



STATISTICS
DENMARK



Statistisk sentralbyrå
Statistics Norway



Statistiska centralbyrån
Statistics Sweden

MZ:2010:05

Statistics in Action (STAC)

Report from a mission to the National Statistical Institute of
Mozambique, Maputo Mozambique

19– 30 April, 2010

within the frame work of the

*AGREEMENT ON CONSULTING ON
INSTITUTIONAL CAPACITY BUILDING,
ECONOMIC STATISTICS AND RELATED AREAS*

between

INE and Scanstat

*Gunilla Davidsson
Pernilla Andersson*



Instituto Nacional de Estatística

Gunilla Davidsson
Statistics Sweden
Karlavägen 100, Box 24 300
SE 104 51 Stockholm, Sweden
gunilla.davidsson@scb.se
+46 8 5069 4397

Pernilla Andersson
Statistics Sweden
Klostergatan 23,
SE 701 89 Örebro, Sweden
pernilla.andersson@scb.se
+46 19 176 757

CONTENT

1	Resumo	3
1	Executive Summary	3
2	The STAC course	3
3	Outline of the course	4
4	Results achieved	4
5	Recommendations for future STAC courses to be held by Escola Nacional de Estatística	5
6	Acknowledgements	6
	Appendix 1. Phases of a survey	7
	Appendix 2. List of Literature	8
	Appendix 3. Schedule	9
	Appendix 4. Material distributed	10
	Appendix 5. Terms of Reference	11

1 Resumo

Âmbito da missão Um curso de formação Estatísticas em Ação (ESTAC) foi organizada conjuntamente pela Statistics Sweden e a Escola Nacional de Estatística do INE. O curso começou em 20 de Abril de 2010 e foi concluído em 30 de Abril. O foi realizado nas instalações da Escola Nacional de Estatística em Maputo e teve participantes do INE, mas também de outras instituições em Maputo.

Consulte o Apêndice 1 O objetivo de um curso STAC é de descrever e realizar todas as fases de um inquérito na ordem correta. Em particular, demonstrar como as diferentes fases de uma pesquisa estão ligadas. A fim de apresentar o quadro completo, uma pesquisa em pequena escala é realizada durante o curso e a teoria estatística e as problemas práticas são discutidas no contexto da pesquisa atual.

1 Executive Summary

Scope of the mission A Statistics in Action (STAC) training course was jointly organised by Statistics Sweden and Escola Nacional de Estatística at INE in Maputo during April 2010. The course started on April 20 and was concluded on April 30. It was held at the premises of Escola Nacional Estatística in Maputo and it had participants from INE, but also other organisations in Maputo.

See Appendix 1 The purpose of a STAC course is to describe and carry out all phases of a survey in the proper order. In particular, it demonstrates how the different phases of a survey are connected. In order to present the full picture, a small scale survey is performed during the course and the statistical theory and practical problems are discussed against the background of the actual survey.

2 The STAC course

As mentioned, a small survey was carried out as a part of the course. The subject for the survey in Maputo in 2010 was “Training Needs at INE”. The STAC course is carried out over a period of two weeks, with classes for about four hours every day. Given the time constrains; the course survey has to be kept simple. However, in the STAC course it is also possible to use references to national surveys when discussing aspects that otherwise do not appear in the course survey. For example, in the course survey the sampling was conducted as simple random sampling (SRS), while the national surveys have stratified multi-stage sample design.

There were 29 participants who completed the course and thereby received a certificate. The participants of the STAC course in Maputo 2010 are listed in Appendix 2. All participants, with the exception (due to illness) of a few persons, who started the course also completed the course. The facilitators from Statistics Sweden were Ms. Gunilla Davidsson and Ms. Pernilla Andersson. The teachers from INE were Mr. Carlos Creva, Mr. Elísio Mazive and Mr. David Chefe.

The teaching method used in a STAC course may be described as learning by doing. Classroom lectures and group working sessions were mixed during the course. The theoretical background to each stage in the survey process was presented in short classroom lectures. The practical work was mainly done in small groups, but also by general discussions among the participants. The separate groups often worked on different material at the same time, e.g. in order to complete the questionnaire or to analyse the survey results. However, important features of the work were discussed and decided with all participants present.

