



STATISTICS
DENMARK



Statistisk sentralbyrå
Statistics Norway



Statistiska centralbyrån
Statistics Sweden

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Mission Report

Course on basic analysis and user-friendly presentation of statistics

From the 19th until the 30th of November 2007

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

Jan Erik Kristiansen

Dag Roll-Hansen



Instituto Nacional de Estatística

Jan Erik Kristiansen
Statistics Norway
Postbox 8131- Dep.
0033 Oslo
Norway
Tel.: +47 21 09 46 72
jkr@ssb.no

Dag Roll-Hansen
Statistics Norway
Postbox 8131- Dep.
0033 Oslo
Norway
Tel.: +47 21 42 92
roh@ssb.no

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List of abbreviations

CO	Scanstat Coordination Office in Statistics Denmark
Danida	Danish International Development Assistance
DKK	Danish Kroner
DSt	Statistics Denmark
EUR	European Euro
INE	Instituto Nacional de Estatística, Mozambique
INE-P	Instituto Nacional de Estatística, Portugal
MZM	Mozambique Meticais
NOK	Norwegian Kroner
Scanstat	Consortium between Statistics Denmark, Statistics Norway and Statistics Sweden
SCB	Statistics Sweden
SEK	Swedish Kronor
SSB	Statistics Norway
USD	US Dollars
ZAR	South African Rand

The general objective of the mission has been to give a course in analysis and user-friendly presentation of statistics. This was done by giving the participants some practice in making and interpreting tables and graphs, by giving them exercises to solve and to present the results to each other. Another focus was on quality of data and calculations, encouraging the participants to look critically at the statistics.

Also, the mission included a brief review and follow-up on earlier missions, commenting on drafts for the two publications: “Estatísticas e Indicadores Sociais” and “Mulheres e Homens em Moçambique“. These kind of publications ought to present statistics from both administrative sources and surveys.

Our overall impression is that there is still some room for improvements in the basic understanding of and presentation of statistics in many areas. We found quality problems in already published material (for instance the statistical yearbook). This challenge must be faced. This could be done in several ways. Some possible approaches to the problem might be:

- *To strenghten the system for quality control and approval of publication manuscripts*
- *To have more internal courses and on-the-job training, lead by experienced colleagues*
- *Making the producers/writers of the report more visible and responsible*
- *Dissemination is a professional activity, and by centralising this activity, people will accumulate knowledge and experience of the different aspects of the dissemination process*

2 INTRODUCTION

INE is producing a lot of information regarding the Mozambican society and has a considerable potential for presenting this information to a wide spectre of users. This mission has focused on ways to analyse and present information in a user-friendly way.

The mission also included a brief review and follow-up on earlier missions focusing on drafts for the two reports: “Estatísticas e Indicadores Sociais” and “Mulheres e Homen em Moçambique”.

The mission aimed at giving input to INE staff working with data analysis and presentation, e.g. by making tables and figures, analysing the results, and writing reports. The users of statistics will benefit from the mission.

The consultants would like to express our thanks to all officials and individuals met for the kind support and valuable information which we have received during the mission.

This report contains the views of the consultants, which do not necessarily correspond to the views of Danida or INE.

3 ACTIVITIES DURING THE MISSION

The main objective of the mission has been to give a course in analysis and presentation of statistics. The course has focused on analysis of tables and figures, answering the question what is important and what conclusions can be drawn.

The following issues have been discussed:

- construction of user-friendly tables and graphs
- key issues in report writing and presentation
- to *select* (between all the possible) numbers
- to compute relative numbers
- to *compare* numbers and point out differences, trends and tendencies
- to point out/to guide the reader: What is important here?
- to put into context
- to explain (the unexpected/ups and downs, etc.)

The training was done according to the ToR by arranging a 6-day course for approx. 20 people from INE and also some people from ministries (See list of participants in appendix 1) using material from various publications: INFOR, A Conjuntura Economica and Anuário Estatístico.

The main aspect of the course was to give the participants some practice in making and interpreting tables and graphs, by giving them exercises to solve and to present the results to each other. Another focus was on quality of data and calculations, encouraging the participants to look critically at the statistics.

