Strategic IT development issues

Report from a short-term mission

21-25 July 2003

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

Instituto Nacional de Estatística

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TABLE OF CONTENTS

1 INTRODUCTION

The mission was carried out 21-25 July 2003 in Maputo.

The consultant would like to express his thanks to all officials and individuals met for the kind support and valuable information which he received, and which highly facilitated the work of the consultant.

2 ACTIVITIES DURING THE MISSION

The mission commenced with a briefing meeting with the President of INE, Dr. João Dias Loureiro, who expressed his views and priorities concerning the mission. During this meeting, the progress of the cooperation project as a whole was also discussed.

In a meeting at the Danish Embassy, the consultant discussed the status of the cooperation project and the purpose of this mission with the Project Coordinator Mr. Thomas Thomsen, and with Ms. Lis Rosenholm who is taking over the position of Project Coordinator

The consultant received a briefing on the 5 year strategic plan and the organization of the National Statistical System SEN.

All Directors and Deputy Presidents were interviewed concerning the work of their departments, the way IT is used for support of their work, and their views on future strategy.

On 24 July a workshop for the management and a number of specially invited IT experts from INE was carried out. A fruitful discussion of the future IT Strategy took place. The agenda of this workshop appears as Annex 4, and the presentations appear as Annex 5

3 CONCLUSIONS AND RECOMMENDATIONS

IT is a strategic resource for a National Statistical Office, and the way IT is employed is crucial for its ability to being an efficient and modern information supplier to society. Consequently, the IT Strategy of a National Statistical Office plays a key role in supporting the corporate business strategy of the NSO.

The work on the future IT Strategy of INE is already progressing very well. Drafts of an IT Strategy and policies for different areas have been discussed by the management. The principles contained in the drafts are designed to support the goals of the 5 year strategic plan. They will constitute a platform for progress of INE and SEN in the coming years.

It is recommended to focus especially on the following points, presented in order of priority, most important measures being mentioned first.

1. *Organisation*
   In view of the size of the bureau, it is recommended to keep a centralized IT organization, having IT infrastructure as well as application development as basically a central unit. In view of the importance of IT to the development of INE, IT should have a prominent position in the organization, on an equal footing with subject matter divisions.
   It is proposed to establish an IT Council with Directors of subject matter directorates as well as IT. This council should ensure that IT is solving the problems of the users. Strategic decisions will be prepared by the council and decided by Presidency.
   It is proposed not to pursue further IT coordination with other agents in SEN at the present stage, because this will be resource consuming beyond the capacity of INE.

2. *Centralized storage and backup of all corporate data*
   This is the key element of the security policy. The present situation involves an unacceptable risk of losing data, and incidents have happened several times, even during the mission, each time causing loss of resources. Centralized storage and backup is a precondition to safeguarding data against loss and protection against leakage of confidential data.
   However, it is a big and complicated task. A short term mission supporting the task is therefore recommended.

3. *Finalization of the Data Warehouse model (or Production Model) as the overall goal for the IT development*
   It is important at this stage to agree on the long term goal: the kind of production system INE will strive to build over a 5 year horizon. In this way, all development efforts can be seen in relation to this goal, allowing for a coordinated progress.

4. *The standard tool-box*
   Standardisation of tools is essential t efficiency and coherence in the organization: Efficient support, building expertise, communication across directorates. The selection of tools should be decided and standards enforced.
   There should be recommendations for different kinds of surveys and censuses. These standards tools will be used when new surveys come up.

5. *Documentation*
   The ongoing test of the documentation standard within Industrial statistics should be pursued. It seems to be successful. Subsequently the standard should be implemented in all other areas.

6. *Final draft IT Strategy*
   The IT strategy paper should be finalized by 1 September 2003. It should comprise a list of strategic projects to be carried out.

7. *Overall Internet strategy*
   There is at present a working group in INE, chaired by DICRE<?>, trying to set up an Internet policy, mainly concentrating on contents. It seems the work is not progressing sufficiently. Help from outside would be advisable.

8. *Creation of an Internet database*
   This is an area where quick results, very useful and visible to users of statistics, can be reached. It is necessary to merge the present two databases ESDEM (for social statistics) and LDB (for economic statistics) and create one system. The new common database will have to accommodate multi-dimensional tables. It is recommended to start a strategic project in this area.
   It is proposed in the remaining part of 2003 to produce a description of the desired contents and functionality of the database. The task should involve subject matter people as well as IT experts. This could be seen as part of activity no 3 above. This activity could be supported by a short term mission in 2003.
   Based on experience and evidence from a number of countries, the consultant suggests that a solution with the Swedish software PC-AXIS and specifically PX-Web is advisable, as it could supply high functionality for limited costs. A study visit to South Africa and a country with PX-web solution is therefore suggested.

   Implementation of the database could start in the beginning of 2004 and last for 1 year.

