



Republic of **Mauritius**

National Strategy for the Development of Statistics (NSDS)

**To Reform the National Statistical System to
Provide Better Statistics for Better Policies and
Development Outcomes**

Port Louis, Mauritius

March 2007

CONTENTS

	Page
Foreword (<i>Chairman, Statistics Advisory Council</i>)	iii
Preface (<i>Director, CSO</i>)	iv
List of Tables and Figures	v
Acronyms	vi
Summary	vii
Chapter 1: Introduction	1
1.1 The country	1
1.2 The Structure, Trends and Current Economic Reforms	1
1.3 Need for Good Statistics	2
1.4 National Statistical System	3
1.5 Main Data Producers	7
Chapter 2: Assessment of the National Statistical System	13
2.1 Need for the Assessment	13
2.2 The Process	14
2.3 Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis	16
2.4 Rationale for Reforming the National Statistical System	32
Chapter 3: National Strategy for the Development of Statistics	33
3.1 Introduction	33
3.2 Key NSDS Essentials	33
3.3 Vision, Mission, Core Values and Principles	35
3.4 Strategic Objectives and Key Outputs	36
3.5 Strategies	37
Chapter 4: Implementation, Monitoring, Evaluation and Reporting	67
4.1 Implementation	67
4.2 Monitoring and Evaluation	70
4.3 Reporting mechanisms	72
Chapter 5: Action Plan and Budget	73
5.1 Action Plan	73
5.2 Budget and Investment	74

References		75
Annexes		
I	UN Fundamental Principles of Official Statistics	77
II	Logical Framework Matrix	78
III	Detailed Action Plan	83

FORWARD

Statistics are an essential instrument of a country's monitoring and evaluation systems. Conscious of this reality and in line with international recommendations, the Statistics Advisory Council initiated, at the beginning of last year, the process of designing a National Strategy for the Development of Statistics (NSDS) for Mauritius.

The NSDS will provide the country with a coherent roadmap for strengthening its statistical capacity. Indeed, a comprehensive and unified framework for the compilation and development of statistics stands out as a gratifying breeding ground for enabling decision-takers to engineer positive change in a more coordinated, synergistic and efficient manner and, in doing so, for optimising the national social welfare function in an increasingly complex economy like ours which is marked by a myriad of asymmetric behavioural patterns by agents on different fronts.

This publication presents the final version of the proposed strategy. It has been designed in a consultative and participatory manner in order to mobilise support, build ownership and obtain commitment from all stakeholders to reform and improve the statistical system. In this design process, the Central Statistics Office has been diligently assisted by the African Development Bank (ADB) through Prof. Ben Kiregyera, a leading authority on statistics and the winner of the prestigious Prof. Mahalanobis International Award for Statistics. Besides, the precious advice and feedback of the Government, Parliamentarians, the private sector, civil society institutions and other development partners have been sought after through seminars and workshops.

I would like to thank Prof. Ben Kiregyera, the Director of Statistics and his dedicated staff, and all stakeholders for their extensive and wide-ranging input in the preparation of the NSDS. In line with the efforts to ensure that Mauritius successfully confronts the challenges and opportunities characterising its socio-economic development, I trust that all the necessary conditions would prevail, including high-calibre statistics that epitomise the ideal guide for the implementation and monitoring of measures that can successfully shape up the country's future.

Gilbert Gnany
Chairman, Statistics Advisory Council
March 2007

PREFACE

The Government's objective is to build a strong economy and a more equitable society where everyone participates and chances are created for every citizen. Statistics make a crucial contribution in this process: assisting in the design, management and evaluation of policies; encouraging and informing debate; and allowing people to judge whether the Government is delivering on its promises. Statistics are also a key resource for business, academia and the general public. With growing emphasis on evidence-based policymaking and effective performance management, the need for statistics has increased more than ever before. Statistics must therefore be, and be seen to be, of the highest professional quality and integrity.

The Central Statistics Office is aware of this reality and in its continuous endeavour to improve the quality of its products and services has recently gone through a number of reforms ranging from the enforcement of a New Statistics Act in 2000 to expected subscription, by the end of 2007, to the more stringent Special Data Dissemination Standard (SDDS) of the IMF after having successfully adhered to the General Data Dissemination System (GDDS) in 2001. The objective is now to take these reforms much further by implementing a National Strategy for the Development of Statistics (NSDS) as recommended by the international community. The main objectives of the NSDS are:

- Improvement of the regulatory and management framework governing our statistical system with special attention given to the need to legislate for independence in statistics
- Development of human resources
- Development of statistical infrastructure
- Improvement of statistical production, management and dissemination

I have the pleasure in presenting the proposed NSDS for Mauritius. It has been prepared with assistance from the African Development Bank and after taking in to consideration the views of all stakeholders in the field of statistics, be they users, producers, suppliers or the staff of the Central Statistics Office.

I would like to thank African Development Bank for the technical assistance in support of the NSDS design process, to Prof. Ben Kiregyera for guidance throughout the process and to all stakeholders for their valuable inputs. I am confident that Government will study the report carefully and move forward quickly with the implementation of those recommendations that are accepted and which will strengthen our statistical system, some aspects of which are already considered as "best practice" by other countries in our region .