The classroom lectures were given in English, if a lesson was given by Gunilla Davidsson, with interpretation to Portuguese, otherwise in Portuguese. A substantial share of the participants was able to grasp English, but all lectures and discussions were interpreted into Portuguese in order to make it possible for all participants to engage in the discussions.

3 Outline of the course

The STAC course has two main parts. During the first week the course covered the planning stage, with frame identification, sampling and design and testing of a questionnaire. After the questionnaire was finalised the participants carried out the data collection. The data was collected by face-to-face interviews. During the second week the focus was on data processing, tabulation, analysis of results and production of the report. The final report was printed and the main survey results were presented for the client during the final day of the course. A timetable, which roughly reflects the actual realization of the course, is found in Appendix 3.

4 Results achieved

The STAC course was completed in accordance with schedule. All phases of a survey were addressed during the course. The participants were very engaged and they greatly contributed to the successful outcome of the course. Furthermore, the attendance of the participants was admirable throughout the course. After the completion of the course, all participants are acquainted with all the phases of a survey. They are thereby prepared to work with an actual survey.

Material of various kinds was used in the course. Material of a general character was provided to the participants on a USB memory stick after the completion of the course. The material provided is listed in Appendix 4. In addition, some material was prepared and used during the course, such as the frame for the survey, the tabulation plan, and so forth. The main results of the course survey are the survey report and the questionnaire. These are not included in the present report, but may be obtained from the Escola Nacional de Estatística at INE.

After the course the participants were asked to make an evaluation of the course by answering a questionnaire, collected by Escola Nacional Estatística at INE. The results of the evaluation indicate that the participants were very pleased with the course.

5 Recommendations for future STAC courses to be held by Escola Nacional de Estatística

A few recommendations

We would like to give a few recommendations about future STAC courses conducted by Escola Nacional de Estatística. Due to unlucky circumstances this course was not fully conducted as planned. That is one reason why we would like to give a few recommendations. Another purpose is the opportunities given when the STAC course is not depending on a time schedule taking into consideration participation of foreign facilitators.

The concept of a STAC course

It is important that both teachers and participants agree with the concept of a STAC course – a very practical course where the outcome is depending on the activities of the participants. The purpose of the course is to give the participants an overview of all practical steps usually taken when conducting a survey. Though the course also has theoretical parts, these are supposed to give brief complementary views and not provide deeper knowledge. If you as well would like to give the participants deeper knowledge in these parts you need to increase the time schedule with more days. But preferably you have other courses for giving deeper knowledge in these parts.

A written letter from the client

It is also important to have a written letter from the client presenting the task. What is to be investigated? Which is the population? It is very good if the client is able to visit the course the first day of the course and give the participants opportunity to ask more detailed questions about what the client actually have in mind to investigate. The participants ought to be encouraged to ask questions. The client will also have to attend on the last day of the course to receive the report.

Two or three weeks?

If you keep the course duration of two weeks, you have to thoroughly scrutinize the time schedule and the course description to find out if there are parts that will need more time according to your experience at INE¹ and if there are parts that are not quite applicable to how surveys are conducted at INE. It is also a good thing if you adapt some of the practical parts to the ways you usually perform or solve tasks at INE, e.g. method of sampling, special rules of conduct when working as an interviewer and so forth.

A practical or theoretical course?

If you want to keep the principal idea of a practical course you should not have theoretical parts lasting longer than an hour at the most. You also have to be very strict in keeping the time schedule (if a STAC course lasting two weeks). You will immediately get in “trouble” if you change the time schedule too much.

Two or three weeks?

But if you are not restricted to let the course duration be two weeks, we would like to emphasize the idea of prolonging the course with another week to improve the possibility to have proper time for data collection. If you spend more time on data collection it is possible to have subjects of investigation not only as course subjects, but also as real subjects, with outcome useful for INE. In the short two week version of STAC there is very little (or no) time for cognitive testing of the questionnaire, interviewer training, data collection and data entry. But with another week you would get sufficient time for these

¹ In this actual course this was solved by giving the participants the choice to attend a third week of the course. Quite a few opted for this offer, taking the opportunity to learn more and have their questions further explained.