The examples and contributions resulted in fruitful and interesting discussions about presentation of statistics. It is our impression that most of the participants had good knowledge of tools like Excel, but that there were some shortcomings when it comes to the basic understanding of statistics and statistical concepts and calculations (percentages, rates, etc.). There also seems to be some room for improvement when it comes to interpretation and analysis of tables and graphs. This is probably mostly due to lack of experience in this area.

The mission also included a brief review and follow-up on earlier missions focusing on drafts for the two reports: “Estatísticas e Indicadores Sociais” and “Mulheres e Homen em Moçambique“. These kind of publications ought to present statistics from both administrative sources and surveys. It is our impression that the new and revised versions of these reports will be much more user-friendly and interesting than the earlier versions.

4 RECOMMENDATIONS

Understanding and interpretation of tables and graphs is crucial to any statistical organization. The focus in writing reports ought to be on interpretation, explanation and presentation of statistical results. Training should preferably be organized as group work using real examples from INE and other producers. The experiences from this type of training are good according to the evaluation results from the workshop.

Organizing dissemination

How to organize the dissemination activities of INE is a strategic issue. Traditionally, publishing statistics has been the responsibility of the producing unit. This decentralized dissemination often results in different practices and routines.

This situation is not uncommon in statistical offices, but it often implies a lack of co-ordination and standardisation that makes it difficult to improve dissemination. Dissemination is a professional activity, and by centralising this activity, people will accumulate knowledge and experience of the different aspects of the dissemination process. A certain centralisation of the production line will also relieve the statisticians of some of the “burdens” of publishing and give them more time to concentrate on their main job; to produce reliable and valid statistics.

It is therefore recommended that statistical organizations establish a separate unit responsible for *all* dissemination of statistics and information. The responsibilities of such a unit should (depending on resources and staffing) be to...

- publish and inform about statistical results
- establish and maintain good relations with the media
- give advice in all information and dissemination matters

Enhancing quality systematically

We will present some possible approaches to enhance quality systematically:

System for quality control and approval of publication manuscripts

The concept of quality management has been introduced at INE. A very practical approach to quality management could be a systematic review of publications before printing to ascertain improved presentation quality (presentation techniques, data quality, analysis and explanations, etc). A recommendation is to introduce a systematic approach with a group of independent staff members (or even users?) who are given the task to go through the publications to assure that they are user-friendly and correct.

Cooperation with the ministries

INE is publishing information from different ministries, without having the possibility to control or influence the quality of the data. The tables INE receives from the ministries sometimes contain information that needs more

quality control. Publishing data with errors is devastating to the reputation of any statistical institute. INE must decide either to take active part in the quality control of the data or reserve the right not to publish tables that appear to contain information that is not correct.

Making the writer responsible

Presenting the name of the author clearly visible may increase their motivation to produce a high-quality product. This will give them more credit for a good product, and it will make them more open to criticism. The name of the author should be presented on the front page or in relation to the chapter that he or she has written.

The competence in analysis has increased as a result of the course. This ought to lead to increased responsibility. This is relevant both for cooperation with the different Ministries regarding collection of data and in relation to analysis and publication of data.

Further training

Institutional competence is the collective knowledge in the organization, what we know as a group. It implies that knowledge that is important to the organization should be held by a sufficient number of people to enable it to train their own people. This is a keystone in institutional competence building. If an institution is able to train its own people, it can give targeted and cost-effective training. Internal courses and on-the-job training can contribute to this. The basic challenge is to have two or more people adequately qualified in the most important areas. Then the tasks can still be solved when an employee is leaving the organization.

The planned Training Centre can give the INE staff insight in practical approaches to solve tasks. This is often best done by having them attend relatively short courses related to their tasks. The knowledge needed is often based on sharing experience on practical production of statistics and working routines. Such training could be given by the planned training centre. Such a centre can do training both in the Headquarters and in the Provincial Statistical Offices. Hence, portable equipment may be an advantage.

Training in Basic Analysis and User-friendly Presentation, Understanding of Statistical Quality, analysis in SPSS and other computer programs like the Microsoft Office-programs are examples of courses that are often useful for a producer of statistics. Many employees have a thorough theoretical education and long experience in making statistics. In many areas the INE have sufficient knowledge to train own employees.