H. Bundhoo

Director of Statistics

March 2007

LIST OF TABLES AND FIGURES

List of Tables

- 1.1 Main users and uses of statistics
- 1.2 Characteristics of a good NSS
- 1.3 Dimensions of data quality
- 1.4 Budgetary allocation to CSO (2001/02-2005/06)

- 2.1 SWOT analysis table
- 2.2 Time-lag between completion of field work and dissemination of results of main censuses and surveys
- 2.3 Staffing levels by category

- 3.1 Strategies of NSDS
- 3.2 PARIS 21 target audiences and advocacy messages
- 3.3 Scope of work for MBS by Departments and Divisions
- 3.4 Proposed career path for Bureau staff

List of Figures

- 1.1 NSS depicted
- 2.1 Graphical presentation of NSDS process
- 2.2 From data to information and knowledge to decision-making
- 3.3 Recommended career progression and administrative posts

ACRONYMS

ACBF	African Capacity Building Foundation (Harare)
AfDB	African Development Bank
BoM	Bank of Mauritius
BoP	Balance of Payments
CISD	Central Information Systems Division
CPI	Consumer Price Index
CSO	Central Statistical Office
DQAF	Data Quality Assessment Framework
FASDEV	Forum on African Statistical Development
FDI	Foreign Direct Investment
GDSD	General Data Dissemination System
GDP	Gross Domestic Product
GIS	Geographic Information System
IMF	International Monetary Fund
IPPR	Institute for Public Policy Research (Namibia)
IT	Information Technology
LIC	Life Insurance Corporation
MAPS	Marrakech Action Plan for Statistics
MBS	Mauritius Bureau of Statistics
MDG	Millennium Development Goal
MIS	Management Information Systems
NSDS	National Strategy for the Development of Statistics
NSO	National Statistical Office
NSS	National Statistical System
ONS	Office of National Statistics (U.K)
PARIS21	Partnership in Statistics for Development in the 21 st Century
PRB	Pay Research Bureau
PRSP	Poverty Reduction Strategy Programme
ROSC	Report on Observance of Standards and Codes
RRSF	Reference Regional Strategic Framework for Statistical Capacity Building in Africa
RSS	Royal Statistical Society
SADC	Southern Africa Development Community
SDDS	Special Data Dissemination Standard

SUMMARY

Need for good statistics

There is now broad consensus internationally that good statistics are a necessary part of the enabling environment for national development. In particular, they:

- are needed to provide a basis for good policy and decision-making,
- help identify best courses of action in addressing complex issues e.g. poverty,
- are essential to manage service delivery, are essential for transparency, accountability and democracy,
- provide a sound basis for designing, management, monitoring and evaluation of national policy frameworks such as employment creation, Millennium Development Goals (MDGs), etc., and
- are essential for managing for results which focuses on development outcomes. They will be used to monitor implementation of the package of measures government has introduced to diversify the economy and to create jobs as well as the private sector operators to take investment and other business decisions.

The National Statistical System

A National Statistical System comprises four main components, viz. (i) data producers, (ii) data users, (iii) data suppliers and (iv) research and training institutions; and arrangements for data collection and management. Data producers include the Central Statistics Office; the Bank of Mauritius which produces substantial amounts of data on foreign direct investment, balance of payments, money and banking, etc.; line ministries which produce a lot of administrative data (on health, energy, agro-industry, fisheries, food crops, cooperatives, courts, pensions and social benefits, road transport and accidents, crime, education, labour, employment, industrial relations, ICT, etc), the Centre for Applied Social Research, and some non-governmental organizations.

Data are used for various purposes including policy analysis and planning, decision-making, administration, investment, monitoring and evaluation, accountability, reporting and public debate. The main users include government ministries and departments, the private sector, civil society, research and training institutions, sub-regional, regional and international organizations, and the general public. Data suppliers mainly include households, individuals and groups within specified organizations and establishments/enterprises. Research and training institutions include the University where researchers add value to datasets through more detailed data analysis while training institutions supply trained personnel.

Many assessments of the CSO and the National Statistical System were made in the past. However, a benchmark assessment was made in 2006 as a basis for designing the National Strategy for the Development of Statistics (NSDS) in the country. The assessment looked at:

- legal and institutional framework for production of official statistics;
- linkages and co-ordination arrangements among producers and between producers and users of statistics;
- current and future user needs;
- existing capacity to meet these needs and fill existing capacity gaps;
- how statistics are produced - methods and procedures, adherence to international standards, constraints and problems, etc.; and

- how statistical data are processed, analysed and archived. On the basis of the assessment, it was concluded that the National Statistical System needs to be reformed to make it more effective and efficient, and to be developed in a more holistic and planned manner.

The National Strategy for the Development of Statistics

Rationale and design

In order to produce better statistics for national and international use, developing countries have been called upon to prepare an NSDS by the end of 2006 for implementation by 2007. Such NSDS has been designed for Mauritius. The NSDS was built on identified strengths, aims to eliminate weaknesses, takes advantage of opportunities for statistical development and aims to mitigate threats to the National Statistical System. It is also based on key principles universally deemed important for the success of an NSDS. The NSDS was designed using a holistic, participatory and synergic approach, with key stakeholders consulted right from the start of the process. The NSDS also aims to introduce modern and proven strategic planning and management principles and practices in the handling of official statistics.