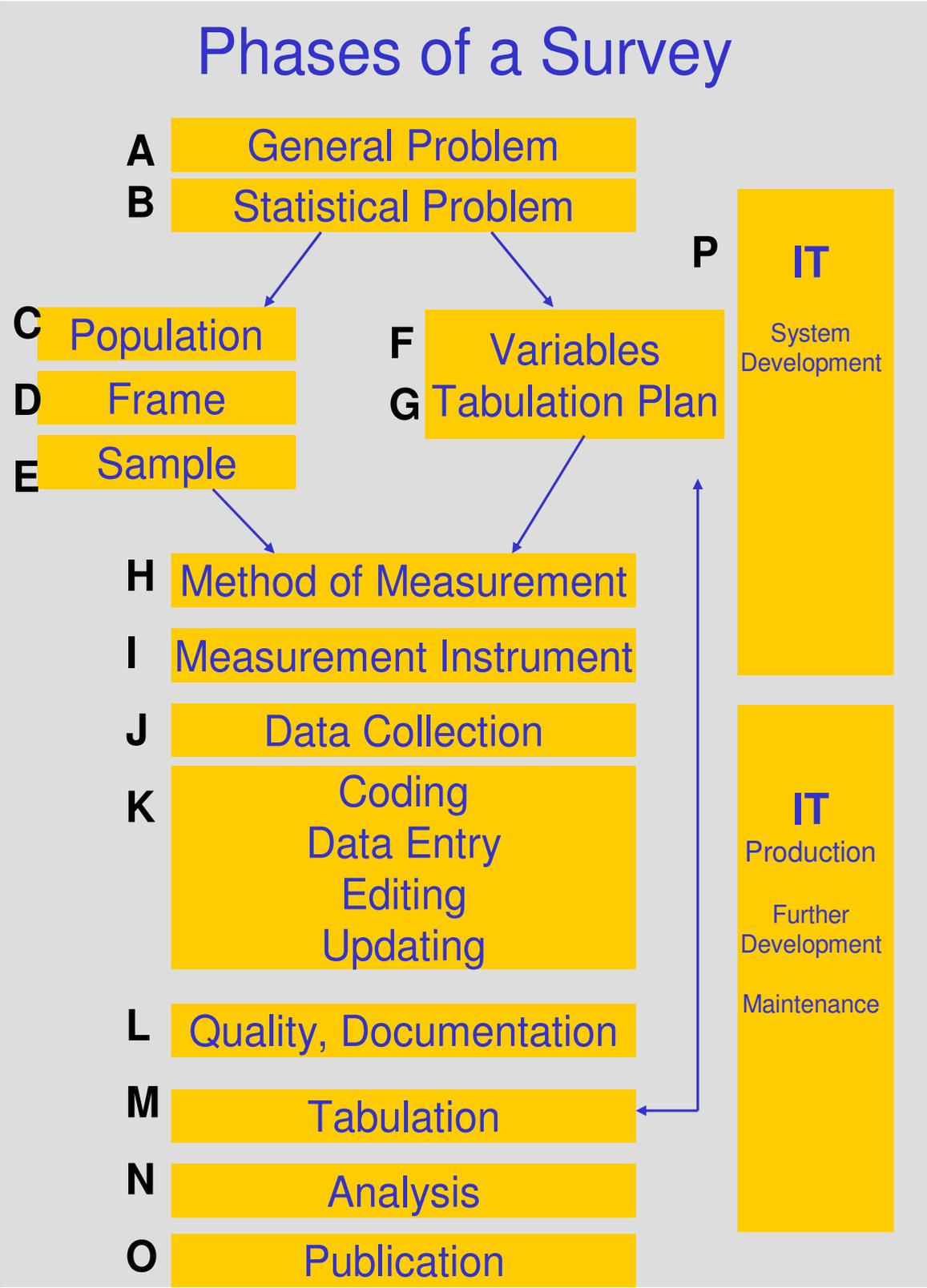
important parts as well. If the participants make 20-25 interviews each, you will have a sample size permitting a good analysis and useful results. If you choose to have three weeks you should also try to broaden your sample frame outside INE to permit a larger sample. When investigating subjects of common interest for not only INE but also ministries and organisations, you could include them as population and get a larger sample frame.

