



## Quality Management

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

*2 to 12 March 2010*

within the frame work of the

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

between

*INE and Scanstat*

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## List of abbreviations

CCAINE	Conselho Consultivo Alargado do INE
INE	Instituto Nacional de Estatística, Moçambique
DAHR	Direcção de Administração e Recursos Humanos
DCI	Direcção de Censos e Inquéritos
DCNEE	Departamento de Contas Nacionais e Estudos Económicos
DCNIG	Direcção das Contas Nacionais e Indicadores Globais
DICRE	Direcção de Integração, Coordenação e Relações Externas
DMA	Departamento de Métodos e Amostragem
DPC	Departamento de Preços e Conjuntura
DCPRE	Departamento de Coordenação Planeamento e Relações Externas
DQAF	Data Quality Assurance Framework
DRH	Departamento dos Recursos Humanos
ENE	Escola Nacional Estatística
GDDS	General Data Dissemination Standard
IMF	International Monetary Fund
NQAF	National Quality Assurance Framework
SEN	Sistema Estatístico Nacional
STA	Short Term Advisor
TOR	Terms of Reference
TQM	Total Quality Management

## 1 EXECUTIVE SUMMARY

The overall objective of the mission was to give an updated overview on how different quality management systems work, to help transforming these from theory to INE practice. Coordination of quality work is closely linked to planning, and input on planning and monitoring routines was also provided.

The main content of the mission was meetings and discussions with DICRE management (counterparts), including other people if needed. Answers to questions received were also given by presentations and written input. This report provides a summary.

The main conclusions are:

- INE should not bother too much about the selection of *one* specific quality framework. The important issue is the implementation. Use of Carta Africana will assure ownership. This does not exclude use of the IMF system DQAF for information on statistics included in the GDDS. But the distinction between *quality of products and processes* like in the draft for a NQAF might be convenient for many purposes.
- The most relevant quality tools for INE to implement are probably quality indicators, simple user surveys (for example among major users) and quality reports, possibly based on self-assessments (inquéritos de qualidade; examples already exist).
- INE should use a business process model to assist description and documentation of processes, as well as supporting standardisation.
- Link to and support from top management for quality work is crucial. Quality coordinating activities should be included in the normal planning process; with dedicated resources. Quality reporting should be integrated in the normal monitoring reports. The management must demand and follow up indicators and quality reports.
- Performance indicators provide a link between quality and planning, and facilitate result management. Such indicators should be developed and included in plans and reports.
- Streamlining the system of planning and monitoring means ensuring consistency of strategies and all plans and follow-up reports throughout the organisation. Plans do not be as detailed on a high level as on lower levels. There must be a balanced between plans and follow-up reports.
- Planning and monitoring have its costs, and one should be aware not to plan more than needed for the main purpose: To provide and allocate resources.
- Quality training should be integrated in normal training programs such as introduction courses for new employees. However, separate courses on quality management should also be considered. Example of the content of such a course is given.

### *Sumário em Português*

O objectivo geral da missão foi dar uma visão actualizada sobre como os diferentes sistemas de gestão da qualidade trabalham, para ajudar a transformar esses sistemas da teoria para a prática do INE. A coordenação de trabalho de qualidade está intimamente ligada ao planeamento. Input em planeamento e rotinas de monitoria também foi fornecido.

O conteúdo principal da missão foi encontros e discussões com gestão da DICRE, incluindo outras pessoas. Respostas às perguntas recebidas foram dadas também por apresentações e contributos escritos. Este relatório apresenta um resumo.

As principais conclusões são:

- INE não deve se preocupar muito com a concepção de um enquadramento de qualidade específico. A questão importante é a implementação. Uso de Carta Africana vai garantir a propriedade de um enquadramento. Isso não exclui o uso do sistema DQAF de FMI para dar informações sobre estatísticas incluídas no GDDS. A distinção entre a qualidade dos produtos e processos como existe no draft NQAF pode ser conveniente para muitos propósitos.
- As ferramentas da qualidade mais relevantes para a implementação no INE, provavelmente são indicadores de qualidade, inquéritos de usuário (por exemplo com usuários maiores) e relatórios de qualidade, baseados na auto-avaliação (inquéritos de qualidade; já há exemplos destes).
- INE deve considerar o uso de um modelo de processos para ajudar descrição e documentação de processos, bem como apoiar normalização.
- Ligação para, e apoio da gestão de topo para o trabalho de qualidade é fundamental. Qualidade das actividades de coordenação devem ser incluídos no processo de planeamento normal, com recursos reservados. Monitoria de qualidade deve ser integrada nos relatórios de controlo normais. A gestão tem de exigir e acompanhar os indicadores e relatórios de qualidade.
- Indicadores de desempenho fornecem uma ligação entre qualidade e planeamento, e facilita a gestão de resultados. Tais indicadores devem ser desenvolvidos e incluídos nos planos e relatórios.
- Racionalização do sistema de planeamento e monitoria significa assegurar a coerência das estratégias e todos os planos e relatórios de acompanhamento por toda a organização. Os planos têm que ser menos detalhados nos níveis altos de que nos níveis mais baixos. Deve haver um equilíbrio entre os planos e relatórios de acompanhamento.
- Planeamento e monitoria têm os seus custos, e não deve ser consciente de planear mais do que o necessário para o objectivo: Proporcionar e alocar recursos.
- Formação de qualidade deve ser integrada nos programas de treinamento normal, tais como cursos de introdução para novos funcionários. No entanto, cursos específicos de gestão de qualidade também devem ser considerados. Exemplo do conteúdo de tal curso é dado no relatório.

## 2 INTRODUCTION

The mission was carried out according to Terms of Reference (TOR, appendix 2).

Other missions within quality took place in September 2002, see report [MOZ 2002:4](#), in November 2003, see report [MOZ 2003:18](#) and in June 2004. The consultants in the latest mission were Ms. Maria Zilhão INE/Portugal and Mr. Hans Viggo Sæbø, Statistics Norway, see report [MOZ 2004:12](#).

The results of these missions represent a point of departure for the current mission, in addition to work carried out in INE since then. Also ongoing work on improving planning, monitoring and training has been a basis for the mission, see comments on terms of reference below.

## 3 TERMS OF REFERENCE

The main objectives of the mission according to the enclosed Terms of Reference (ToR) are:

1. to give the management involved in quality process an updated overview on how different quality management systems work and relate them the situation at INE,
2. to have a discussion about GDDS and SDDS with the management,
3. to discuss the proposal on revised Terms of Reference for the Quality Management Group
4. to participate in a workshop on Quality Management for the Quality Management Group

Quality is closely linked to other managerial processes such as planing and monitoring. Hence, it has been natural to advise on such processes as well, following up earlier missions in planning and related areas.

Training is necessary to promote quality work in an institution. Hence it was natural to give some input on training schemes on quality as well as on other human resource issues such as cometenace monitoring.

## 4 OUTLINE OF WORK

The programme included an initial meeting with the Management of DICRE on INE's expectations on the mission. Since there have been several missions on quality management before, it was necessary to review the outcome of these with respect to work in INE. A meeting with the group of quality facilitators that were formed in 2004 (those present) was arranged to discuss what had happened with this group and why, to better evaluate the status of quality thinking and work in INE today.

The group was active in 2004, but it became more and more difficult to arrange meetings. Daily work was given priority, and the group felt that there was not sufficient support from management to make the planned activities meaningful. These activities included development of standardised documentation of statistics, a quality survey and development of performance indicators. However, it is assumed that the quality education given to the group has been useful in the daily work, and efforts have been

used in areas with external demand for quality initiatives. Examples are staff surveys and an update of the IMF quality web pages for Mozambique (following the DQAF framework).

As for the future work, management commitment and concrete tasks included in the work program were seen as prerequisites for a new quality coordinating group to succeed.

The consultant had discussions with DICRE Management on planning and how to facilitate integration of quality in plans and following up reports. A list of questions on planning was presented. Some of these questions regarded the relation between INE and the provincial offices (DPINE). To better judge this, a visit to DPINE of the City of Maputo was carried out. Answers to these questions provided a basis for further discussions and some of the conclusions of the mission (see chapter 5.2).

A meeting with Nátercia Macácuá who coordinates statistics from the districts, revealed that a quality survey of statistics from districts and sectors recently has been carried out. Results are due to be published in April.

Different quality systems with principles and tools were presented to the management of DICRE and a few others. This provided a basis for discussions on how to integrate quality and planning and the terms of reference for a possible new coordinating group for quality.

Training in quality was discussed with Destina Uinge, and competence mapping also with Luis Mungamba (Director of DARH).