Strategic framework

The NSDS framework presents a clear definition of the vision, mission, values and principles, strategic objectives and core products (outputs) of the NSS. The NSDS consists of complementary and focused strategic objectives which are considered to be essential to achieve effective performance of the NSS. The strategic objectives are to:

- achieve organizational and institutional development,
- develop human resources,
- develop more effective infrastructure,
- make better data available, and
- improve data management, dissemination and access.

In pursuing the above strategic objectives, the key outputs to be produced include social statistics (population, migration, vital events, gender statistics, labour, education, health, etc.), economic and financial statistics (national accounts and statistics on money and public finance, prices, external trade, distributive trade, businesses and agriculture), other statistics (environment, energy and new areas such as governance, democracy and ICT). For each of the above strategic objectives, a number of strategies have been identified for achieving the objective. The strategies are:

Strategic objective 1: Achieve organizational and institutional development

1. General awareness about statistics created in society
2. Profile of statistics raised
3. Mauritius Bureau of Statistics (MBS) established
4. Improved arrangements for inter-institutional coordination, collaboration, networking and information sharing
5. Improved technical coordination
6. Improved data producer/supplier relationships
7. Operational New Statistics Act
8. Increased use of statistics in evidence-based decision-making and planning

Strategic Objective 2: Develop human resources

9. Improved staff recruitment and promotion
10. Critical mass of personnel at the Bureau
11. MBS professionalized
12. Motivated staff

Strategic Objective 3: Develop more effective infrastructure

13. New home for the Bureau
14. IT focused National Statistical System
15. Effective management systems
16. Strong statistical infrastructure
17. Consolidate Documentation Unit

Strategic Objective 4: Make better data available

18. Quality of statistical products and services
19. Participation in international initiatives
20. Better census and survey data
21. Better administrative data
22. New areas developed
23. Regular statistics available
24. Data users satisfied

Strategic Objective 5: Improve data management, dissemination, accessibility and use

25. Value-added statistical products
26. Improved reports
27. Better disseminated data
28. Data that are accessible and used
29. Improve timeliness

Implementation, monitoring, evaluation and reporting

Implementation of the NSDS will involve, among other things, mobilizing drivers of strategic success including revising the Statistics Act, creating strategy-supporting organizational structures [creating an autonomous Mauritius Bureau of Statistics, establishing a Board of Directors, creating a new structure, introducing modern management systems and procedures and enabling infrastructures (physical and technical)], mechanisms for coordinating the NSS, achieving strategic alignment (creating strategy awareness), managing change, introducing strategic learning process, creating a strategy - supportive culture and an action plan that presents for each strategic objective, expected outputs, activities to be undertaken to achieve the outputs, responsibility centres for the activities, time frame for implementing the activities and estimated cost. It is expected that government will meet the bulk of the budget with development partners (whom we have identified) providing technical assistance as necessary. Government ministries/departments will be urged to include in their recurrent budgets provision for data collection and use by themselves in evidence-based policy, planning and decision-making.

The implementation of the strategy will be effectively monitored and at the end, its impact evaluated. Monitoring is essential:

- i. to ensure that stated objectives are being achieved
- ii. for tracking inputs, activities and outputs,

- iii. to determine if implementation is on course or not,
- iv. to alert management to problems or potential problems before the situation becomes critical, and,
- v. for taking corrective actions to ensure that performance conforms to strategy or that the strategy is revised in light of new experience.

Different monitoring indicators (both quantitative and qualitative) will be used based mainly on the IMF's Data Quality Assessment Framework and the PARIS21 consortium Statistical Capacity Building Indicators. Some of them are already being used by CSO. Internal benchmarking will be used as a basis for assessing performance in different work areas. In addition, international benchmarking will be done to compare the Bureau's performance with that of National Statistical Agencies in the SADC sub-region and the African region where some of the above developments are more advanced and which might provide some data for benchmarking progress.

Reporting mechanisms that have been proposed include production of Quarterly Progress Reports (prepared by the Board of the Bureau), Annual Review Report prepared by the dedicated government departments/agencies, Mid-term Review Report and a Terminal Review Report by an independent consultant hired by the Ministry of Finance and Economic Development.

1. INTRODUCTION

1.1 The Country

The Republic of Mauritius is a group of islands in the South West of the Indian Ocean, consisting of the main island of Mauritius, Rodrigues and several outer islands located at distances greater than 350 km from the main island. Mauritius has been successively a Dutch, French and British colony. It became independent from Britain on 12th March 1968 and acceded to the status of Republic within the Commonwealth on 12th March 1992. The country has a Westminster type of Parliamentary government. The official language is English, but French is widely spoken.

The population, estimated at 1.2 million, comprises Indo-Mauritians, general population i.e. people of mixed European and African origin and Sino-Mauritians. The islands of Mauritius and Rodrigues, with a total area of 1,969 sq km, have an overall population density of 629 persons per sq km. About 46% of the area is allocated to agriculture, 20% is occupied by built-up areas and 2% by public roads; the remaining consists of forests, scrub land, grasslands and grazing lands, reservoirs and ponds, swamps and rocks.

The climate is sub-tropical. The average mid-day temperature on the central plateau varies from 21°C in August to 27°C in February. Near the coastal regions, temperatures are about 4 - 5°C higher.

1.2 Structure, Trends and Current Economic Reforms

1.2.1 Structure of the economy

Mauritius is facing a sharp transition from dependence on trade preferences to open competition in the global economy. The decline in sugar and textile activities and significant growth in the services sector have brought about structural changes, transforming the country into a services-oriented economy.