A mapping of existing competence and skills among INE staff, and the need for additional training is currently may be useful for the planning of further training. It can be an important base for identifying the need for training and potential trainers.

It is also necessary to make the employees use the newly acquired skills at once they return from the course. Otherwise the knowledge will be forgotten and the training may be wasted.

What counts at the end of the day is what we know as a group and our ability to maintain and develop the knowledge within the INE.

APPENDIX 1. Persons met

Azarias Nhanzimo	Director DESE
Julía Cravo	Scanstat consultant
Laura Gomes Duarte	DEMOVIS
Dionísia Godiva Khossa	Programadora

Other people met:

Fatima Zacarias	INE director of Demographic and Vital Statistics
Lars Carlsson	Team leader of the Scanstat resident advisors
Destina Uinge	Director of Directorate of Integration, Coordination and External Relation
Isabel Novela	Scanstat project secretary

List of participants at the course:

INE:

DCNIG
Mónica Magaua
Cacilda Boa
Felicidade Pires
Ernesto Samo

DESE
Marcelo Amós
Delfina Cumbe
Cirilo Tembe
Ernesto Hlunguana
Jorge Chemane
Adriano Matsimbe
Remígio Bernabé
Afonso Uate
Alice Machavane

DICRE
Luis Pedro
Filipe Laranjeira Langa
Justino Seita de Sá Consolo
José Luís Machava

Delegação Cidade Maputo:

Alexandre Bila

Delegação Província Maputo:

Evaristo Manhenje

ODINEs:

Ministério de Trabalho:

Arlindo Manjate
Anibal Machili

Ministério das Pescas:

Carlos Calenga
Flora Simao

APPENDIX 2. List of Literature

Anuario Estatístico, 2006
O Sector Informal in Mocambique, 2006
A Conjuntura Economica
Estatísticas e Indicadores Sociais (Draft)
Mulheres e Homens em Mocambique (Draft)

Various reports from INE and other producers within SEN

APPENDIX 3. Programme for the Mission

Activities during the mission

19th of November

Meetings with the Cirilo Tembe and Director Azarias Nhanzimo. The aim was for the consultants to learn about the expectations of the course, the relevant needs at INE and the current situation in general.

Meeting with the Social statistics division (DEMOVIS) on the finalization of the pamphlet *Mulheres e Homems em Moçambique*.

20th of November

Workshop at the Portuguese school. General introduction to user-friendly presentation of statistics.

It focused on analysis of tables and numbers, as well as the importance and relevance of the statistical information.

8.00-9.00 Introduction and presentation
9.00-10.00 User-friendly dissemination. What does it mean?
10.00-10.30 Break
10.30-11.30 Quality in statistics
11.30-12.30 Tables – how to make them user-friendly
12.30-13.30 Lunch-break
13.30-14.30 From table to graph
14.30-15.00 Expectations and publications of the participants

21st of November

Workshop continued at the Portuguese school. Assignments were assigned to the participants.

The INFOR-report was addressed as well as material published on the INE website and other documents.

8.00-8.30 Review of yesterday and presentation of participant material
8.30-10.00 Working with graphs
10.00-10.30 Break
10.30-12.30 Working with graphs (Cont.)
12.30-12.40 Short break
13.30-14.45 Presentations and group discussions
14.45-15.00 Summing up

22nd of November

Workshop at the Portuguese school continued.

8.00-9.00 Theory on analysis
9.00-10.00 Presentation and review of INFOR
10.00-10.30 Break
10.30-12.30 Presenting from INFOR. Group work
12.30-12.40 Short break
12.40-13.45 Presenting from INFOR. Group work
13.45-14.00 Summing up

23rd of November

Census data; Presentation of preliminary results.

26th of November

Workshop at the Portuguese school continued. Reporting on assignments and group discussions.

8.00-9.00 Presentations continues from Friday
9.00-10.00 Tables in the yearbook (group work)
10.00-10.30 Break
10.30-11.00 Tables in the yearbook (cont)
11.0-14.00 Making a press release from INFOR

27th of November

Workshop at the Portuguese school continued.