## **5 FINDINGS AND RECOMMENDATIONS**

### **5.1 Quality**

A quality management system basically consists of:

- Definition of quality – general and in statistics
- Principles for quality work
- Framework
- Tools, such as quality surveys
- Organisation of the quality (coordination) work

Definitions and examples of frameworks and tools are given in slides (in Portuguese), with link in appendix 3.

INE has adopted the normal definitions of quality.

There are several frameworks for quality work, and that might lead to some confusion. Frameworks adapted specifically to statistical institutions comprise the European Statistics Code of Practice, Carta Africana de Estatística and the IMF Data Quality Assurance Framework (DQAF). Recently the UN Statistical Division has proposed a draft National Quality Assurance

Framework (NQAF) for statistics, see UN (2009). However, the scope and most of the principles embedded in these frameworks are common, though their organisation varies. That means that INE should not bother too much about the selection of one specific framework, the important issue is the implementation. For INE it is probably convenient to use the Carta Africana, which will assure ownership to the framework. This does not exclude the organisation by NQAF of information on statistics included in the IMF GDDS. And for use of tools and other implementation efforts the distinction between *quality of products and quality of processes* might be convenient, according to a general model for Total Quality Management (TQM) or the NQAF being discussed internationally, see figure 1.

Tools for quality assurance comprise simple tools for mapping processes to more comprehensive tools that can be listed according to level of ambition:

- Quality indicators
- Measurement of process variables
- Quality reports
- Staff surveys
- User surveys
- Self-assessment and auditing
- Labelling
- Certification (e.g. ISO)

INE already uses some of these tools. Examples are staff surveys and some assessments (quality survey of statistics from districts and sectors). The most relevant of the tools in the list for INE are probably quality indicators (on product quality but some such as response rates also on processes), user surveys (for example among major users) and quality reports, based on (assisted) self-assessments (inquéritos de qualidade). Quality reports may be produced for different purposes, as a part of standard documentation for users or for follow-up by management or authorities and other donors.

Several tools for self-assessment of statistics have been developed, in particular the European DESAP (Eurostat 2003) and the International Statistical Processes Assessment Checklist (ISPAC, CCSA 2009b), which is built on DESAP.

Quality work should affect all employees and processes of an institution. On the level of employee a natural question is: “*Quality – What is in it for me?*”? To answer this it is convenient to link to general quality principles based on TQM:

- User orientation:
  - Who are my users (external and internal)?
  - What are their needs?
  - How should I satisfy these?
- Process orientation:
  - Identify and describe the main processes I am responsible of
  - Measure some variables about these
  - Are there good practices in this area
  - Evaluate and improve

- Participation by all: Cooperation!
- Decisions based on facts: Document (products and processes)!
- Continuous improvement

One tool that is convenient to assist description and documentation of processes is the statistics process business model that has been developed by several statistical institutions. It has already been used in INE to illustrate the responsibilities of the districts for parts of the statistics production chain. Figure 2 is an example from Statistics Norway (the model has several levels; only the top level is shown in the figure). There is an international initiative to develop a generic model, see link to UNECE (2009) on: <http://www1.unece.org/stat/platform/display/metis/METIS-wiki>

The business process model provides support for standardisation as well as for the use of quality assurance tools in statistics.

It is proposed to form a new quality group coordinating the quality work in SEN and INE. A draft Terms of Reference includes the development of;

- standards for documentation of quality,
- and use of quality indicators,
- good practices and
- quality reports (directed to users and/or management).

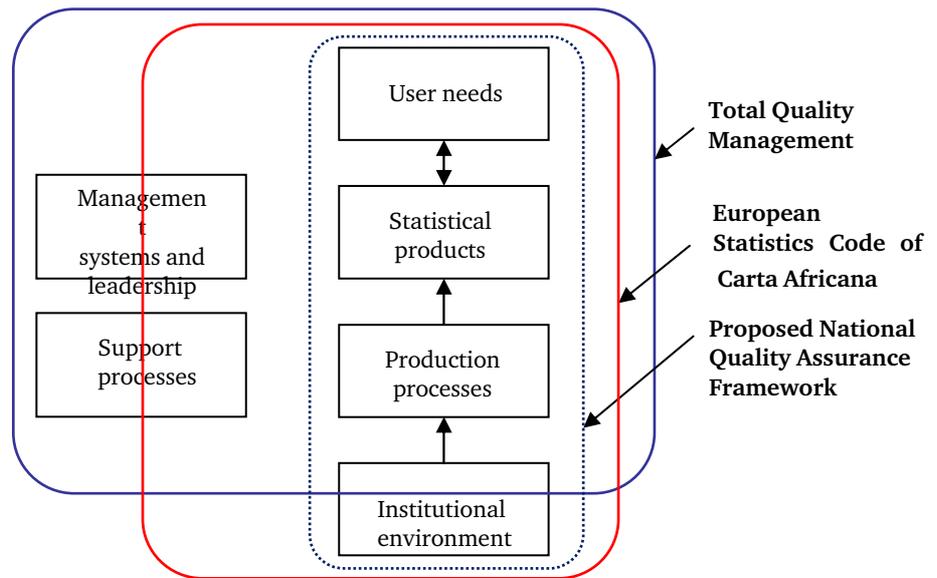
It is also proposed that the group should act as a jury for a quality competition.