The share of the primary sector in GDP has decreased from 12.9% in 1990 to 5.8% in 2005. Sugar cultivation which was the main component in this sector has its GDP share reduced from 8.0% in 1990 to 3.2% in 2005.

The share of the secondary sector, consisting of manufacturing, electricity & water and construction dropped from 32.0% in 1990 to 26.1% in 2005. The loss of trade preferences with the dismantling of the Multi-fibre Agreement has seriously affected the EPZ manufacturing sector whose share of GDP fell from 11.9% in 1990 to 7.5% in 2005. Within the secondary sector itself, the share of EPZ dropped from 36.5% to 27.3%.

The share of the tertiary sector has continuously increased from 55.1% in 1990 to 68.1% in 2005. The contribution of Hotels and restaurants increased from 3.9% of GDP in 1990 to 7.7% in 2005, and is expected to grow further with the new air access policy and promotion of new markets. The Financial Intermediation sector has emerged as the fourth pillar of the economy and represented 10.3% of GDP in 2005 compared to 4.9% in 1990. Promising new growth poles include ICT, seafood and medical tourism.

1.2.2 Economic trends and reforms

In 2005 Government introduced new economic reforms against the backdrop of less than satisfactory economic performance. In 2005/06, the economy grew by 3.5 percent, one of the

lowest growth rates in the last decade except for years of drought and cyclone. This low growth was caused by a fall in output in the textile and clothing sector and the poor performance of the sugar sector. As a result, the unemployment rate in 2005 was 9.6 percent, up from 8.5 percent a year earlier. Also the productivity – both of capital and labour – has been declining steadily since 2000.

Most worrying though is the trend in investment as a ratio of GDP. This ratio has been falling since 2000 to reach 21 percent in 2005. Worse still, the private sector investment, as a ratio of GDP, has declined from 16.5 percent in 2000 to around 15 percent in 2005. Foreign direct investment has not been impressive either although it increased from Rs. 1.8 billion in 2004 to reach Rs. 2.4 billion in 2005. The country's share in global FDI has continued to fall at an 8 percent annual clip, as investors have gone to other markets. Also the country's share in international trade has declined while that of other developing countries has increased. As a result, the trade deficit has doubled from Rs. 10 billion in 2003/04 and Rs. 20 billion in 2004/05 to Rs. 26 billion in 2005/06. The current account shows a deficit of Rs. 6.2 billion in 2004/05 compared to a surplus of Rs. 1.9 billion in 2003/04. And the net foreign reserves dropped to Rs 53.9 billion in June 2005 before recovering slightly to Rs. 61.9 billion at end June 2006 representing 8 months of imports.

The reforms which were announced during the budget speech 2006/07 aim to reverse this situation and have three main objectives, namely to: encourage private investment in new pillars; democratize growth to ensure that low-income workers and the unemployed participate fully in the recovery; and release growth by eliminating the high costs of regulations.

1.3 Need for Good Statistics

There is now broad consensus internationally that good statistics are a necessary part of the enabling environment for national development. The World Bank's 2004 World Development Report places strong emphasis on the role better statistical systems can play in improving the quality of services – as a stimulant to public action, a catalyst for change, and an input into making other reforms work. Better statistics, among other things:

- provide a basis for good policy and decision-making
- help identify best courses of action in addressing complex issues e.g. poverty
- are essential to manage service delivery
- are essential for transparency, accountability and democracy
- provide a sound basis for designing, management, monitoring and evaluation of national policy frameworks such as employment creation, Millennium Development Goals (MDGs), etc.
- are essential for managing for results which focuses on development outcomes.

But what are good statistics? The litmus test of good statistics is that they have quality (relevance, accuracy, timeliness, independence etc.) and integrity, are accessible and are produced efficiently. And the characteristics of good statistics include the following:

- good to the extent that they meet user needs,
- are available to a broad range of public and private users,
- are trusted to be objective and reliable, and
- have a breadth and depth of coverage to meet policy needs and inform the public.

The United Nations Fundamental Principles of Official Statistics (see Annex 1) provide guidance on all these matters. However in order to have good statistics, a country needs a good national

statistical system in the first place. Section 1.4 presents the national statistical system of Mauritius.

