

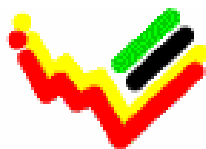


## **REPORT OF A CONSULTANCY MISSIONS TO THE NATIONAL STATISTICS INSTITUTE, DEPARTMENT OF NATIONAL ACCOUNTS, MOZAMBIQUE**

**Report from a short-term mission 7 – 25 July 2003**

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TA for the 'Bridging Support Program to Strengthen the  
Institutional Capacity of the National Statistics, Mozambique



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Instituto Nacional de Estatística

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## 1. EXECUTIVE SUMMARY

This is the Summary of the extended report prepared in Portuguese and contains its most relevant facts.

The objectives, expected results and tasks to be accomplished were to prepare documentation, and transfer knowledge to technicians of the Department of National Accounts on the software system built for the compilation of National Accounts of Mozambique.

The mission was organized in the department with help of the Scandinavian consultant, and included among others question and answer meetings with technicians of the department in which compilation issues were to be discussed and responses were to be given to other detailed questions by staff.

The mission was undertaken mainly in three working lines: identification, description and links of working files in the compilation system of national accounts, prepare a step-by-step guide to update national accounts in the current years and describe methodologies on selected topics.

The first line was carried out re-integrating all the system files which were dispersed and in different environments used by the technicians with no control from the supervisory level and caused errors in the integrations and reconciliation process. Annexes describing files and Figures describing links were prepared. The process was made with participations of technicians, the chief of department and in some cases the Scanstat consultant and the FMI consultant.

The step-by-step guide was prepared while it was been performed a real exercise of updating the integration and reconciliation process. For year 1999 revising some tables, for 2000 revising and correcting work already done in the basic compilation and the integration process, and 2001 revising the basic work. All the data processing was made with the staff direct participation.

Selected methodologies were prepared as a result of collective or personnel meetings with the staff. The collective meetings were organized to analyze problems identified and were of general concern. In these meetings the problems were analysed in a comprehensive method, starting from the system theory, the practice for a given data, adjustments and errors. For this process there was not time limit to answer all the questions. Working meetings with each technician were to work on problems identified by themselves, in these cases also analysis were made trying to cover the most important aspects of the working data, links, alternatives of solutions and consequence in other accounts or tables.

The main conclusion from the findings is that (i) the files defining the compilation framework should be simplified and otherwise improved to facilitate their use and understanding by staff, (ii) more technical support in the compilation of comprehensive national accounts, should be given, (iii) more training should be provided in particular to new staff, (iv) reading by all staff of important chapters of the SNA should be encouraged and (v) that the Handbook on National accounts Compilation for Mozambique, which was written in the past but not completed, should be updated and improved, so that it could be better used in the training of staff .

## **2. INTRODUCTION**

The consultant worked in the implementation of the SNA of Mozambique, in a UNDP project from 1997 to October 2000, in this mission had as a counterpart the director of Direcção de Contas Nacionais e Indicadores Globais.

In his work has been very important the cooperation received from all the persons involved in the national accounts. Special mention should be given to Mrs. Monica Magaua Chief of the Department and Mr. Claudio Cipriano who were very helpful and extended their working hours more than was expected in order to advance the work in progress.

## **3. ACTIVITIES DURING THE MISSION**

In meetings with the assistance of International Monetary Fund consultant on National Accounts, prior to the arrival of the consultant, the most urgent compilation issues were identified. These related mainly to the use of data, methodologies of National Accounts compilation and the classification systems used, and did not cover issues related to the compilation software. Below are presented some of the activities carried out during the mission.

Joint meetings were held with the National accounts technicians, and with participation of the Nordic and IMF consultants. They dealt with each technician's specific problems, and prioritized by him or her. The specific problems were analyzed both from a conceptual and compilation point of view. The sessions were repeated as many times as was needed to finish a specific task.

Questions and answers covered the compilation system, the updating process, the interpretation and evaluation of basic data and estimates based thereon. Also were explained the functions of the different work sheets, tables and how to use those in compilation process. In the lengthy discussions use was made of actual Mozambique data and estimates.

