c_pkilo=p6.
if (P3 = 1) c_pkilo = (p6*p4*(1000/p5))*(1/t2a).
if (P3 > 3) c_pkilo = (p6/t2a).
if (prod = 11) c_pkilo = p6.
if (prod = 12 and p3 <> 2) c_pkilo=(p6*p4*1000)/p5.

* CALCULAR DIA GREGORIANO USANDO ANO MES E DIA

compute data=yrmoda(ano,mes,dia).

sort cases by mercado prod.

save file='sem-kilo.sys'.
fin.
```

```
* LIMPO.INC.

set more off.
set listing = 'c:\psa-m\listing\limpo.lis'.

get file='semana-1.sys'.
compute preco=1.
if (sysmis(p6)) preco = 0.
xtabs tables = p1 by preco.

get file='sem-kilo.sys'.
set length = none.
set width = 132.

compute preco=1.
if (sysmis(c_pkilo)) preco = 0.
xtabs tables = p1 by preco.

var label mercado ".
var label trocas ".
var label c_pkilo ".

* CHECK TO BE SURE THAT NO VALUES OF 4 APPEAR IN THIS TABLE.
* WHERE A VALUE OF 4 DOES APPEAR, THERE IS LIKELY AN ERROR IN
* EITHER MERCADO OR PRODUTO IN THE DATA FILE.

tables
 /format cwidth(15,6)
 /observation c_pkilo
 /table trocas > mercado by prod > c_pkilo
 /statistics count(c_pkilo")
 /corner '  NIVEL Y'
        '  MERCADO'.

* BOTH DIA AND MES SHOULD TAKE-ON ONLY 1 VALUE

freq dia mes.

select if (p1 < 4).
sort by mercado.

* THE FOLLOWING IS A PRODUCT-BY-PRODUCT PRINTOUT OF THE
* INDIVIDUAL PRIES OF EACH PRODUCT, ORGANIZED BY MARKET.
* USE THIS OUTPUT TO CHECK FOR CORRECT UNITS, PRICE OUTLIERS,
* AND OTHER PROBLEMS WITH THE DATA

* FARINHA DE MILHO BRANCO
```

```
process if (prod=1).
list mercado p3 p4 p5 p6 c_pkilo.
```

* FARINHA DE MILHO AMARELO

```
process if (prod=2).
list mercado p3 p4 p5 p6 c_pkilo.
```

* FEIJAO NHEMBA

```
process if (prod=3).
list mercado p3 p4 p5 p6 c_pkilo.
```

* FEIJAO MANTEIGA

```
process if (prod=4).
list mercado p3 p4 p5 p6 c_pkilo.
```

* FARINHA DE MANDIOCA

```
process if (prod=5).
list mercado p3 p4 p5 p6 c_pkilo.
```

* OLEO IMPORTADO

```
process if (prod=6).
list mercado p3 p4 p5 p6 c_pkilo.
```

* OLEO NACIONAL

```
process if (prod=7).
list mercado p3 p4 p5 p6 c_pkilo.
```

* ACUCAR AMARELO

```
process if (prod=8).
list mercado p3 p4 p5 p6 c_pkilo.
```

* ACUCAR BRANCO

```
process if (prod=9).
list mercado p3 p4 p5 p6 c_pkilo.
```

* ARROZ

```
process if (prod=10).
list mercado p3 p4 p5 p6 c_pkilo.
```

```
* CAPULANA

process if (prod=11).
list mercado p3 p4 p5 p6 c_pkilo.

* SABAO

process if (prod=12).
list mercado p3 p4 p5 p6 c_pkilo.

* GRAO DE MILHO BRANCO

process if (prod=13).
list mercado p3 p4 p5 p6 c_pkilo.

* MANDIOCA SECA

process if (prod=14).
list mercado p3 p4 p5 p6 c_pkilo.

* ARROZ CASCA

process if (prod=15).
list mercado p3 p4 p5 p6 c_pkilo.

* THESE COMMANDS LIST THOSE CASES IN WHICH THERE WERE ONLY 1 OR
* 2 TRADERS OF A GIVEN PRODUCT IN THE MARKET, AND WHERE THE
* ENUMERATOR ENTERED P1=4 FOR THE OTHER CASES.  THESE OTHER
* CASES SHOULD BE BLANK.

aggregate outfile=*
/break=mercado prod
/massimo = max(p1)
/obser=nu(p1)
/medio=mean(p1).

select if (massimo=4 & obser ne 1 & medio ne 4).
list mercado prod obser medio.

fin.
```

```
* QUADOFER.INC.

* PRODUCE RETAIL SUPPLY TABLE

set more off.
set listing = 'c:\psa-m\listing\quadofer.lis'.
get file='sem-fin.sys'
 /drop trocas.

select if (mercado < 200).

set length = none.
set width = 132.

join match file=*
 /file='c:\psa-m\referenc\mer-ret.sys'
 /by mercado.

if (sysmis(prod)) sem_info=1.
if (sysmis(prod)) p1=999.

sort cases by mercado.
join match file=*
/table='c:\psa-m\referenc\provtroc.sys'
/by mercado
/map.

var label mercado ".
var label trocas ".
var label p1".
var label sem_info 'sem informacao'.

value label sem_info 1 "".

tables
/format cwidth(18,6)
/observation p1
/table trocas > mercado by prod + sem_info > p1
/statistics mean(p1(f1.0)")
/corner '   NIVEL Y'
      '  MERCADO'
/tfootnote left 'NOTA: 1=muito; 2=regular; 3=pouco; 4=nac existe'
            '                                          '
            '     Os mercados que nao reportaram informacao'
            '     indicam-se com "999" na coluna'
            '     "sem informacao".
```

```
* PRODUCE WHOLESALE AND ASSEMBLY SUPPLY TABLE

get file='sem-fin.sys'
 /drop trocas.

select if (mercado >= 200).

set length = none.
set width = 132.

join match file=*
 /file='c:\psa-m\referenc\mer-gro.sys'
 /by mercado.

if (sysmis(prod)) sem_info=1.
if (sysmis(prod)) p1=999.

sort cases by mercado.
join match file=*
/table='c:\psa-m\referenc\provtroc.sys'
/by mercado
/map.

var label mercado ".
var label trocas ".
var label p1".
var label sem_info 'sem informacao'.

value label sem_info 1 "".

tables
/format cwidth(18,6)
/observation p1
/table trocas > mercado by prod + sem_info > p1
/statistics mean(p1(f1.0)")
/corner '   NIVEL Y'
      '  MERCADO'
/tfootnote left 'NOTA: 1=muito; 2=regular; 3=pouco; 4=nao existe'
            '                                                  '
            '     Os mercados que nao reportaram informacao'
            '     esta semana indicam-se com "999" na'
            '     coluna "sem informacao".

fin.
```

```
* OFER-RES.INC.

set more off.
set listing = 'c:\psa-m\listing\ofer-res.lis'.
get file='sem-fin.sys'.