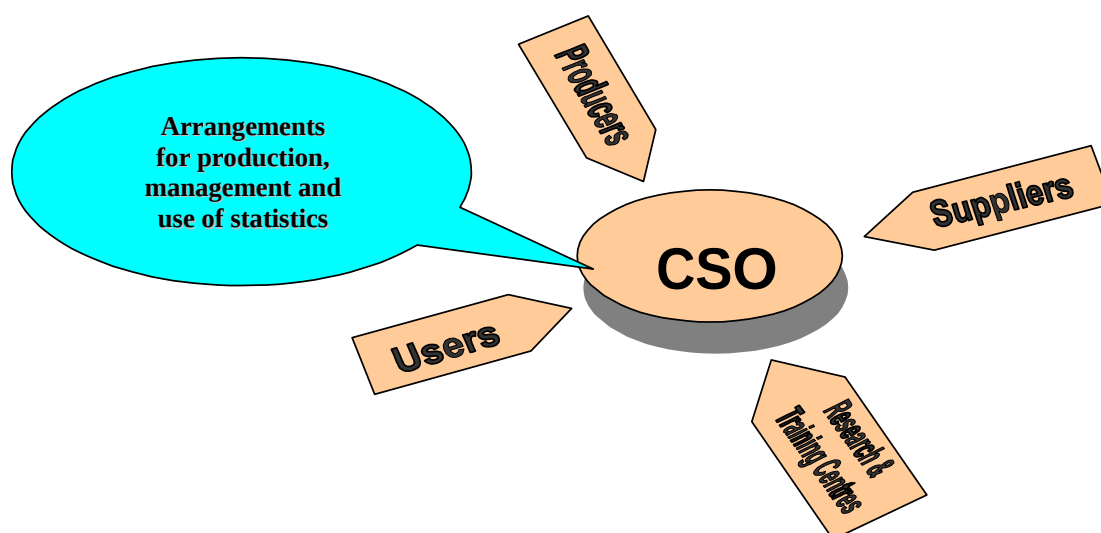
1.4 National Statistical System

Before the current status of the NSS is described, it is important that there is a clear appreciation of what the NSS is and what it is not. It is also important that the review of the current status of the NSS is done against the backdrop of desirable characteristics of a NSS. This will make the review of the system easier and more complete.

1.4.1 Concept of a National Statistical System

All too often, the concept of a National Statistical System (NSS) is not well understood and is often narrowly conceived to comprise data producers. A NSS comprises four main components and arrangements (usually formal) for data collection and management. The components are data producers, data users, data suppliers and research and training institutions (see Figure 1.1).

Figure 1.1: National Statistical System depicted



1.4.1.1 Data producers and their roles

Mauritius has a fairly centralized statistical system with most official statistics being produced by the Central Statistics Office (CSO). The following statistics are not covered by CSO:

- **Health Statistics:** these are collected, compiled and published by the Ministry of Health and Quality of Life,
- **Balance of Payments and Monetary Statistics:** these fall under the responsibility of the Bank of Mauritius, and
- **Food crop production** which are collected by the Agricultural Research and Extension Unit (AREU)

The role of data producers is to ensure that there is a continuous flow of high quality and accessible statistical data and information over an extended range of economic and social subject matter required by users for a host of purposes.

1.4.1.2 Data users and their roles

It is important to mention that users are the most important component of the NSS. Statistical data and information are produced because users are there to demand and use them. Indeed, there cannot be a sustainable NSS without good users of national statistics. In a sense, therefore, the NSS will be sustained to the extent that it is user-focused and demand-driven.

Data users are diverse and their number is large and ever increasing. The key categories of data users and uses of data are summarized in the following table:

Table 1.1 Main users and uses of statistics

User	Use
Government ministries and institutions	Policy & decision-making, planning, administration, monitoring, governance and accountability
Private sectors Economic agents (business enterprises, associations, trade unions, etc)	Assess business opportunities, risks and prospects; planning, decision-making, monitoring, evaluation; reporting on business activities
Research and training organizations (e.g. university)	Teaching aids, research and analysis
The media	To inform, analyze and report on various issues and events
Sub- regional organizations e.g. COMESA	For regional integration and reporting
International organizations	To assess requirements for assistance and/or participation in development initiatives and to evaluate the effectiveness of the assistance
The wider public	Making individual decisions and assessing the performance of government, and for a variety of other purposes including public debate

1.4.1.3 Data suppliers and their roles

One component of the NSS that is usually not mentioned much but which nonetheless is very important is the component of data suppliers. Data suppliers mainly include

- households
- individuals and groups within specified organizations
- establishments/enterprises

The role of data suppliers is to cooperate with data collecting agencies in supplying accurate information when requested and in the required form and time frame.

1.4.1.4 Research and training institutions and their roles

(a) Researchers: A lot of data collected by data producers are usually insufficiently analyzed. In order to add value to data and to do definitive and especially policy-related analyses, researchers, academicians, policy-analysts and specialists (e.g. poverty and gender analysts) should bring their subject-matter knowledge to bear on the process of data analysis. Essentially these intermediate data users turn data into usable information.

(b) Training institutions: Training institutions have a major role to play in meeting training needs for the NSS. They use or should use live data from the system for teaching and illustration as well as research purposes. Training institutions also should play the important role of developing and promoting appropriate data collection methodologies.

1.4.2 Characteristics of an effective National Statistical System

National Statistical Systems in both developed and developing countries are grappling with the questions: What is our mission? How do we perform and can we do better? How do we convince government that statistics are important and adequate resources are needed? These questions have led to major reviews of National Statistical Systems in many countries in recent past – in U.K and India and in many African countries including those in SADC sub-region.

There are a number of international standards against which the performance of NSSs can be gauged. These are presented in table 1.2.

The outcome of an effective NSS should be evidence-based policy and decision-making using quality statistics. There is broad consensus in the international statistical community that

- data quality enhances their credibility and usability, and,
- data quality is a multi-dimensional concept that goes beyond the traditional view that equates quality with accuracy.

The IMF has developed a Data Quality Assessment Framework (DQAF) that identifies five main dimensions of data quality. For each of these dimensions, DQAF identifies pointers that can be used to assess data quality. The quality dimensions are presented in table 1.3.