Specific questions that were dealt with included the analysis of agriculture products, livestock, coal, manufacturing products such as soft drinks, alcoholic drinks, textiles, electricity, and also analysis of government accounts, rest of the world accounts. The main problems identified and addressed were for new staff the lack of basic knowledge on national accounts, understanding of the concepts of indicators in prices and volume, understanding of formulas in tables and for experienced staff understanding of the process of making adjustments.

Starting from the main and basic concepts of each flow in the scheme, were explained the effects of unexpected changes in the indicators and the process of analyzing raw data and take decisions based thereon. Each session was as extensive as necessary to cover all questions, showing worksheets in progress and finalized, while stressing ways to identify mistakes and problems caused by carelessness in the use of data, formulas and adjustments.

Extensive sessions were also held with the chief of the department, and in some cases with the participation of IMF consultant, to implement the compilation process as whole, based on prior analysis by herself of the problems that had arisen in the integration and reconciliation process. Those problems were found but not understood

in the first integration process and generated at that time errors in the balancing of products. Other problems were also found out in other stages of the integration process, but most of them were caused by incomplete and wrong transfer of files between computers and incomplete transfer of experiences and practices from staff members who left to the new responsible technician..

A step-by-step guide to update the current National Accounts was prepared (see section 3.4 of the main report). It described the main tasks to be performed at each stage, and also the relationship of files. This step-by-step description may be incorporated in the Hand Book prepared in 2000.

Descriptions were prepared of some selected compilation procedures, based on problems that were raised during the meetings. They concerned among others trade margin, import adjustments, import duties adjustments, and preparation of basic data files.

An assessment was made of the structure of directories, files to store data and active links between files that define the working environment for the compilation of National Accounts. It was found that the system files were not centralized and updated on a permanent basis, as they should have been .

## **4. CONCLUSIONS AND RECOMMENDATIONS**

Below are summarized the findings with regard to use of the compilation software, capabilities of staff to carry out the national accounts compilation tasks and the state of the basic data used in the compilation.

### **Use of the compilation software**

The software system was designed to follow the logical structure of SNA compilation. Logical relationships between tables and accounts are made in a progressive and interactive process, in which estimates are compared with initial tables of basic data on a permanent basis; updating of the estimates requires the technicians' direct participation.

Some of the system' tables (worksheet by industries) are not used in their full potentiality, compilation is limited by the basic data characteristics used in the elaboration of the National Accounts, which are produced and collected in the commodity basis. As consequence the transactions of goods and services analysis is oriented on the product dimension in the detriment of the industry dimension. Only the Annual Survey of Enterprises, whose contents includes data on revenue and expenses which can be classified in intermediate consumption and categories of generation of income account, will permit the developing of the industry dimension. But this source is not still processed and is not available.

The source of most frequent mistakes were everyday operative tasks in the updating process in support of balancing products flows for the SUT, where technicians have the possibility of changing formulas and links to accommodate changes in data availability and quality. The work sheets are standard schemes, which also include basic formulas which should not be changed, including formulas that define the link between values, price indices and volumes, and elementary links with the data sources. It is in these

tables that technicians have to evaluate such data characteristics as type, quality and source of data.

It was found that the updating process experienced considerable delays as a consequence of a poor quality of basic tasks performed in the process of balancing the flow of goods and services, which in turn affected the consolidation, reconciliation and integration of the Accounts for the year 2000. Also the delay in the reconciliation and integration of the Accounts for 1999 was caused by limited staff experience. In other instances analytical tools were used in the compilation, but mistakes and biases were not identified at the proper moment for their correction. This situation was also due to lack of experience of staff.

When reviewing the final estimates, it was found that the most significant errors were a consequence of operative mistakes in the updating of formulas and incorrect adjustments made by technicians. Usually these mistakes are identified and corrected in time with the analytical tables, designed for this kind of verification, but their use requires practice and experience. There is no one in the Department who has carried out the complete process of consolidation and reconciliation of the system.

In order to facilitate supervision of the entire compilation process, checks should be designed to identify duplicated and out-of-date files,. The IT service should draft a program to centralize files (from date xx to date yy) and compare or list duplicated files automatically. Before there was a DOS program to store files; a new one was made by the Nordic consultant, which centralizes files but doesn't identify duplicated files.