* COMANDOS PARA ELABORACAO DO QUADRO.

set length = none.
set width = 132.

var label mercado ".
var label trocas ".
var label p1".

tables
/format cwidth(18,6)
/observation p1
/table trocas by prod > p1
/statistics mean(p1(f1.0)")
/corner '   NIVEL Y'
        '   MERCADO'
/tfootnote left 'NOTA: 1=muito; 2=regular; 3=pouco; 4=nao existe'
            '                                                  '
            '     Aos niveis Grossista e Produtor, os dados'
            '     sao recolhidos so para feijao nhemba e'
            '     manteiga, grao de milho branco, mandioca'
            '     seca, e arroz casca'.

fin.
```

```
* QUADPREC.INC.

* PRODUCE RETAIL PRICE TABLE

set more off.
set listing = 'c:\psa-m\listing\quadprec.lis'.
get file='sem-fin.sys'
 /drop trocas.

select if (mercado < 200).

set length = none.
set width = 132.

join match file=*
 /file='c:\psa-m\referenc\mer-ret.sys'
 /by mercado.

if (sysmis(prod)) sem_info=1.
if (sysmis(prod)) c_pkilo=999.

sort cases by mercado.
join match file=*
/table='c:\psa-m\referenc\provtroc.sys'
/by mercado
/map.

var label mercado ".
var label trocas ".
var iabel c_pkilo ".
var label sem_info 'sem informacao'.

value label sem_info 1 "".

tables
 /format cwidth(15,6)
 /observation c_pkilo
 /table trocas > mercado by prod + sem_info > c_pkilo
 /statistics mean(c_pkilo(F6.0)")
 /corner '   NIVEL Y'
        '  MERCADO'
 /tfootnote left 'NOTA:  Os mercados que nao reportaram'
              '      informacao esta semana indicam-se com'
              '      "999" na coluna "sem informacao".
```

```
* PRODUCE WHOLESALE AND ASSEMBLY PRICE TABLE

get file='sem-fin.sys'
 /drop trocas.

select if (mercado >= 200).

set length = none.
set width = 132.

join match file=*
 /file='c:\psa-m\referenc\mer-gro.sys'
 /by mercado.

if (sysmis(prod)) sem_info=1.
if (sysmis(prod)) c_pkilo=999.

sort cases by mercado.
join match file=*
/table='c:\psa-m\referenc\provtroc.sys'
/by mercado
/map.

var label mercado ".
var label trocas ".
var label c_pkilo ".
var label sem_info 'sem informacao'.

value label sem_info 1 "".

tables
 /format cwidth(15,6)
 /observation c_pkilo
 /table trocas > mercado by prod + sem_info > c_pkilo
 /statistics mean(c_pkilo(F6.0)")
 /corner '  NIVEL Y'
        '  MERCADO'
 /tfootnote left 'NOTA:  Os mercados que nao reportaram'
              '      informacao esta semana indicam-se com'
              '      "999" na coluna "sem informacao".

fin.
```

```
* SEM_MEST.INC.

set listing='c:\psa-m\listing\sem-mest.lis'.
set more off.

join add file='c:\psa-m\mestre\mestre.sys'
 /file = 'sem-fin.sys'.

save file='c:\psa-m\mestre\mestre.sys'.

fin.



* GRA-BOL.INC

* THIS FILE PRODUCES GRAPHS FOR THE WEEKLY BULLETIN. THE FILE
* GRAFICO.INC PRODUCES MANY MORE GRAPHS WHICH COULD ALSO BE USED
* IN THIS BULLETIN.

set listing='c:\psa-m\listing\gra-bol.lis'.

get file='c:\psa-m\semana\gra-mest.sys'.

* A PESSOA DEVE MUDAR A DATA DE MODO A SER O ULTIMO DA SEMANA
* CONVENCIONAL.

compute N_ANO=91.
compute N_MES=3.
compute N_DIA=10.

* THE FOLLOWING CODES SELECT ALL PRICES RECORDED OVER THE PAST 4
* WEEKS (28 DAYS) AND ASSIGNS UNIQUE WEEK NUMBERS (1-4) TO EACH
* OBSERVATION

compute UL_DATA = yrmoda(N_ANO,N_MES,N_DIA).

select if (data >= (ul_data - 27)).

compute week = 0.
if ((data <= (ul_data)) and (data >= (ul_data - 6))) week = 4.
if ((data <= (ul_data - 7)) and (data >= (ul_data - 13))) week =
3.
if ((data <= (ul_data - 14)) and (data >= (ul_data - 20))) week =
2.
if ((data <= (ul_data - 21)) and (data >= (ul_data -27))) week =
1.
```

```
var labels week 'PERIODO'.
value labels week 1 't-3' 2 't-2' 3 't-1' 4 't'.

* THE FILE BEING SAVED CONTAINS THE PAST 4 WEEKS OF DATA.  IT
* WILL BE REPLACED (OVERWRITTEN) EACH WEEK

save file='c:\psa-m\semana\mest-4.sys'.

* THE FOLLOWING ARE RETAIL PRICE GRAPHS FOR WHITE AND YELLOW
* MAIZE FLOWER, MANTEIGA BEAN, IMPORTED COOKING OIL, MANIOC FLOUR,
* AND BROWN SUGAR.  THEIR PRIMARY PURPOSES ARE TWO: TO SHOW RETAIL
* PRICE LEVELS, AND TO SHOW PRICE VARIABILITY OVER SPACE


* GRAFICO COMPARATIVO MERCADOS BEIRA E NAMPULA COM MAPUTO A
* NIVEL DE RETALHISTA.

* THESE GRAPHS COMPARE MAPUTO WITH BEIRA AND NAMPULA CITY

get file='c:\psa-m\semana\mest-4.sys'.

select if (mercado = 0 or mercado = 1 or mercado = 3).
process if (prod = 1).
graph line = mean(c_pkilo) by week by mercado.
process if (prod = 2).
graph line = mean(c_pkilo) by week by mercado.
process if (prod = 4).
graph line = mean(c_pkilo) by week by mercado.
process if (prod = 6).
graph line = mean(c_pkilo) by week by mercado.
process if (prod = 5).
graph line = mean(c_pkilo) by week by mercado.
process if (prod = 8).
graph line = mean(c_pkilo) by week by mercado.