Table 1.2 Characteristics of a good NSS

Characteristic	Explanation
Comply with UN Fundamental Principles of Official Statistics (Annex)	Universally agreed that these principles are overarching framework for the mission of National Statistical Offices (NSOs) ¹ and indeed also for official statistics in any country. They give a set of fundamental values and principles, which NSOs and other data producers should have in order for the public to have trust in official statistics they produce. They cover issues of independence, relevance, credibility, access, confidentiality and respondent relations .
Strong statistical legislation	Generally agreed internationally that this is a fundamental prerequisite for an effective statistical system ² . A strong legal base is also central to the protection of confidentiality and the assurance of impartiality and objectivity of official statistics. In developing countries, the role of statistical legislation in the production and dissemination of official statistics is particularly critical.
Strategic direction	NSS should have a set strategic direction and get every stakeholder to pull in the same direction
User-focused and driven	NSS should be geared toward providing data for monitoring national development, good governance and accountability as well as meeting sub-regional and international data needs.
Coordination, collaboration, networking, and information sharing	NSS should have well-established, formal and institutionalized arrangements for coordination and collaboration among key institutions in the system. There should also be a developed culture of networking and information sharing among stakeholders in the NSS.
Leadership	NSS should not only be coordinated, it should be well led. Effective leadership of the NSS can only be provided by a well-resourced and well-structured NSO with technical expertise, organizational systems and capability to lead and coordinate.

Table 1.3 Dimensions of data quality³

Integrity	encompassing the institutional foundations that are in place to ensure professionalism in statistical policies and practices, transparency , and ethical standards .
Methodological soundness	covers the idea that the methodological basis for the production of statistics should be sound and that this can be attained by following international standards , guidelines and agreed practices.
Accuracy and reliability	relates to the notion that source data and compilation techniques must be sound if data are to meet users' needs. For most users, accuracy and reliability is the most sought out quality dimension.
Serviceability	this relates to the need to ensure that data are produced and disseminated in a timely fashion, with an appropriate periodicity; provide relevant information; are consistent internally and with other data sets; and follow a predictable revision policy. This dimension is also of great concern to users.
Accessibility	relates to the need to ensure that clear data and metadata (information about the data) are easily available, and assistance to users of data is adequate.

¹ *How We Are Doing: Performance Indicators for National Statistical Systems* by Willem F.M. de Vries, Netherlands Official Statistics, Vol. 13, Spring 1998.

² *Consultative Seminar on Governance of National Statistical Systems, Singapore, May 28-30, 2003.*

³ *Clare Liuksila, Statistical Organization Within a Data Quality Framework, Statistical Organization in Proceedings of a Seminar organized by the Statistics Department of the IMF, November 2000. Edited by*

1.4.3 History of statistics in Mauritius

Mauritius has a relatively longer history of data collection than many other African countries. For instance, the first complete Population Census was undertaken in the country in 1735 (but it was not published). Since then complete or partial censuses have been taken and published in 1846, 1851, 1861, 1871, 1881, 1891, 1901, 1911, 1921, 1931, 1944 (second world war), 1952, 1962, 1972, 1983, 1990 and 2000. In most African countries, complete censuses were not taken until after the Second World War.

The CSO was established in 1945 with a staff of eight persons to be the main data producer and the official organization responsible for the collection, compilation, analysis and dissemination of official statistics relating to various aspects of the economic and social activities in the country. It has grown over the years both in terms of functions and staffing levels. In addition to data collection, it is responsible for coordinating the NSS and is expected to become the central repository for all official statistics in the country. Currently it has a staff complement of 250.

1.5 Main Data Producers

It was mentioned earlier that the Mauritian NSS is decentralized with many data producers. These include:

1.5.1 The Central Statistics Office (CSO)

1.5.1.1 Establishment and Organization

The CSO is the main data producer and the official organization responsible for the collection, compilation, analysis and dissemination of official statistics relating to various aspects of the economic and social activities in the country. It operates under the Statistics Act of 2000. This Act establishes the Central Statistics Office (CSO) as a Department of Government and a central repository for all statistics produced in Mauritius, and confers on it authority to collect data from all types of enterprises and households, sets penalties for failure to provide the required information, provides for confidentiality of the information collected, puts restrictions on disclosure of the information and prescribes penalties for contravention of the provisions of the Act.

Currently, CSO is a Department in the Ministry of Finance and Economic Development. It has a Statistics Advisory Council established by the Statistics Act with specified functions and membership. Its Chairperson is appointed by the Prime Minister for a period of 3 years (and is eligible for reappointment for another term of 3 years), with the Director of Statistics as a member, and with not less than 10 and not more than 15 members with experience in statistical matters and broadly representative of groups or interests concerned with the production of statistics. The Act spells out the functions of the Council. Its basic function is to advise the Minister responsible for statistics on statistical matters.

The CSO is headed by a Director as the Chief Executive Officer. The Statistics Act spells out in detail the duties and functions of the Director of Statistics which include administration and control of the CSO, and coordination and monitoring of statistical activities in all line ministries and government departments, local authorities and other statutory bodies essentially to ensure standards and to minimize overlap and duplication in production of official statistics in the country. Specifically, the Statistics Act empowers the Director of Statistics to, *inter alia*,

- take any census in Mauritius;
- collect, compile, analyze, abstract, publish and otherwise disseminate statistical information relating to the commercial, industrial, financial, agricultural, social,

demographic, economic activities and general conditions of the people of Mauritius;

- collaborate with Ministries and Government Departments in the collection, compilation, analysis, publication and dissemination of statistical information including statistics derived from the activities of those Ministries and Departments;
- ensure the independence, accuracy, relevance, integrity, timeliness and professional standard of statistical information produced by the CSO;
- ensure the security and confidentiality of information collected under this Act

CSO is currently organized broadly by subject matter and caters for some 40 subject areas. These are divided into two subject matter divisions, namely Social Statistics and Economic Statistics. Besides, there is a third division looking after “Logistics and Research”. Each of these divisions is headed by a Deputy Director. The divisions are divided into subject-matter sections and units.