4 Future work

September 2003: Short term mission on centralising storage and backup.
October 2003: Short term mission on feasibility study for creation of an Internet database.
November 2003: Study visits concerning PC-AXIS and PX-Web.
November 2003: Short term mission on Quality, including a review of IT strategy.

ANNEX 1 Terms of Reference for the mission

July 8, 2003

TERMS OF REFERENCE
within the Scandinavian Program

for a short-term mission for a 1 week mission in July 2003
on
strategic IT development issues

Background
According to the 5 year strategy the overall objective for the IT-area is to contribute to make the production of statistics well coordinated and more efficient, to reduce the costs and to improve the quality of the service and the quality of the working processes[1]. The goal is to have an infrastructure with a well-functioning network administration, including well-established security measures, standards for hardware, software, documentation and system development. Further the strategy emphasizes development of Internet and Intranet.

A planned activity for the IT-department (DISI) this year is to the update of the existing IT strategy. Instead of simple updates DISI proposes to divide the existing IT-strategy into two documents. One document for the overall IT-strategy and one document with IT-policies.

Annex A attached to this document describes the elements in the plan for the development and implementation of the IT strategy. This short-term mission is an integrated part of the plan. Part of the planned activities has been carried out including preparing draft versions of IT-strategy and IT-policy etc.

In order to get to the right decisions about the strategic development of IT it is important to consider various scenarios, discuss pro and contra etc. The short-term mission should contribute to these discussions. In other words: the short-term mission should contribute to discussion of possible answers to the question: What should be the IT strategy for SEN in short and long term in order to support the overall objectives for SEN.

Purpose of the mission
To evaluate and discuss the IT-strategy and the IT-policy in order for INE to
1) Have a clear and operational IT-strategy and IT-policy for the strategic development of IT
2) Have a precise and well-defined organization at all levels in order to support the future development of IT within SEN
3) Have well coordination of activities between subject matter areas and IT-department (DISI)
4) Have good work environment at DISI in order to deliver the right services to subject matter areas

Expected results
1) Mission report containing – among other things - considerations and recommendations about the development and implementation of the IT-strategy and IT-policy
2) Presentation material about various topics from the workshop

Activities

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[1] Plano Estrategico do Sistema Estatistico Nacional 2003-2007, section 4.6

1) Informal meeting with management at INE the first day about scope and purpose of the mission.
2) Discussion / meetings with representatives from SEN
3) Preparation of workshop
4) Workshop
    a. Presentation of various approaches to information architecture and organization of IT at Statistical Bureaus
    b. Presentation and discussion about the existing situation within SEN today
    c. Presentation and discussions of possible scenarios for future IT development at INE and within SEN
    d. Discussions about implementation strategy (short and long term)

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 including background papers and draft version of IT-policy and IT strategy
- Supply good working conditions for the consultant

Consultant and Counterpart
Consultant:
Lars Thygesen. Director, User Service. Statistics Denmark

Main counterparts:
Anastácia Honwana

Timing of the mission
One week (July 21 – July 25, 2003).

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

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Approved by/in the name of the President of INE

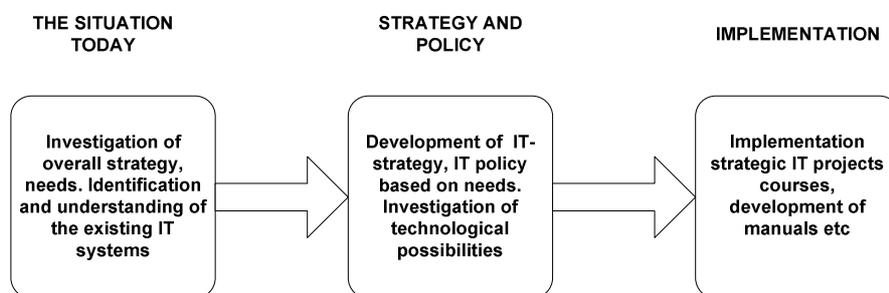*Day / /*   ....

ANNEX A Task description for "Development of IT strategy and IT policy"
Background
The overall objective on IT according to the 5 year strategy is to contribute to make the production of statistics well coordinated and more efficient, to reduce the costs and to improve the quality of the service and the quality of the working processes[2]. The goal is to have an infrastructure with a well-functioning network administration, including well established security measures, standardization on hardware and software, and on system development. Further the strategy emphasizes development of Internet and Intranet.