### Capabilities of staff

The main problem emphasized repeatedly was the weak understanding by staff of the SNA. No one had finished reading the basic chapter of the SNA 1993 (CH. II Overview and CH. XV Input-Output, CH XVI Price and Volume Measures, etc.). They are lacking knowledge of the concepts used in the worksheets, the compilation methodology used in the updating process, and/or have inadequate knowledge of the data sources that they are responsible for.

### Staff of the National Accounts Department of INE-Mozambique

Functions	Studies	Experience	Responsibilities
1 chief of department, in charge of integration and reconciliation process	Statistician Master in Economics	6.5 years	In basic work, no experience in integration and reconciliation process
3 technicians	2 Teachers in math, 1 agronomist	4 to 6 years	Goods and services balance
2 technicians	1 Economist 1 Agronomist	13 and 15 months	Starting new responsibilities
3 technicians	1 Economist 1 Statistician 1 Agronomist	4 to 8 months	Goods and services balance

During the last two years, the department has suffered the loss of experienced technical staff, and incomplete transfer of knowledge and experience to new staff was mainly restricted to the consolidated accounts of the SNA. As the table above shows, of the nine technicians working at present in the SNA department of INE, only two have long

experiences in the compilation of National Accounts at the basic level, and two others who have more than one year experience, and the remaining ones are newly recruited technicians who at this moment have less than one year experience.

Of the three technicians with 4 to 8 months in the department, who are responsible for specific products, none finished a complete compilation job; they have limited themselves to revise formulas and verify links to basic data sources, without intention or knowledge to continue the updating process. Two technicians with one and a half year of experience transferred their tasks to other technicians, taking on other tasks with which they are trying to familiarize themselves.

At the moment of starting the mission, the working files were not organized in the layout designed for a normal process of updating the Accounts. This is a consequence of an incomplete transfer of responsibility between staff members who have left for study and others who should continue with the work.

In the current situation, the staff in the National Account Department is not able to produce reliable National Accounts figures without the permanent assistance of an experienced person; such assistance should be provided in the future.

In the current situation, there is no incentive or motivation for staff to perform better in their work. Those who work better receive more responsibility and those whose performance is less adequate are left with fewer tasks to worry about. There should be a system of incentives for better accomplishment.

Until now, there have not been enough human resources to distribute the tasks to be performed according to their ability. At this time it is feasible to distribute in a better way the different tasks according to the capability of each technician. There should be scheduled tests to evaluate their knowledge and experience.

### **Weakness of basic data**

The basic data used don't help to improve the estimates of the National Accounts. The sector reports that are used in the Accounts have inconsistent records of transactions. Among them, transport statistics show very high contributions to services, statistics of livestock have duplicated data of one year to the other, tables of the agriculture-livestock census have incomplete or incorrect titles. To these problems should be added the problem of late availability of information and also the dependence in data quality and timeliness on the Direção of Statistics Sectoriais and Empresariais (DESE) which is charged with the coordination and collection of data.

Data quality and timeliness of data produced by INE itself require an attitude of permanent analyses and search for logical and solid solutions on the part of technicians, but with personnel with limited knowledge and with little experience the expected results cannot be encouraging at present.

During the mission were analyzed with technicians specific parts of the compilation process of National Accounts and some were adapted to newly available data, specifically from the Agriculture Census. This support, however, won't be enough for the technicians to solve all problems and take adequate decisions on the use of data and indirect indicators. This would require additional technical support and training, particularly of new staff and would also require the updating of the HB, which is available, but requires improvements and updating.



## 5. APPENDIX 1. Persons Met

Mr. Joao Loureiro, President of Instituto Nacional de Estatistica  
Mr. Valeriano Levene, Vicepresident of Instituto Nacional de Estatistica

## 6. APPENDIX 1. List of Literature<sup>1</sup>

- PROCEDIMENTOS METODOLOGICOS NA ELABORAÇÃO DAS CONTAS NACIONAIS DE MOÇAMBIQUE, terminado em Julho de 1998, File <CNMET960>,  
•
- MANUAL DAS CONTAS NACIONAIS DE MOÇAMBIQUE, BASE 1996, prepared in 2000, Files of HandBook: <HBiiEsqCmp>, <HBiiEsqComA>, <HBiiEsqComB, HBiiEsqComC>.
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<sup>1</sup> These documents are available in Portuguese in the Departamento de Contas Nacionais and the Scanstat consultant.