* GRAFICO COMPARATIVO PRECOS GROSSISTAS DE GRAO DE MILHO BRANCO,
* MANDIOCA SECA, E FEIJAO MANTEIGA NA PROVINCIA DE NAMPULA

* THESE GRAPHS COMPARE WHOLESALE PRICES OF WHITE MAIZE GRAIN,
* DRY MANIOC, AND MANTEIGA BEAN WITHIN NAMPULA PROVINCE.

get file='c:\psa-m\semana\mest-4.sys'.
select if (mercado = 203 or mercado = 205 or mercado = 208).
process if (prod = 13).
graph line = mean(c_pkilo) by week by mercado.
process if (prod = 4).
graph line = mean(c_pkilo) by week by mercado.
```

```
get file='c:\psa-m\semana\mest-4.sys'.
select if (mercado = 203 or mercado = 206 or mercado = 207).
process if (prod = 14).
graph line = mean(c_pkilo) by week by mercado.

* THE FOLLOWING ARE ASSEMBLY LEVEL PRICES IN NAMPULA PROVINCE AND
* MOCUBA OF ZAMBEZIA PROVINCE FOR WHITE MAIZE, DRY MANIOC, AND
* MANTEIGA BEAN.  EACH GRAPH HAS THREE LINES, EACH LINE
* CORRESPONDING TO A MARKET IN NAMPULA PROVINCE.
* THESE GRAPHS ARE INTENDED TO SHOW FARM PRICE LEVELS AND TO
* SHOW SPATIAL PRICE VARIABILITY WITHIN NAMPULA PROVINCE

get file='c:\psa-m\semana\mest-4.sys'.
select if (mercado = 305 or mercado = 308 or mercado = 304).
process if (prod=13).
graph line=mean(c_pkilo) by week by mercado.
process if (prod=4).
graph line=mean(c_pkilo) by week by mercado.

get file='c:\psa-m\semana\mest-4.sys'.
select if (mercado = 306 or mercado = 307 or mercado = 305).
process if (prod=14).
graph line=mean(c_pkilo) by week by mercado.
fin.
```

LISTING FILE FOR SPSS CLEANING

(Listing file from LIMPO.INC)

```
get file='semana-1.sys'.
The SPSS/PC+ system file is read from
    file semana-1.sys
The file was created on  5/30/91 at  8:20:24
and is titled SPSS/PC+ System File Written by Data Entry II
The SPSS/PC+ system file contains
    659 cases, each consisting of
     16 variables (including system variables).
     16 variables will be used in this session.
-----------------------------------------------------------------------------
Page   2                          SPSS/PC+                          6/19/91

This procedure was completed at 20:17:39
compute preco=1.
if (sysmis(p6)) preco = 0.
xtabs tables = p1 by preco.
The raw data or transformation pass is proceeding
    659 cases are written to the uncompressed active file.


 ***** Given WORKSPACE allows for  9439 Cells with
     2 Dimensions for CROSSTAB problem *****


-----------------------------------------------------------------------------
Page   3                          SPSS/PC+                          6/19/91

Crosstabulation:     P1        OFERTA
                  By PRECO

 PRECO->     Count |                |  Row
                   |     .00|    1.00| Total
 P1          ------+--------+--------+
                 1 |        |    143 |   143
  MUITO            |        |        |  21.7
                   +--------+--------+
                 2 |        |     98 |    98
  REGULAR          |        |        |  14.9
                   +--------+--------+
                 3 |        |    127 |   127
  POUCO            |        |        |  19.3
                   +--------+--------+
                 4 |    291 |        |   291
  NAO EXISTE       |        |        |  44.2
                   +--------+--------+
            Column     291      368     659
             Total    44.2     55.8   100.0

Number of Missing Observations =       0
-----------------------------------------------------------------------------
Page   4                          SPSS/PC+                          6/19/91

This procedure was completed at 20:18:17

get file='sem-kilo.sys'.
The SPSS/PC+ system file is read from
    file sem-kilo.sys
```

```
The file was created on  5/23/91 at  9:17:58
sw.4 is titled                        SPSS/PC+
The SPSS/PC+ system file contains
    456 cases, each consisting of
     21 variables (including system variables).
     21 variables will be used in this session.
```



```
This procedure was completed at 20:18:22
set length = none.
set width = 132.

compute preco=1.
if (sysmis(c_pkilo)) preco = 0.
xtabs tables = p1 by preco.
The raw data or transformation pass is proceeding
    456 cases are written to the uncompressed active file.


 ***** Given WORKSPACE allows for  9439 Cells with
     2 Dimensions for CROSSTAB problem *****
```


Crosstabulation: P1 OFERTA By PRECO

PRECO-> Count		.00	1.00	Row Total
P1	1	1	119	120
MUITO				26.3
	2	2	84	86
REGULAR				18.9
	3	2	105	107
POUCO				23.5
	4	143		143
NAO EXISTE				31.4
	Column Total	148 32.5	308 67.5	456 100.0

Number of Missing Observations = 0


```
This procedure was completed at 20:18:56

var label mercado ''.
var label trocas ''.
var label c_pkilo ''.

*  CHECK TO BE SURE THAT NO VALUES OF 4 APPEAR IN THIS TABLE.
*  WHERE A VALUE OF 4 DOES APPEAR, THERE IS LIKELY AN ERROR IN
*  EITHER MERCADO OR PRODUTO IN THE DATA FILE.