A planned activity for DISI this year is to the update of the existing IT strategy (*Plano Estratétigico de Sistemas e Tecnologias de Informação*). Instead of simple updates DISI proposes to divide the existing IT-strategy into two documents. One document for the overall IT-strategy and one document with IT-policies. The activities for developing and implementing the strategy and the policy are guided by the following overall model:

THE SITUATION TODAY	STRATEGY AND POLICY	IMPLEMENTATION
Investigation of overall strategy, needs. Identification and understanding of the existing IT systems	Development of IT-strategy, IT policy based on needs. Investigation of technological possibilities	Implementation strategic IT projects courses, development of manuals etc

The work on IT strategy should answer the following questions:
- What should be the content of the IT-strategy and IT-policy in order to support the overall strategic objectives for SEN
- What strategic IT projects is needed in order to reach the goals in the IT-strategy
- What changes is needed in the infrastructure in order to support future needs e.g. Internet solutions
- How should the selected strategic IT-projects be prioritized

Active participation from all involved parties is an important condition in order to reach a good and operational plan for the development of IT. It is also important that all parties contribute to the discussion of scope and definition of strategic IT-projects in order for all to benefit from the results.

Purpose
The purpose of this activity is to revise the existing it-strategy and define IT polices in order to get a clear and operational strategic plan for a systematic development of IT.

Expected result
- IT strategy, IT policy, courses and course material

See intermediate results below

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[2] Plano Estrategico do Sistema Estatistico Nacional 2003-2007, section 4.6

Main activities

Activity	Expected result	Time
1) The existing situation overall strategy, existing systems and planned systems.	Short descriptions of existing and planned system	January 2003 – September 2003
2) Draft versions of IT strategy and IT policy	Draft versions of IT vision and IT policies including overall decisions on how to compose databases (datawarehouses) including databases for dissemination of data on the Internet.	June 2003 – October 2003
3) Draft-versions of manuals	Draft versions of manuals on development of statistical systems and project management including guidelines on how to design easy maintainable and flexible applications.	February 20003- September 2003
4) Short term mission	Mission reports	July 21 – July 25, 2003
5) Test and improve manuals in two pilot projects	Evaluation of pilot-projects and evaluation of IT-strategy and manuals	September 2003 – January 2004
6) Make final versions of IT-strategy and manuals. Make course material.	Final versions of IT-strategy, manuals and course material	January 2004
7) Courses in development of statistical systems and project management.	Courses and evaluation reports	Expected to start in November 2003

Prepared by: Mogens Grosen Nielsen, IT-consultant

ANNEX 2 Persons met during the mission

- Dr. João Dias Loureiro, President of INE
- Dr. Valeriano da Conceição Levene, Vice-President for Economic Statistics
- Dr. Manuel da Costa Gaspar, Vice-President for Demographic, Vital, and Social Statistics
- Dr. Saíde Dade, Director, Department of National Accounting and Economic Studies (DCNIG)
- Dr. Fátima Zacarias, Director, Demographic, Vital, and Social Statistics (DEMOVIS)
- Dr. Arão Balate, Director, Census and Surveys (DCI)
- Dr. Destina Uinge, Director, Integration, Coordenation, and External Relations (DICRE)
- Dr. Luís Mungamba, Director, Administration and Human Resources (DARH)
- Engineer Natércia Macuacua, Substitute for Director Dr. Azarias Nhanzimo, Director, Sectorial Statistics and Business Statistics (DESE)
- Ms. Anastásia Judas Honwana, Head of IT (DISI)
- Mr. Mogens Grosen Nielsen, Consultant
- Mr. Timmi Graversen, Consultant

Annex 3 Program for the mission

21 de Julho de 2003

11:00 Encontro com S. Excia o PINE
14:30 Discussões sobre o programa e recolha de documentação

22 de Julho de 2003

08:30 – 09:00 Encontro com Director da DICRE - Local DCI flat 55
          Apresentação do Plano estratégico do SEN

09:00 Encontro C/ Sr. Thomas Tomsson - Embaixada da Dinamarca

14:00-14:30   Encontro com Director da DARH - Flat 53 Luís Mungamba

23 de Julho de 2003

08:30-9:00 Encontro com S. Excia VPINED – 9º Andar Flat 91

10:00-10:30 Encontro com o Director da DCI e Dra. da DEMOVIS– Flat 95

11:00-11:30 Encontro com S. Excia VPINEE e o Sr. Director da DCNIG - Flat 81

11:45 Encontro com Eng. Natércia Flat 84;

24 de Julho de 2003

13:00 – 16:00 Workshop (local por anunciar)

1. Apresentação de várias abordagens de arquitectura de informação e organização das TI s nos Institutos de Estatística
2. Discussões
3. Proposta para desenvolvimento e implementação do Plano estratégico e política de Tecnologia de informação.
4. Discussões

25 de Julho de 2003

11:00   Apresentação do draft do relatório

Annex 4 Agenda for the workshop

1. Apresentação de várias abordagens de arquitectura de informação e organização das TI s nos Institutos de Estatística
2. Discussões
3. Proposta para desenvolvimento e implementação do Plano estratégico e política de Tecnologia de informação
4. Discussões