## 7. APPENDIX 1. Programme for the Mission

DAY	MEETING	SUBJECT
1	Director, Chief of Department, Consultants, Scanstat, FMI	Coordination of the Mission
2	Director, Chief of Department, Consultants, Scanstat, FMI, staff	Workshop on SNA scheme presented by FMI consultant.
3	Consultants, Staff Director, FMI consultant	Balance of Services Evaluation of problems identified
5	Consultants, Staff	Balance of products (livestock, fishing)
9	Consultants, Staff	Trade Margin, analyzes in the process of balancing flows and indicators
15	Director, Scanstat consultant	Report Draft Revision

## 8. APPENDIX 4: Terms of Reference

### TERMS OF REFERENCE

Within the Scandinavian Bridging Support Program

for a short-term mission 7 - 25 July 2003

ON

### National Accounts IT Documentation

#### 1. Background

The Instituto Nacional Estadística (INE) has established a comprehensive system of National Accounts (NA) in the recent years. The focus in the construction stages has been on establishing the methodological framework and the gathering of the necessary statistical sources. An element of the Scandinavian program is to shift focus more towards consolidation of the obtained results and to continue the development into a stage of stable current production. This mission will be a part of this consolidation process.

#### 2. Main reasons for the mission

The existing IT-system of spreadsheets is very complex mainly because of the large number of files and the fact that the spreadsheets are linked together. Outflow of human resources from the National Accounts department due to resignations and transfers to other assignments of key persons leaves the department short of people skilled to operate the system. At the moment some areas of the compilation system is only known in overview by the staff. Due to this lack of human resources and the complexity of the system it has been increasingly difficult for the NA department to complete the NA compilations. To facilitate the future production and to ensure that sufficient knowledge is preserved in the NA department it is necessary to document the techniques in the existing system on a sufficiently detailed level to enable the staff to perform the day-to-day operations.

#### 3. Beneficiaries of the mission

The mission will primarily benefit the NA-staff at INE through increased knowledge of the appropriate and efficient procedures to use in the NA compilation. The beneficiaries in the long run will be the users of NA through improved regularity, timeliness and content quality of the National Accounts.

#### 4. Objectives of the mission

- Document the present IT-system of NA on an operational level.
- Transfer of detailed knowledge on the files and programs in the national accounts system.
- Educate the staff of the National Accounts in the functioning of the IT system.

#### 5. Expected results

- Written operational working instructions on how to use the National Accounts system of worksheets (cookbooks) organized according to the present areas of responsibility and the production process.

- List of identified valid files.
- Technical documentation on the valid macros in the NA compilation system.
- Increased knowledge in the NA department regarding the IT working environment.
- Drafted production schedule in overview for the full NA compilation process

**6. Work to be carried out by the consultant**

- Draw up guidelines and working procedures for the NA system of spreadsheets in cooperation with the NA staff and the Scandinavian consultant.
- Identify and describe the actual use of the file system in the production process of compiling annual national accounts.
- Draft a schedule of production ordered according to the working processes the technicians in the NA department are supposed to follow considering the functioning of the system of spreadsheets.
- Identify and document the macros used in the system of spreadsheets
- Perform Q&A sessions with the technicians in the NA department.
- Work as an advisor in the NA department.

**7. Agenda for the mission**

Work in the National Accounts Department.

**8. Tasks to be done by INE to facilitate the mission**

- Elaborate ToR for the mission
- Prepare and supply the consultant with necessary documents and information
- Supply good working conditions for the consultant

**9. Consultant and Counterpart**

Consultant: Antonio Lazo, INEI, Peru

Main counterpart: Said Dade

**10. Timing of the mission**

7 to 25 July 2003

**11. Report**

The consultant will prepare a draft report to be discussed with INE before leaving Maputo. He will submit a final draft to INE for final comments within one week of the end of the mission. Statistics Denmark as Lead Party will print the final version within 3 weeks of the end of the mission.

*These Terms of Reference were prepared by*

Day / / .....

*Approved by/in the name of the President of INE*

Day / / .....