tables
 /format swidth(15,6)
 /observation c_pkilo
 /table trocas > mercado by prod > c_pkilo
 /statistics count(c_pkilo'')
```

/corner ' NIVEL Y'
' MERCADO'.

NIVEL Y MERCADO	PRODUTOS														
	FAR. DE MILHO ER.	FAR. DE MILHO AM.	FEIJAO NHEMBA	FEIJAO MANTEIGA	FAR. DE MANDIOCA	OLEO IMPORTADO	OLEO DE ALGODAO	ACUCAR CASTANHO	ACUCAR BRANCO	ARROZ	CAPULANA	SABAO	GRAO DE MILHO ER.	MANDIOCA SECA	ARROZ CASCA
MERC. MUN. OU CANDONGA															
MAPUTO	3	3	3	3	1	1	3	3	3	3	3	3			
BEIRA	3	3	1	3	1	3	1	3	3	3	3	3			
QUELIMANE	3	3	3	3	3	3	3	3	3	3	3	3			
NAMPULA	3	1	3	3	3	3	1	1	3	3	1	3			
RIBAUE	3								3						
ANGOCHE	3	1	2	1	3		1	1		1	1	1			
NACALA	3	3	2	1	3	1	1	1	2	1	1	1			
MONAPO	2				3				3	1					
LOJA															
BEIRA	2	2	2	2	2	2	2	2	2	2	2	2			
QUELIMANE	3	3	3	3	3	3	3	3	3	3	3	3			
NAMPULA	3	3	3	3	3	3	3	3	3	3	3	3			
RIBAUE	3	3	3	3	3	3	3	3	3	3	3	3			
ANGOCHE	3	3	3	3	3	1	3	3		3	3	3			
NACALA	3	3	3	3	3	3	3	3	3	3	3	3			
MONAPO	3				2	3				2	3	1			
GROSSISTA															
BEIRA			1	1									1	1	1
QUELIMANE			3	3									3	3	3
ANGOCHE			3	3									3	3	3
NACALA			1	1									1	1	1
PRODUTOR															
RIBAUE			1	2									3	1	1
NACALA			3	1									3	3	3
MONAPO			3										3		

This procedure was completed at 20:20:49

* BOTH DIA AND MES SHOULD TAKE-ON ONLY 1 VALUE

freq dia mes.

***** Memory allows a total of 12871 Values, accumulated across all Variables.
There also may be up to 1609 Value Labels for each Variable.

DIA DIA DO MES DA ENTREVISTA

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	4	456	100.0	100.0	100.0
	TOTAL	456	100.0	100.0	

Valid Cases 456 Missing Cases 0

- -

MES MES DA ENTREVISTA

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
MAIO	5	456	100.0	100.0	100.0
	TOTAL	456	100.0	100.0	

Valid Cases 456 Missing Cases 0

This procedure was completed at 20:21:13

```
select if (p1 < 4).
sort by mercado.
The raw data or transformation pass is proceeding
    313 cases are written to the uncompressed active file.

Size of File to Be Sorted:       313 Cases of    176 Bytes Each.
    313 cases are written to the uncompressed active file.
SORT completed successfully.
```

This procedure was completed at 20:21:59

```
*  THE FOLLOWING IS A PRODUCT-BY-PRODUCT PRINTOUT OF THE
*  INDIVIDUAL PRIES OF EACH PRODUCT, ORGANIZED BY MARKET.
*  USE THIS OUTPUT TO CHECK FOR CORRECT UNITS, PRICE OUTLIERS,
*  AND OTHER PROBLEMS WITH THE DATA

*  FARINHA DE MILHO BRANCO

process if (prod=1).
list mercado p3 p4 p5 p6 c_pkilo.
```

MERCADO	P3	P4	P5	P6	C_PKILO
0	1	1	850	500	808.02
0	1	1	800	500	858.52
0	1	1	850	500	808.02
1	1	4	800	100	686.81
1	1	4	950	200	1156.74
1	1	4	950	200	1156.74
2	1	2	900	500	1526.25
2	1	2	900	450	1373.63
2	1	2	900	500	1526.25
3	1	3	1000	100	412.09
3	1	3	950	100	433.78

3	2	.	.	600	600.00
5	1	2	500	150	824.18
5	1	3	750	100	549.45
5	1	1	750	350	641.03
6	1	2	300	100	915.75
6	1	3	400	100	1030.22
6	1	3	700	100	588.70
7	1	2	400	100	686.81
7	2	.	.	350	350.00
7	2	.	.	350	350.00
8	1	2	650	100	422.65
8	1	2	625	100	439.56
101	2	.	.	500	500.00
102	2	.	.	600	600.00
102	2	.	.	500	500.00
105	2	.	.	100	100.00
105	2	.	.	350	350.00
106	2	.	.	190	190.00
106	2	.	.	190	190.00
106	2	.	.	190	190.00
107	2	.	.	300	300.00
107	2	.	.	300	300.00
107	2	.	.	300	300.00
108	2	.	.	300	300.00
108	2	.	.	300	300.00

Number of cases read = 36 Number of cases listed = 36

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This procedure was completed at 20:22:23

* FARINHA DE MILHO AMARELO

```
process if (prod=2).
list mercado p3 p4 p5 p6 c_pkilo.
```

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MERCADO	P3	P4	P5	P6	C_PKILO
0	1	1	800	250	474.20
0	1	1	800	250	474.20
0	1	1	800	250	474.20
1	1	4	800	100	758.73
1	1	4	850	200	1277.85
1	1	4	850	200	1277.85
2	1	2	900	400	1348.85
2	1	2	900	450	1517.45
2	1	2	900	400	1348.85
7	1	2	450	100	674.42
7	2	.	.	300	300.00
7	2	.	.	325	325.00
102	2	.	.	450	450.00
103	2	.	.	600	600.00

Number of cases read = 14 Number of cases listed = 14

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This procedure was completed at 20:22:29

* FEIJAO MEMBRA

```
process if (prod=3).
list mercado p3 p4 p5 p6 c_pkilo.
```

MERCADO	P3	P4	P5	P6	C_PKILO
0	1	1	850	800	1137.37
0	1	1	800	850	1283.99
0	1	1	800	800	1208.46
2	1	2	600	400	1611.28
2	1	2	600	350	1409.87
2	1	2	600	300	1208.46
3	2	.	.	1000	1000.00
3	2	.	.	1000	1000.00
3	2	.	.	1000	1000.00
6	1	2	550	200	878.88
7	1	6	900	200	1611.28
7	2	.	.	600	600.00
106	2	.	.	270	270.00
106	2	.	.	270	270.00
107	2	.	.	500	500.00
107	2	.	.	400	400.00
107	2	.	.	400	400.00
202	4	.	.	20000	400.00
202	4	.	.	20000	400.00
206	2	.	.	350	350.00
206	2	.	.	350	350.00
206	2	.	.	350	350.00
207	2	.	.	200	200.00
307	2	.	.	250	250.00
307	2	.	.	250	250.00
307	2	.	.	250	250.00
308	2	.	.	270	270.00
308	2	.	.	270	270.00
308	2	.	.	270	270.00

Number of cases read = 29 Number of cases listed = 29

This procedure was completed at 20:22:37

* FEIJAO MANTEIGA