1.5.1.2 Coordination arrangements

CSO holds regular meetings with producers of data particularly for forecasting, e.g. National Accounts, Tourism, EPZ sector. Regular meetings are also held with users of data, e.g. Consumer Price Index Advisory Committee, Tourism stakeholders.

1.5.1.3 Infrastructure

(a) Office space: The CSO headquarters occupy rented space of about 1,860 m² on four levels of a private building in the capital city, Port Louis. There is a plan for the office to have its own premises.

(b) IT infrastructure: CSO does not have an IT division of its own and has among other things to outsource from the government’s Central Information Systems Division (CISD) the data entry functions for data from its surveys and censuses. This outsourcing stands a risk of putting confidentiality and privacy of statistical information at risk. Also the development of the IT infrastructure has very much lagged behind other NSOs in Africa.

There are at present 110 microcomputers and 57 printers in the CSO, representing one computer for nearly two officers and one printer for roughly four officers. The available computers do not have sufficient capacity to support the cartographic and GIS functions of the CSO. Various systems are used at the CSO including:

- Microsoft Office tools (including MS Excel, MS Word). These standard tools are used for word processing as well as for basic statistical tasks
- Database engines: Four types of database are used for data storage purposes, namely Dbase, Foxpro, Microsoft Access and SQL Server
- Statistical packages: The following software solutions exist at CSO – IMPS, STATA, SPSS, PEOPLE, EUROTRACE, WORKERS.
- Mapinfo and AutoCAD mainly for map drawing. It is important to mention that AutoCAD is also used by a number of public and private bodies including the Ministry of Housing and Lands.

There is a Local Area Network (LAN) in the office connecting 40 PCs and CSO has a well established website. The CSO is in a process of implementing an e-Business plan to provide a roadmap for harnessing IT to enhance its operations. It will pave the way for the electronic delivery of public services in line with e-Government objectives, enhancing its online presence by moving from mere “Publish” services to “Interact” and “Transact” services.

CSO has not been able to develop an integrated social, economic and environmental database with development indicators and data to support national development. The database will be developed as part of the e-Business plan.

(c) *Library:* There is a small library at CSO with limited stock of books and publications as well as reading space.

1.5.1.4 Staffing, recruitment, training and development

The staffing position at the CSO is currently as follows:

- 1 Director
- 3 Deputy Directors
- 5 Principal Statisticians
- 5 Senior Statisticians
- 34 Statisticians
- 43 Senior Statistical Officers
- 122 Statistical Officers
- 35 Non technical Staff

All grades from Statistician and above are professionals, while Senior Statistical Officers can be considered as sub-professionals. Thus the establishment consists of 48 professionals (22.5% of total), 43 sub-professionals (20.2% of total) and 122 support staff (57.3% of total). In the professional staff category, about 38% of the staff in post is female while in the sub-professional staff category, females constitute 61% of staff.

The CSO is part of the Civil Service, so its staffs are recruited by the Public Service Commission. The minimum qualification for appointment to the entry grade of Statistical Officer is a Cambridge Higher School Certificate with Mathematics as one of the subjects or equivalent. Officers in any grade can aspire to be promoted to higher grades if they acquire the necessary additional qualifications and experience.

1.5.1.5 Capacity building

Recruitment, training and development of staff remain one of the greatest challenges facing the CSO. A programme exists to provide ad hoc in-house training in basic statistics to new recruits. A human resource development strategy is being developed after the conduct of a Training Needs Assessment. Although expenditure incurred by CSO for training is very small, the office does benefit from external support.

1.5.1.6 Compliance with international standards, statistical principles and initiatives

Compliance with international standards, statistical principles and initiatives in the design and implementation of different statistical programmes and activities is essential to ensure comparability while transparency of methods is essential to ensure data credibility. It is, however, important to mention that international standards and recommendations have been adapted to the objective conditions in the country and SADC sub-region. Examples of use of international statistical principles and recommendations in statistical work in Mauritius include the following:

- The country has adopted the IMF General Data Dissemination System (GDDS) to improve data quality, provide a framework for evaluating needs for data improvement and setting priorities in this respect, and to guide the country in the dissemination to the public of comprehensive, timely and accessible statistics. It is planned that in 2007, the

country will subscribe to the IMF Special Data Dissemination Standard (SDDS) which has more stringent requirements than GDDS.