All proposed activities are in line with international practices, but the ambition level should be considered carefully, talking into account what happened to the group of quality facilitators in 2004. The group should proceed step by step, starting with standard documentation (of some pilot statistics) and development of some indicators covering both product and process quality. See also the consideration on performance indicators (that comprise quality) in paragraph 5.4.

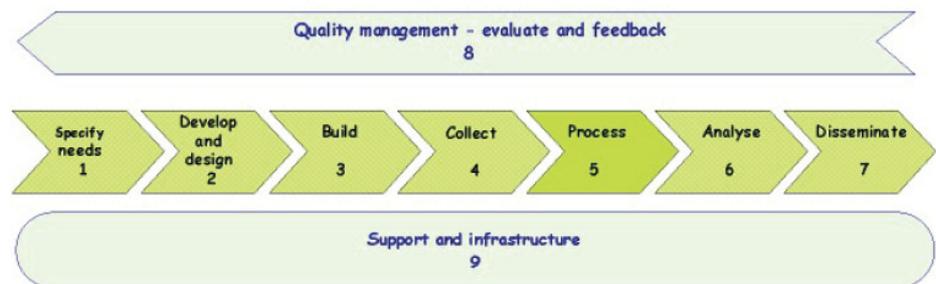
Link to and support from top management are crucial. Quality reporting and use of other tools should be a normal and integrated part of the activities in the institution(s). This means management must demand and follow up indicators and quality reports.

Quality coordinating activities should be included in the normal planning process, with dedicated resources.

**Figure 1.** Quality management frameworks



**Figure 2.** Business process model for statistics (level 1)



## 5.2 Planning: Streamlining the system for planning and monitoring

A planning system consists of plans, reports and meetings for different time frames and on different institutional levels, from the strategic 5 years plan to annual or more frequent plans covering SEN, INE, DPINE and divisions and departments within these institutions. There is a hierarchy of plans and reports, from a large extent of detail at the lower stages to less details on the higher stages. It is important with clear lines of responsibilities and reporting according to these. And that all plans and monitoring reports are consistent, and double work must be avoided.

If DPINE because of their funding reports to local authorities, there might be a challenge to make the reports consistent. These reports should be equal or at least equally organised as the reports submitted to INE.

In a decentralised system one should be aware that lower levels are not “over-managed” – they normally have to relate more to frames than to concrete plans imposed from the levels above (for example a budget frame). However, all plans have to be consistent, also with longer term plans and strategies.

A plan is necessary to allocate (or obtain) resources, human and financial, balancing activities, resources and quality. But a plan is not much worth if it is not followed up, and activity reports are means for this. Plans can (or should) be flexible enough to be changed if needed, and those providing resources need information on how resources are used.

The reporting depends on how often it necessary to follow up plans. For the authorities annual and (less comprehensive) quarterly or semi annual reports may be convenient. The management of INE (and DPINE) probably require reporting more often. But all plans do not have to be followed up at the same frequencies. Typically the need for frequent monitoring of budgets and accounts is larger than the need for monitoring the overall performance of an organisation. And the need for frequent monitoring is normally larger at the lower level of the planning hierarchy than on the top.

The requirements of reporting to authorities, other donors and management differ from the needs of the general public. It might therefore be convenient to make a separate annual report for the last user group, based on the other reports but without detailed overview of all projects. In Statistics Norway there is for example one annual report for the Ministry of Finance and a less detailed one focusing only on main results an with graphics for the general public.

Planning and monitoring have its costs, and one should be aware not to plan more than needed for the purpose, to provide and allocate resources.

The time for completing a plan must be adapted to the planning period: It is a good proposal to have the CCAINE in November the year before the period planned for starts.