```
process if (prod=4).
list mercado p3 p4 p5 p6 c_pkilo.
```

MERCADO	P3	P4	P5	P6	C_PKILO
0	1	1	900	800	1026.43
0	1	1	900	800	1026.43
0	1	1	850	000	[illegible].81
1	1	7	650	200	[illegible].12
1	1	5	700	200	[illegible].62
1	1	5	700	200	1849.62
2	1	3	700	500	2474.43
2	1	2	600	350	1347.19
2	1	3	700	350	1732.10
3	2	.	.	2700	2700.00
3	2	.	.	2300	2300.00
3	2	.	.	2500	2500.00
101	2	.	.	1500	1500.00
102	2	.	.	1700	1700.00
102	2	.	.	1800	1800.00
202	4	.	.	20000	400.00
202	4	.	.	90000	1800.00
206	2	.	.	520	520.00
305	2	.	.	190	190.00

Number of cases read = 19 Number of cases listed = 19

This procedure was completed at 20:22:44

* FARINHA DE MANDIOCA

process if (prod=5).
list mercado p3 p4 p5 p6 c_pkilo.

MERCADO	P3	P4	P5	P6	C_PKILO
2	1	3	800	300	1875.00
2	1	3	800	300	1875.00
2	1	3	800	350	2187.50
3	1	2	700	100	476.19
3	1	2	800	100	416.67
6	1	2	550	100	606.06
6	1	3	800	100	625.00
6	1	2	550	100	606.06
7	1	2	800	100	416.67
7	2	.	.	300	300.00
7	2	.	.	250	250.00
8	1	1	650	100	256.41
8	1	1	600	100	277.78
8	1	1	650	100	256.41
102	2	.	.	250	250.00
102	2	.	.	300	300.00
102	2	.	.	250	250.00
106	2	.	.	100	100.00
106	2	.	.	100	100.00
106	2	.	.	100	100.00
107	2	.	.	250	250.00
107	2	.	.	250	250.00
107	2	.	.	250	250.00
108	2	.	.	300	300.00
108	2	.	.	300	300.00

Number of cases read = 25 Number of cases listed = 25

This procedure was completed at 20:22:53

* OLEO IMPORTADO

process if (prod=6).
list mercado p3 p4 p5 p6 c_pkilo.

MERCADO	P3	P4	P5	P6	C_PKILO
1	3	.	.	2000	2000.00
1	3	.	.	2500	2500.00
1	3	.	.	2500	2500.00
2	3	.	.	2000	2000.00
2	3	.	.	2000	2000.00
2	3	.	.	2000	2000.00
3	3	.	.	2700	2700.00
3	3	.	.	2500	2500.00
3	3	.	.	2800	2800.00
7	3	.	.	2500	2500.00

101	3	.	.	1800	1800.00
101	3	.	.	2300	2300.00
102	3	.	.	3000	3000.00
102	3	.	.	2000	2000.00
103	3	.	.	2500	2500.00
103	3	.	.	2500	2500.00
106	3	.	.	2600	2600.00
107	3	.	.	1250	1250.00
107	3	.	.	1500	1500.00
107	3	.	.	1500	1500.00
108	3	.	.	2500	2500.00
108	3	.	.	2500	2500.00
108	3	.	.	2500	2500.00

Number of cases read = 23 Number of cases listed = 23

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This procedure was completed at 20:23:00

* OLEO NACIONAL

```
process if (prod=7).
list mercado p3 p4 p5 p6 c_pkilo.
```

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MERCADO	P3	P4	P5	P6	C_PKILO
0	3	.	.	2000	2000.00
0	3	.	.	2000	2000.00
0	3	.	.	2000	2000.00
2	3	.	.	2000	2000.00
2	3	.	.	2000	2000.00
2	3	.	.	2000	2000.00
105	3	.	.	2500	2500.00
105	3	.	.	2600	2600.00
106	3	.	.	2600	2600.00
107	3	.	.	2000	2000.00
107	3	.	.	2000	2000.00
107	3	.	.	2000	2000.00

Number of cases read = 12 Number of cases listed = 12

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This procedure was completed at 20:23:05

* ACUCAR AMARELO

```
process if (prod=8).
list mercado p3 p4 p5 p6 c_pkilo.
```

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MERCADO	P3	P4	P5	P6	C_PKILO
0	1	1	800	1100	1410.26
0	1	1	800	1100	1410.26
0	1	1	850	1100	1327.30
1	1	6	750	200	1641.03
1	1	6	750	200	1641.03
1	1	6	650	100	1262.33
2	1	2	600	600	2051.28
2	1	2	600	550	1880.34
2	1	2	600	550	1880.34
101	2	.	.	1200	1200.00

101	2	.	.	1250	1250.00
102	2	.	.	2500	2500.00
102	2	.	.	2300	2300.00

Number of cases read = 13 Number of cases listed = 13

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This procedure was completed at 20:23:11

* ACUCAR BRANCO

```
process if (prod=9).
list mercado p3 p4 p5 p6 c_pkilo.
```

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MERCADO	P3	P4	P5	P6	C_PKILO
0	1	1	900	1100	1192.41
0	1	1	850	1100	1262.55
0	1	1	850	1100	1262.55
1	1	6	750	200	1560.98
1	1	6	750	200	1560.98
1	1	8	650	100	1200.75
2	1	2	600	600	1951.22
2	1	2	600	600	1951.22
2	1	2	600	600	1951.22
3	2	.	.	1900	1900.00
3	2	.	.	1900	1900.00
3	2	.	.	1900	1900.00
5	1	5	500	200	1951.22
5	1	6	550	200	2128.60
5	2	.	.	2500	2500.00
7	1	6	200	200	5853.66
7	2	.	.	2750	2750.00
8	1	3	400	350	2560.98
8	1	3	450	400	2601.63
8	1	3	450	400	2601.63
101	2	.	.	1500	1500.00
102	2	.	.	1800	1800.00
102	2	.	.	2500	2500.00
105	1	4	700	200	1114.98
105	2	.	.	2500	2500.00
105	2	.	.	2500	2500.00

Number of cases read = 26 Number of cases listed = 26

Page 30 SPSS/PC+ 6/19/91

This procedure was completed at 20:23:19

* ARROZ