8.00-9.30 Anuário – table Q2.3.5; percentages and make graph (group work)
9.30-10.00 Presentations
10.00-10.30 Break
10.30-12.00 Anuário – figure G.2.7.1 and population figures from table Q2.1.4; calculate relative numbers (group work)
12.00-12.10 Short break
12.10-13.10 Time series (Q 3.7.8)
13.10-14.00 Conjunturas

28th of November

Workshop at the Portuguese school continued.

8.00-9.45 Conjuntura
9.45-10.00 Percentages vs percentage points
10.00-10.30 Break
10.30-12.10 Make a presentation from a table relevant for your work
12.15-12.25 Short break
12.25-13.40 Presentations
13.40-13.55 Summing up
13.55-14.00 Closing

29th of November

Working with DEMOVIS on the finalization of the pamphlet *Mulheres e Homems em Moçambique* and *Estatísticas e indicadores sociais*.

30th of November

Working with DEMOVIS on the finalization of the pamphlet *Mulheres e Homems em Moçambique* and *Estatísticas e indicadores sociais*.

Final meeting addressing the experience of the course and further work, with Cirilo Tembe, Azarias Nhanzimo, Lars Carlsson, Júlia Cravo and the consultants.

All presentations are made available for INE.

APPENDIX 4. Terms of Reference

TERMS OF REFERENCE

within the Scandinavian Technical Assistance to strengthen the Institutional Capacity of SEN/INE, 2003-2007

Workshop on Presentation and Analysis of Statistics using material from economic statistic

Background

Considering that INE and the SEN have as an objective the use of statistical information by the decision makers and provide quality information to users and that SEN interacts with many data users and suppliers as well as national or international cooperation partners, being important to highlight:

- INE has as Mission to meet timely the user's needs of information and to promote a national statistical culture.
- The value established by the INE among others is to provide the users with the information they require, how and when they require. Users are our only reason for existing and being of the SEN.
- Being user oriented it is mandatory for INE to meet the information needs for monitoring national development plans, absolute poverty reduction, good governance, environmental development. Information with a provincial, district and gender disaggregation, among others.

Considering the aspects above it is relevant to organize a Course on Presentation and Analysis of Statistics. This course will focus on presentation of statistics and analysis of data.

Objectives of the mission

The general objective of the mission is to give to INE staff a Course on statistics analysis,.

The course should focus basically on the analysis of tables and numbers, and to give perspectives on the importance and relevance of the statistical information, allowing improvements on the tables that will be produce by INE in the near future. It will focus on the following subjects:

- ▶ construction of tables and graphs
- ▶ key issues in report writing
 - to select (between all the possible) numbers
 - to compare numbers and point out differences, trends and tendencies
 - to point out/to guide the reader: What is important here?
 - to put into context
 - to explain (the unexpected/ups and downs, etc.)

The main objective is to help INE staff to produce reports of interest for the society.

A second and special objective of the mission is to assist DEMOVIS on the finalization of the pamphlet *Mulheres e Homens em Moçambique*. A total of 2 days will be used for this.

Further work

This mission will help INE prepare a report on a statistical issue. As part of the mission, the consultant should suggest a training plan for increasing INEs capacity for analyzing and presenting data.

Benefactors of the mission

The benefactors of the mission will be INE Staff and at the end all INE users.

Consultants and counterpart

Main counterpart at INE: Azarias Nhanzimo

Consultants: Jan Erik Kristiansen e Dag Roll-Hansen

Assistant teacher:

Participants: A total of 25 people will attend the course. Staff from Directorate for Economic and Business Statistics (DESE) and also from the provincial delegations of INE (DPINES).

Necessary preparations:

At INE:

- To chose statistics to be used as examples.
- To identify and allocate time for participants for the course, preferably with working knowledge in English. It is very important that the consultant can communicate with most participants in English, although not all necessarily has to speak it fluently. If this is not fulfilled, a translator must be provided.

By the consultants:

- To familiarize with the statistics to be used as an example.
- To prepare the course.

Timing of the mission

The mission should take place from 19 - 30 November 2007.

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. The structure of the report should be according to Danida-format.

The Counterpart has to ensure that the final printed report is translated into Portuguese according to the existing procedures.

These Terms of Reference were prepared by

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Approved by/in the name of the President of INE

Day / /