Some issues to be considered regarding the content of an activity plan and annual report on the institutional level, such as for INE:

- Some time should be used on the definition of clear objectives and expected results of the activities planned. This will facilitate the follow up.
- Plans and reports should primarily focus on main results, lists comprising all activities are useful for some, but might be annexed.
- The possibility of introducing *performance indicators* in plans and reports might be considered. A list of example indicators given in paragraph 5.4. Such indicators facilitate following up of the activities, and represent a link to the quality work.
- Plans and reports should be structured according to strategic plans. The strategic plan has 4 general main objectives, with key words statistics produced generally, regional statistics (district level), use of technology and methods and finally the institutional capacity. The degree of repetition of the strategic objectives might be considered. The reports should not be too long. The introductory repetition from the strategic plan might be a candidate for simplification, may be by only repeating the 4 general objectives.
- Quality has to be better included in plans and reports. As mentioned, quality has to be integrated in all activities, and activities of quality assurance and improvements should also appear as activities in the plans, with reservation of resources. Work on developing performance indicators is one example, quality surveys and harmonised documentation others. In all planning, the balance between new activities and improving the quality of the

existing activities should be carefully considered. There might be a problem that it is easier to provide funds for new activities than for existing; then this issue should be discussed with the donors.

Like in most statistical institutes there seems to be a division of responsibilities for coordinating between a unit with horizontal responsibilities such as DICRE, the top management (in this case represented by GPINE) and the unit responsible for budgeting (DARH). It is a natural question if the different planning and monitoring activities are well enough integrated and coordinated. There is nothing in the plans and reports that indicate that this is not the case, but in for example Statistics Norway this integration has been a challenge. To improve Statistics Norway has reorganised, and formed a new Department (corresponding to direcção in INE): Department of Planning and Finance, including coordination of all planning, budgeting and follow up on the institutional level.

An updated description of quality issues are being worked out for the FMI web sites. This is a very good exercise. However, the balance between quality and new activity is important if considering going from GDDS to SDDS.

### 5.3 Human resources

Training is normal part of quality work in an institution. Quality training should be integrated in normal training programs such as introduction courses for new employees. However, separate courses on quality management should also be considered. Both Scanstat and other external support is possible, but INE/SEN should take part in the teacher side, and probably be able to take the main responsibility for some courses.

Examples of content of a typical course in systematic quality work:

- Definition of quality, in general and in statistics (all staff should know this)
- Principles and frameworks
- Techniques and tools
  - Techniques for process mapping, brainstorming, communication, project- and teamwork including setting clear objectives (for use in day to day work)
  - Quality indicators, assessments etc (tools mentioned in 5.1)
- Exercises – work in groups to promote understanding of concepts and to relate these and techniques and tools to concrete work in statistics

A course on systematic quality work could last for 2-3 days up to the double of this, possibly by having two course periods with some weeks in between. Practical exercises are absolutely crucial.

There have been several missions on human resources, and mapping of competences has been on the agenda in INE for several years like in many other statistical offices. Statistics Norway has recently considered and developed a system for this that might be useful also for others.

## 5.4 More on performance and quality indicators

Performance indicators are means to measure the results of an institution in a simple way. Use of indicators facilitates the setting of clear objectives and monitoring of results. However, they can hardly provide a complete picture, and have to be interpreted with some care.

Performance indicators for a statistical institution normally cover interactions with users, production volume (e.g. publications), quality and internal conditions such as human resources in the institution. In fact, main figures from budgets and accounts can also be included in these indicators. But they do normally not cover societal outcomes. These are far more difficult to relate to for example statistics even if they are measured.

Examples of performance indicators are found among the annexed slides linked to in appendix 3.

Prerequisites for good performance and quality indicators comprise:

- Relevance (of indicator)
- Accuracy (when measured)
- Comparability (from period to period)
- Possible to influence (by doing better)
- Possible to interpret (is an increase a good or bad thing?)
- Documented
- An indicator must be available at a reasonable cost

## **APPENDIX 1. People worked with**

The consultants most of the time worked with the 9 facilitators listed in chapter 5.