```
process if (prod=10).
list mercado p3 p4 p5 p6 c_pkilo.
```

Page 31 SPSS/PC+ 6/19/91

MERCADO	P3	P4	P5	P6	C_PKILO
0	1	1	800	900	1164.60
0	1	1	900	900	1035.20
0	1	1	850	900	1098.09
1	1	4	850	200	974.30
1	1	4	850	200	974.30
1	1	6	750	100	828.16

2	1	3	800	900	3493.79
2	1	3	800	1000	3881.99
2	1	3	800	900	3493.79
3	2	.	.	1000	1000.00
3	2	.	.	1000	1000.00
3	2	.	.	900	900.00
8	1	3	650	300	1433.35
101	2	.	.	876	876.00
101	2	.	.	1900	1900.00
102	2	.	.	2000	2000.00
102	2	.	.	2000	2000.00
102	2	.	.	1950	1950.00
103	2	.	.	1500	1500.00
103	2	.	.	1500	1500.00
106	2	.	.	256	256.00
106	2	.	.	256	256.00
106	2	.	.	256	256.00
107	2	.	.	750	750.00
107	2	.	.	750	750.00
107	2	.	.	750	750.00
108	2	.	.	1900	1900.00
108	2	.	.	1900	1900.00

Number of cases read = 28 Number of cases listed = 28

Page 32 SPSS/PC+ 6/19/91

This procedure was completed at 20:23:27

* CAPULANA

```
process if (prod=11).
list mercado p3 p4 p5 p6 c_pkilo.
```

Page 33 SPSS/PC+ 6/19/91

MERCADO	P3	P4	P5	P6	C_PKILO
0	1	.	.	7500	7500.00
0	1	.	.	7500	7500.00
0	1	.	.	7500	7500.00
1	1	.	.	6500	6500.00
1	1	.	.	6500	6500.00
1	1	.	.	6500	6500.00
2	1	.	.	7500	7500.00
2	1	.	.	6000	6000.00
2	1	.	.	7000	7000.00
101	1	.	.	6500	6500.00
101	1	.	.	6500	6500.00
102	1	.	.	8000	8000.00
102	1	.	.	7500	7500.00
102	1	.	.	7500	7500.00
103	1	.	.	6500	6500.00
103	1	.	.	6400	6400.00
103	1	.	.	6400	6400.00
105	1	.	.	8000	8000.00
106	1	.	.	3500	3500.00
106	1	.	.	5750	5750.00
106	1	.	.	3500	3500.00
107	1	.	.	6500	6500.00
107	1	.	.	7500	7500.00
107	1	.	.	7500	7500.00
108	1	.	.	7500	7500.00
108	1	.	.	7500	7500.00
108	1	.	.	7500	7500.00

Number of cases read = 27 Number of cases listed = 27

This procedure was completed at 20:23:35

* SABAO

```
process if (prod=12).
list mercado p3 p4 p5 p6 c_pkilo.
```


MERCADO	P3	P4	P5	P6	C_PKILO
0	2	.	.	2398	2398.00
0	2	.	.	2278	2278.00
0	2	.	.	2398	2398.00
1	2	.	.	1500	1500.00
1	2	.	.	1500	1500.00
1	2	.	.	1400	1400.00
2	2	.	.	2500	2500.00
2	2	.	.	2000	2000.00
2	2	.	.	2500	2500.00
3	2	.	.	2308	2308.00
3	2	.	.	2000	2000.00
3	2	.	.	2308	2308.00
7	2	.	.	2000	2000.00
101	2	.	.	1500	1500.00
101	2	.	.	1500	1500.00
102	2	.	.	2500	2500.00
103	2	.	.	2262	2262.00
103	2	.	.	2308	2308.00
103	2	.	.	2230	2230.00
105	2	.	.	2500	2500.00
105	2	.	.	2500	2500.00
106	2	.	.	2250	2250.00
106	2	.	.	3000	3000.00
107	2	.	.	1500	1500.00
107	2	.	.	1100	1100.00
107	2	.	.	1250	1250.00

Number of cases read = 26 Number of cases listed = 26

This procedure was completed at 20:23:43

* GRAO DE MILHO BRANCO

```
process if (prod=13).
list mercado p3 p4 p5 p6 c_pkilo.
```


MERCADO	P3	P4	P5	P6	C_PKILO
202	2	.	.	1800	1800.00
202	2	.	.	1800	1800.00
202	2	.	.	1800	1800.00
206	2	.	.	245	245.00
206	2	.	.	245	245.00
206	2	.	.	245	245.00
207	2	.	.	150	150.00
305	2	.	.	190	190.00
305	2	.	.	190	190.00
307	2	.	.	200	200.00
307	2	.	.	200	200.00
307	2	.	.	200	200.00

```
    308  2  .    .   190   190.00
    308  2  .    .   190   190.00
    308  2  .    .   180   190.00

Number of cases read =      15    Number of cases listed =      15
-----------------------------------------------------------------------------------------------------------------
Page  38                              SPSS/PC+                                                          6/19/91

This procedure was completed at 20:23:52

*  MANDIOCA SECA

process if (prod=14).
list mercado p3 p4 p5 p6 c_pkilo.
-----------------------------------------------------------------------------------------------------------------
Page  39                              SPSS/PC+                                                          6/19/91

MERCADO P3 P4    P5     P6  C_PKILO

    202  2  .    .   400   400.00
    202  4  .    . 12500      .
    202  4  .    . 12500      .
    206  2  .    .   130   130.00
    206  2  .    .   130   130.00
    206  2  .    .   130   130.00
    207  2  .    .    50    50.00
    307  2  .    .    50    50.00
    307  2  .    .    50    50.00
    307  2  .    .    50    50.00

Number of cases read =      10    Number of cases listed =      10
-----------------------------------------------------------------------------------------------------------------
Page  40                              SPSS/PC+                                                          6/19/91

This procedure was completed at 20:24:00

*  ARROZ CASCA

process if (prod=15).
list mercado p3 p4 p5 p6 c_pkilo.
-----------------------------------------------------------------------------------------------------------------
Page  41                              SPSS/PC+                                                          6/19/91

MERCADO P3 P4    P5     P6  C_PKILO

    202  4  .    . 100000      .
    202  4  .    .  80000      .
    202  4  .    .  80000      .
    206  2  .    .   330   330.00
    206  2  .    .   330   330.00
    206  2  .    .   330   330.00
    207  2  .    .   170   170.00
    307  2  .    .   150   150.00
    307  2  .    .   150   150.00
    307  2  .    .   150   150.00

Number of cases read =      10    Number of cases listed =      10
-----------------------------------------------------------------------------------------------------------------
Page  42                              SPSS/PC+                                                          6/19/91

This procedure was completed at 20:24:08

*  THESE COMMANDS LIST THOSE CASES IN WHICH THERE WERE ONLY 1 OR
*  2 TRADERS OF A GIVEN PRODUCT IN THE MARKET, AND WHERE THE
*  ENUMERATOR ENTERED P1=4 FOR THE OTHER CASES.  THESE OTHER
*  CASES SHOULD BE BLANK.
```

```
aggregate outfile=*
/break=mercado prod
/massimo = max(p1)
/obser=nu(p1)
/medio=mean(p1).
  126 cases are written to the uncompressed active file.