6 Acknowledgements

We would like to thank Mr Lars Carlsson, long-term adviser for the project in Mozambique, for the support given to this course. We also thank Mr. Zefanias, our interpreter, and Ms Leonette Mabjaia and her staff at Escola Nacional Estatística for all their help with practical matters throughout the course. Furthermore, we thank the Director of Administration and Human Resources (DDARH) on behalf of the President of INE and the Adviser to the President on matters of training for presenting the certificates to the participants. We also appreciate that several guests from INE were able to attend the presentation of the survey results.

Thanks to all

Finally, we would like to thank the participants for their dedication during the course.



**STAC, Maputo, INE, Escola Nacional Estatística
Abril 2010**

Participants

1	Amândio Egas Mussagy	BANCO DE MOÇAMBIQUE
2	Fernando Elizar Mabote	DPINE MAPUTO CIDADE
3	Narciso G Maciel	DPINE MAPUTO CIDADE
4	Eva Ester Inguane	DPINE MAPUTO PROV.
5	Sónia Nobre	IDPPE
6	Abdulai Dade	INE
7	Benvinda Remigio	INE
8	Calado Pereira Fijamo	INE
9	Elias A Mathe	INE
10	Elvino Nhantumbo	INE
11	Fábio Alexanrde Pinto	INE
12	Filipe Uamba	INE
13	Geraldo Timbe	INE
14	Isaura Muchanga	INE
15	Maria Carlota Mondlane	INE
16	Mauro Chumaio	INE
17	Mónica Manchonhanne	INE
18	Nelson Buque	INE
19	Nelson Nhantumbo	INE
20	Paulo Matusse	INE
21	Simão Sábado	INE
22	Stélio Napica de Araújo	INE
23	Teixeira Mandlate	INE
24	Crimildo Marcelino	MCT
25	José Xavier Pereira	ME
26	Ricardo Oficio	MINAG
27	Vicente Eduardo	MINAG
28	Cesarino Jaime Tivane	MISAU
29	Hélia Zandamela	MISAU

STAC – Timetable for the main course

(Variations did occur)

- Day 1** Presentation of the course and the survey
Role of statistics
Phases of a survey
The course survey
Some fundamental concepts: Population. Sampling frame
Variables
- Day 2** Sampling – ideas
Sampling - methods
Use of sample data
Tabulation plan
- Day 3** Measurement methods
Questionnaire design
- Day 4** Information to respondent
Technique of interviewing
Interviewer training
Data collection, part I
- Day 5** IT – planning and preparations
Data collection, part II
Data entry
- Day 6** Data processing
Non response
Raw tables
- Day 7** Data processing and IT preparations
Choosing tables and charts
Diagrams
Tables
- Day 8** Analysis of data and verbal comments
Writing report.
- Day 9** Presentation of uncertainty
Confidence intervals
Finalising report with
verbal comments
- Day 10** Quality concepts.
Preparations and presenting the results for the client
Course evaluation

Material distributed on USB memory stick

Teaching material:

This material is produced at Statistics Sweden, unless stated otherwise

- 1 Role of statistics
- 2 Phases of a survey (Same as Appendix 1 in this report)
- 3 What is a survey (by Fritz Scheuren, ASA pamphlet, 2004, 67 pp.)
- 4a Some fundamental terminology
- 4b Some statistical terms
- 5 Sampling methods
- 6 Checklist for designing questionnaires
- 7 Interviewer's manual
- 8 Excerpt from "Graphing Statistics and Data" (by Wallgren. Wallgren, Persson, Jorner and Haaland, Sage Publications 1996)
- 9 Quality concepts for official statistics
- 10 Design your questions right

Material produced in the course:

- 11 Questionnaire
- 12 Survey report



INSTITUTO NACIONAL DE ESTADÍSTICA

March 3, 2010

TERMS OF REFERENCE

for a Short-term Mission to carry out a course in
Statistics in Action (STAC)

19 – 30 April, 2010

within the

AGREEMENT ON CONSULTING IN INSTITUTIONAL CAPACITY BUILDING, ECONOMIC STATISTICS AND RELATED AREAS BETWEEN INE AND SCANSTAT.

Consultant:

- The trainer Gunilla Davidsson and the trainee Pernilla Andersson, both from Statistics Sweden.