In addition there were meetings with

- Amélia Muendane, Director DICRE
- Destina Uinge, Assessor
- Nátercia Macácuca (DICRE)
- Leonette Mabjaia (DAHR/ENE)
- Firmino Guiliche (DCNIG/DPC)
- Cipriano Cláudio (DCNIG/DCNEE)
- Luís Pedro (DICRE/DCPRE)
- Basílio Cubula (DCI/DMA)
- Candido Armando Mucavele (DICRE/DCPRE)
- Fabio Pinto (DICRE/DCPRE)
- Paulo Mabote, Director DPINE Cidade de Maputo
- Miguel Jackson, DPINE Cidade de Maputo
- Luis Mungamba, Director DAHR
- Lars Carlsson, Consultant, Coordinator of STA

## APPENDIX 2. Terms of Reference

January 12, 2010

for a short-term mission on

### Quality Management 1 – 12 March, 2010

within the

#### AGREEMENT ON CONSULTING IN INSTITUTIONAL CAPACITY BUILDING, ECONOMIC STATISTICS AND RELATED AREAS between INE and Scanstat.

Consultant: Hans Viggo Sæbø, Statistics Norway

Counterparts: Mrs Amélia Muendane, Director of DICRE and Mrs Destina Uinge, Assessor.

#### Background

From the Strategic Plan for the National Statistics System 2008-2012:

##### Management of Statistics Quality

*“The results of the SEN [the National Statistics System] activities should be credible, and to enable that it should be strictly rigorous in respect to standards to which the data collection should respond, and also the methods of data processing and derived results. Additionally, the spirit of high quality standards should be given to staff. What is produced is the result of the high quality inputs and methods constantly controlled and strengthened.*

*The work of the Quality Management Group will be consolidated to strengthen the role of INE in the verification of methods and quality in the surveys carried out. A quality action plan will be defined. In this plan, a focus will be given to the balance between amount and quality of statistics produced in the ambit of SEN in order to favor consolidation of produced information.*

*The quality action plan will envisage a systematic assessment of selected statistics, concerning product quality (relevance, reliability, opportunity) as well as the quality of administrative data.”*

In June 2004 a group of nine facilitators were appointed to work as promoters of the quality work at INE. After a short introduction of the quality concepts, they were given the responsibility to work with quality within their different areas. The growing demand for more statistics covering more areas in more detail has however made it difficult to the nine facilitators to devote sufficient time and energy for the work within the group. Knowing this, INE now is aiming to vitalize the work of the quality management group and new terms of reference for the group are elaborated.

##### 5.4.1.1.1 Objectives and activities

The general objective of the mission is; 1) to give the management involved in quality process an updated overview on how different quality management systems work and relate them the situation at INE, 2) to have a discussion about GDDS and SDDS with the management, 3) to discuss the proposal on revised Terms of Reference for the Quality Management Group 4) to participate in a workshop on Quality Management for the Quality Management Group.

**5.4.1.1.2 Expected results**

5.4.1.1.3 The goal of the mission is to have the outlines of a modern quality management process defined - a process that combines present strengths at INE with new advances in the area and the demands from the various stakeholders.

**Beneficiaries of the mission**

5.4.1.1.4 The staff of the INE Quality Management Group will be provided with the ideas and tools needed to fulfil their job in an efficient way. This will in the next turn benefit all of the quality work that INE is undertaking.

5.4.1.1.5

**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, such as mission reports, strategies, plans etc. A project is since September going on at INE for the development of new terms of reference for the quality management group at INE. The consultant will continuously be informed about the status of the project.
- Supply good working conditions for the consultant.

**Source of Funding**

Project: MPD – 2008 – 0011 – Coordenação e Integração Estatística

**Timing of the mission**

See above

**Place**

The premises of the National Institute of Statistics in Maputo

**Language**

Portuguese and English.

**Report**

The consultant will prepare a short final report to be discussed with INE before ending assignment. Statistics Denmark as Lead Party will publish the final version on [www.dst.dk/mozambique](http://www.dst.dk/mozambique) within 3+ weeks of the end of the mission. The structure of the report should be according to Danida format.

*Approved by Amélia Muendane INE/DICRE*

*Day / / .....*

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

*Day / / .....*

### APPENDIX 3. Slides on quality and planning

Reference to slides presented during the mission:

mz-2010-03 Anexo Qualidade.ppt

The slides are in Portuguese.

### APPENDIX 4. References

CCSA (2009): *Guidelines for the implementation of quality assurance framework for international and supranational organisations compiling statistics*. November 2009. Published on <http://unstats.un.org/unsd/dnss/nqaf.aspx>

Eurostat (2003): *Checklist for Survey Managers (DESAP)*. Published on [http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/quality\\_reporting](http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/quality_reporting)

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