A new (AGGREGATED) active file has replaced the existing active file.
It contains    8 variables (including system variables).
```

```
This procedure was completed at 20:24:39

select if (massimo=4 & obser ne 1 & medio ne 4).
list mercado prod obser medio.
The raw data or transformation pass is proceeding

There are no cases left.  A new active file must now be defined.
```

```
This procedure was completed at 20:24:54

fin.

End of Include file.
```

APPENDIX C

FINAL DESIGN WORKSHEETS

DEFINICAO DO MERCADO: MERCADO CENTRAL OU "OUTRO"

Aldeia: _____ Merc. Central "Outro" (Circle One)

Nome e localidade: _____ No. do Mercado: _____

Produto	O Prod. é comunmente vendido nesta loja? (s/n)	Unidade Usado com mais frequençia		Se UNS: Descrever	No. de comerciantes que usam esta unidade	Densidade do produto
		Kg	UNS			
Far. de mil. branco						
Far. de Mil. amar.						
Feijão Nhemba						
Feijão Manteiga						
Far. de Mandioca						
Oleo de Algodão						
Oleo Importado						
Açucar amarelo						
Açucar branco						
Arroz						
Capulana						
Sabão						

ORGANIZACAO DA RECOLHA E DISTRIBUICAO DOS DADOS

Dia e hora da recolha dos dados: _____

Origem e Destino	Transmiçao: Dia da semana	Pessoa Responsavel	Meio de Transmiçao
De:		Mandar:	
Para:		Receber:	
De:		Mandar:	
Para:		Receber:	

DEFINICAO DO MERCADO: LOJAS AOS NIVEIS RETALHISTA E FEIRA

Distrito: _____
Nome e sitio: _____
No. do Mercado: _____

Produto	O Prod. é comumente vendido neste loja? (s/n)	Unidade usado com mais frequençia		Se UNS: Descrever	Voce compra este produto dos produtores?	Durante quantos meses do ano faz as compras?	Qual Unidade de medida usa mais?
		Kg	UNS				
Far. de mil. branco							
Far. de mil. amar.							
Feijão Nhemba							
Feijão Manteiga							
Far. de Mandioca							
Oleo de Algodão							
Oleo Importado							
Açucar Amarelo							
Açucar Branco							
Capulana							
Sabão							

ORGANIZACAO DA RECOLHA E DISTRIBUICAO DOS DADOS

Dia e hora da recolha dos dados: _____

Origem e Destino	Transmiçao: Dia da semana	Pessoa Responsavel	Meio de Transmiçao
De:		Mandar:	
Para:		Receber:	
De:		Mandar:	
Para:		Receber:	

Market No. _____

WORKSHEET NO. 3: CALCULATION OF CONVERSION FACTORS (CF)

Product	Sample No.	Weight (grams)	Conversion Factor (kg/unit)	Average Conversion Factor
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			

WORKSHEET NO. 4: WHOLESALE MARKET DEFINITION

City/Town _____

Market No. _____

Name and Location of Armazenista	Product	Regularly trade product? (yes/no)	Principal Client	Sell prod. to local retailers? (yes/no)	Principal unit of measure
	White maize grain				
	Khemba beans				
	Manteiga beans				
	Dry manioc				
	Rough rice				
	White maize grain				
	Khemba beans				
	Manteiga beans				
	Dry manioc				
	Rough rice				
	White maize grain				
	Khemba beans				
	Manteiga beans				
	Dry manioc				
	Rough rice				
	White maize grain				
	Khemba beans				
	Manteiga beans				
	Dry manioc				
	Rough rice				
	White maize grain				
	Khemba beans				
	Manteiga beans				
	Dry manioc				
	Rough rice				

APPENDIX D

WEEKLY QUESTIONNAIRES

FICHA DO INQUERITO DO MERCADO

Dia ___
Mes ___
Mercado ___

ESTA FICHA VISA DAR-LHE OPORTUNIDADE DE REGISTAR INFORMACOES E/OU COMENTARIOS QUE ACHAR PERTINENTE. ESPECIFICAMENTE COMENTE SOBRE:

1. PRODUTOS SEMELHANTES AOS DA NOSSA FICHA MAS DE ORIGEM DIFERENTE: EXEMPLO, FARINHA DE MILHO BRANCO DE SWAZILANDIA OU ZIMBABWE, ACUCAR DE ZIMBABWE, ETC.

2. VARIACOES GRANDES NAS DISPONIBILIDADES DOS PRODUTOS, E AS RESPECTIVAS RAZOES

3. INFORMACAO SOBRE O ORIGEM DE PRODUTOS, ESPECIALMENTE SE PROVENIENTE DE FORA DA PROVINCIA

FICHA DO INQUERITO DO MERCADO
NIVEL RETALHISTA
MERCADO CENTRAL OU "OUTRO"

Dia _
Mes _
Mercado _

PRODUTO	NO. DE COMER.	OFERTA NO MERCADO	OFERTA EM 4 SEMANAS
		1 MUITO 3 POUCO 2 REG. 4 NAO EXIS.	1 MUITO 4 NAO EXIST. 2 REG. 5 NAO SABE 3 POUCO
PROD	M1	M2	M3
1 farinha de milho branco			
2 farinha de milho amarelo			
3 feijão nhemba			
4 feijão manteiga			
5 farinha de mandioca			
6 oleo de soja			
7 oleo de algodão			
8 açucar marelo			
9 açucar branco			
10 arroz			
11 capulana			
12 sabão			
14 mandioca seca			
16 mandioca fresca			

FICHA DO INQUERITO DO MERCADO

Dia _____
Mes _____
Mercado _____

Produto	Resumo das Razões pela Oferta Observada
PROD	P2
1 far. m. branco	
2 far. m. amarelo	
3 feijão nhemba	
4 feijão manteiga	
5 far. mandioca	
6 oleo de soja	
7 oleo de alg.	
8 açucar amar.	
9 açucar branco	
10 arroz	
11 capulana	
12 sabão	

FICHA DO INQUERITO DO MERCADO

Dia _____
Mes _____
Mercado _____

Produto	Resumo das Razões pela Oferta Pronosticada
PROD	P8