Counterparts:

- The President of INE: Mr Loureiro - or his representative - as the customer of the survey to take place within the course
- The acting head of the National School of Statistics: Ms Leonette Mabjaia
- The training coordinator at INE: Ms Ana Paula Jamboce
- The two specialists on statistical processes at INE that also will work as trainees and during the course with the aim to be resources for future courses
- All the about 25 trainees in the course

1. Background

One major component in the technical assistance to INE is to carry out competence development activities so as to contribute to a larger grade of capacity and in a longer run to develop competence for self-development. INE's specific Plan for Human Resource Development details a strategy for this and lists various activities to take place during the period. The foundation of the new National Statistics School gives further opportunities to use this course to strengthen statistical competence within INE, ODINEs and other producers of statistics as well as the heaviest users of statistics produced.

Three courses have so far taken place: [MZ:2005:14; STAC-course - Statistics in Action](#), [MZ-2003-25: STAC Statistics in Action, a course by Birgit Henningsson, Tor Bengtsson and Birgitta Edberg](#), [MZ-2003-09: Statistics in Action by Gunilla Davidsson, Tor Bengtsson and Per Cronholm](#). It is now time for a fourth course.

2. Main Reasons for the Mission

The purpose of the Statistics in Action Course (STAC) is to present and carry out all the steps in a work process that constitutes a survey in the proper order and to demonstrate how the different phases of a survey are connected. In order to present the full picture, a small-scale survey is performed during the course and the statistical theory and practical problems are discussed against the background of the actual survey.

3. Beneficiaries of the Mission

The mission will primarily benefit the participating staff at INE, ODINEs and other institutions. The National Statistics School, that will have this course on its standard repertoire. The beneficiaries in the long run will be the users of National Official Statistics through improved regularity, timeliness and contents quality of the production.

4. Objectives of the Mission

- To carry out a well planned STAC course
- To train some of the INE staff as future STAC trainers

5. Expected Results

A more competent staff, plus the possibility to have INE/ENE give the STAC courses in the future.

6. Work to be carried out by the Consultants

See point 4 above.

7. Agenda for the Mission

Two weeks of course, 4 ½ hours per day - according to the timetable for the course.

8. Tasks to be done by INE to facilitate the Mission

A checklist has been prepared by Statistics Sweden based on experiences from earlier STAC, not only in Mozambique. The complete list is enclosed to the ToR. Main contact at Statistics Sweden is Gunilla Davidsson gunilla.davidsson@scb.se.

Tasks that require specific attention to prepare for the course are;

1) A *time* must be set for the course. Two full weeks are needed (ten working days), although the course will only run for about 4½ hours each day, including a 30 minute break about halfway through.

2) A *topic* must be selected for the course. The topic should correspond to an authentic need for information on the part of a *client*.

3) A *frame* must be available in advance. The frame would normally be a list of all staff, all persons included in the population. If persons outside the INE are included in the population, the frame for them will require special attention.

4) The *course participants* will be identified by INE. A suitable number is 20-25 persons.

5) The *future STAC trainers* have to be identified and given permission to participate.

6) The necessary *documentation and learning material* has to be translated from English to Portuguese.

Apart from this, there should be specific preparatory attention to the contents of the course to have it tailor-made to INEs requirements as much as possible. One aspect to be mentioned is the quality components of each phase of the work.

As in all other courses at ENE there will also be a short update on HIV/AIDS prevention and mitigation. This is expected to take less than an hour and will be prepared by INE/DARH and ENE.

9. Timing of the mission

See above. There should be a final preparatory meeting on the Sunday before the course with the consultants, the head of the National School of Statistics, the INE training coordinator and the Scanstat team leader.

10. Source of Funding

Project: MPD008-04-MPD-1998-0015 – Recursos Humanos
PAAO10 – 4.1.2 Escola Superior de Estatística

11. Report

The consultant will prepare a draft Technical Report to be discussed with INE before leaving Maputo. A final draft will be submitted to INE for final comments within one week of the end of the mission.

Approved by Leonette Mabjaia INE/DARH/ENE

Day / /

Confirmed by Luis Mungamba, Contract Manager for the INE – Scanstat Contract

Day / /