1 far. m. branco	
2 far. m. amarelo	
3 feijão nhemba	
4 feijão manteiga	
5 far. mandioca	
6 oleo de soja	
7 oleo de alg.	
8 açucar amar.	
9 açucar branco	
10 arroz	
11 capulana	
12 sabão	

FICHA DO INQUERITO DO MERCADO
NIVEL RETALHISTA
MERCADO CENTRAL OU OUTRO

Dia _____
Mes _____
Mercado _____

Produto	Oferta no Mercado	Razões pela Oferta Observada	Unidade	No. de Unidades na nossa medida	No. de ml na nossa medida	Preço unitario	Oferta em 4 semanas	Razões pela Oferta Pronosticada
	1 Muito 2 Reg. 3 Pouco 4 Nao Existe		1 unidade 2 kilo 3 litro	Responde so se P3 = 1	Responde so se P3 = 1		1 Muito 2 Reg. 3 Pouco 4 Nao Exist. 5 Nao Sabe	
PROD	P1	P2	P3	P4	P5	P6	P7	P8
1 far. m. branco								
1 far. m. branco								
1 far. m. branco								
2 far. m. amarelo								
2 far. m. amarelo								
2 far. m. amarelo								
3 feijão nhemba								
3 feijão nhemba								
3 feijão nhemba								
4 feijão manteiga								
4 feijão manteiga								
4 feijão manteiga								
5 far. mandioca								
5 far. mandioca								
5 far. mandioca								
6 oleo de soja								
6 oleo de soja								
6 oleo de soja								

CONTINUACAO ...

FICHA DO INQUERITO DO MERCADO
NIVEL RETALNISTA
MERCADO MUNICIPAL OU OUTRO

Dia _____
Mes _____
Mercado _____

Produto	Oferta no Mercado	Razões pela Oferta Observada	Unidade	No. de Unidades na nossa medida	No. de ml na nossa medida	Preço unitario	Oferta em 4 semanas	Razões pela Oferta Pronosticada
	1 Muito 2 Reg. 3 Pouco 4 Nao Existe		1 unidade 2 kilo 3 litro	Responde so se P3 = 1	Responde so se P3 = 1		1 Muito 2 Reg. 3 Pouco 4 Nao Exist. 5 Nao Sabe	
PROD	P1	P2	P3	P4	P5	P6	P7	P8
7 oleo de alg.								
7 oleo de alg.								
7 oleo de alg.								
8 açucar amarelo								
8 açucar amarelo								
8 açucar amarelho								
9 açucar branco								
9 açucar branco								
9 açucar branco								
10 arroz								
10 arroz								
10 arroz								
11 capulana								
11 capulana								
11 capulana								
12 sabão								
12 sabão								
12 sabão								

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FICHA DO INQUERITO DO MERCADO
NIVEL RETALHISTA
LOJAS

Dia _____
Mes _____
Mercado _____

Produto	Oferta no Mercado	Razões pela Oferta Observada	Unidade	No. de Unidades na nossa medida	No. de ml na nossa medida	Preço unitario	Oferta em 4 semanas	Razões pela Oferta Pronosticada
	1 Muito 2 Reg. 3 Pouco 4 Nao Existe		1 unidade 2 kilo 3 litro	Responde so se P3 = 1	Responde so se P3 = 1		1 Muito 2 Reg. 3 Pouco 4 Nao Exist. 5 Nao Sabe	
PROD	P1	P2	P3	P4	P5	P6	P7	P8
1 far. m.b.								
2 far. m.a.								
3 feij. nhemba								
4 feij. manteiga								
5 far. mandioca								
6 oleo importado								
7 oleo de alg.								
8 açucar amarelo								
9 açucar branco								
10 arroz								
11 capulana								
12 sabao								

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FICHA DO INQUERITO DO MERCADO
NIVEL ARMAZENISTA

Dia _____
Mes _____
Mercado _____

Produto	Oferta no Mercado	Razões pela Oferta Observada	Unidade	Preço unitario	Oferta em 4 semanas	Razões pela Oferta Pronosticada
	1 Muito 2 Reg. 3 Pouco 4 Nao Existe		2 kilo 3 litro 4 sc 50 k 5 sc 90 k 6 lt 10 lt 7 lt 20 lt		1 Muito 2 Reg. 3 Pouco 4 Nao Exist. 5 Nao Sabe	
PROD	P1	P2	P3	P6	P7	P8
3 feijao rhemba						
3 feijao rhemba						
3 feijao rhemba						
4 feijao manteiga						
4 feijao manteiga						
4 feijao manteiga						
13 grao milho br.						
13 grao milho br.						
13 grao milho br.						
14 mandioca seca						
14 mandioca seca						
14 mandioca seca						
15 arroz casca						
15 arroz casca						
15 arroz casca						

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FICHA DO INQUERITO DO MERCADO
NIVEL PRODUTOR

Dia _____
Mes _____
Mercado _____

Produto	Oferta no Mercado	Razões pela Oferta Observada	Unidade	Preço unitario	Oferta em 4 semanas	Razões pela Oferta Pronosticada
	1 Muito 2 Reg. 3 Pouco 4 Nao Existe		2 kilo 3 litro 4 sc 50 k 5 sc 90 k 6 lt 10 lt 7 lt 20 lt		1 Muito 2 Reg. 3 Pouco 4 Nao Exist. 5 Nao Sabe	
PROD	P1	P2	P3	P6	P7	P8
3 feijao nhemba						
3 feijao nhemba						
3 feijao nhemba						
4 feijao manteiga						
4 feijao manteiga						
4 feijao manteiga						
13 grao milho br.						
13 grao milho br.						
13 grao milho br.						
14 mandioca seca						
14 mandioca seca						
14 mandioca seca						
15 arroz casca						
15 arroz casca						
15 arroz casca						

NDAE WORKING PAPERS

1. Informing The Process of Agricultural Market Reform in Mozambique: A Progress Report.
2. A Pilot Agricultural Market Information and Analysis System in Mozambique: Concepts and Methods.

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