- The 2000 Population and Housing Census was carried out in line with the decision of the SADC Ministers of Population and Development to adopt a common census year, beginning 2000 and common methodologies. This led to SADC members starting a Project for the 2000 Population and Housing Censuses activities with the aim of strengthening the capacity of its member states in census takings and harmonizing standards on key definitions, concepts and methodologies on cartographic work, data collection, analysis and dissemination;
- National accounts in Mauritius are compiled in line with the latest standards for such compilation, i.e. the System of National Accounts (1993 SNA);
- In compiling National Accounts, a Classification of Individual Consumption by Purpose (COICOP) is used to classify household consumption;
- International Standard Industrial Classification (ISIC) Rev.3 is used by CSO to classify industries;
- Public finance statistics are compiled using the IMF's Government Finance Statistics (GFS86) Classification;
- Various subject-specific surveys, censuses and other data collection activities have also benefited from guidelines especially from those of UN agencies like FAO, WHO, ILO, UNESCO, etc.

1.5.1.7 Data dissemination

The CSO subscribed to the IMF General Data Dissemination System in 2000 and expects to graduate to the Special Data Dissemination Standard by 2007. It releases data following a pre-announced release calendar and in accordance with GDDS guidelines. Unlike many other statistical offices in Africa, the CSO publishes a detailed release calendar a year in advance indicating the title of the publication, the period it will cover, the month and date it will be released. The release calendar has served a dual purpose, namely to inform users which data to expect and when, and secondly it has helped the CSO to galvanize itself to meet user needs in a timely manner. In addition to the release calendar, the CSO produces a detailed publications list indicating which regular and occasional reports will be produced. For regular publications, the list indicates the title of the publication, when it was first issued, its frequency, year of the latest issue and price. For occasional reports, the list gives the title of the publication, when it was issued and the price. CSO's main publications include⁴:

- Digests of Statistics (*annual publications covering the whole spectrum of national social and economic life*). CSO also produces a separate Digest on the Island of Rodrigues.
- Economic and Social Indicators (*a quarterly publication that rapidly disseminates the main statistical data pending the publication of detailed digests*)
- Ad-hoc Reports (*tables and methodology reports following completion of censuses and surveys*)
- Mauritius in figures (*an annual publication that presents the main statistics in a pocket size format*)

All these publications are posted on CSO's website (<http://statsmauritius.gov.mu>). This has made CSO data easily accessible.

⁴ *Draft Strategic Plan 2006 – 2008, Central Statistical office, Port Louis, 2005*

1.5.1.8 Funding for Statistical Production

Government provides adequate funds to sustain the ongoing activities of the CSO under the recurrent budget. The capital budget earmarks funds for regular censuses and surveys like the decennial Housing and Population Census, the quinquennial Household Budget Survey, and Census of Economic Activities and other ad hoc surveys. The budgetary allocations for the last five financial years are given in the following table.

Table 1.4 Budgetary allocation to CSO ('000 US\$)

Budget	Budget year				
	2001/02	2002/03	2003/04	2004/05	2005/06
Recurrent (of which personnel)	1,375 (891)	1,419 (926)	1,682 (1,008)	1,867 (1,162)	1,886 (1,168)
Capital	491	206	89	242	164
Total	1,866	1,625	1,771	2,109	2,050

Source: CSO records

1.5.2 Other important data producers

These include:

- the Bank of Mauritius (BoM) which produces substantial amounts of data on Foreign Direct Investment (FDI), Balance of Payments (BoP), Money and Banking, etc.
- line ministries which produce a lot of administrative data. These include:
 - ✓ Ministry of Health and Quality of Life (*health statistics*)
 - ✓ Ministry of Industry, SMEs, Commerce and Cooperatives (*statistics on Export, Processing Certificate Establishments and cooperative societies*)
 - ✓ Ministry of Public Utilities (*energy and water statistics*)
 - ✓ Ministry of Environment (*environment statistics*)
 - ✓ Ministry of Agro Industry and Fisheries (*fisheries statistics*)
 - ✓ Ministry of Women's Right, Child Development & Family Welfare (*domestic violence, child neglect, etc*)
 - ✓ Ministry of Justice & Human Rights (*court statistics*)
 - ✓ Police Department (*crime statistics*)
 - ✓ Passport and Immigration Office (*international arrivals and departures*)
 - ✓ Ministry of Social Security, National Solidarity and Senior Citizen Welfare and Reform Institutions (*pension contributions and benefits, social aid*)
 - ✓ National Transport Authority and Traffic Management Unit (*road transport and road accident statistics*)
 - ✓ Ministry of Education (*education statistics*)
 - ✓ Agricultural Research and Extension Unit (AREU) (*food crop production*)
 - ✓ Ministry of Labour, Industrial Relations and Employment (*statistics of job seekers, work accidents and industrial disputes*)
 - ✓ Ministry of Information Technology and Telecommunications (*ICT statistics*)

The CSO has out-posted staff to line ministries except the Ministry of Health and Quality of Life and the former Ministry of Fisheries where, for historical reasons, the two ministries developed their own statistical systems.

Outside CSO and government ministries and departments, there are other data producers. The Centre for Applied Social Research (CASR) established in 2000 jointly by the University of

Mauritius and the Mauritius Research Council undertakes research on the Mauritian society. For it to be able to do this, the Centre collects data on a number of subjects. Business organizations such as the Mauritius Chamber of Commerce and Industry, the Mauritius Sugar Syndicate, the Mauritius Chamber of Agriculture, and the Mauritius Employers' Federation also compile all sorts of data. And some non-governmental organizations produce and compile data from their administrative records and conduct surveys from time to time. One of the leading NGOs is the Mauritius Family Planning Association which has carried out studies on abortion and AIDS-related risk behaviour in Mauritius.

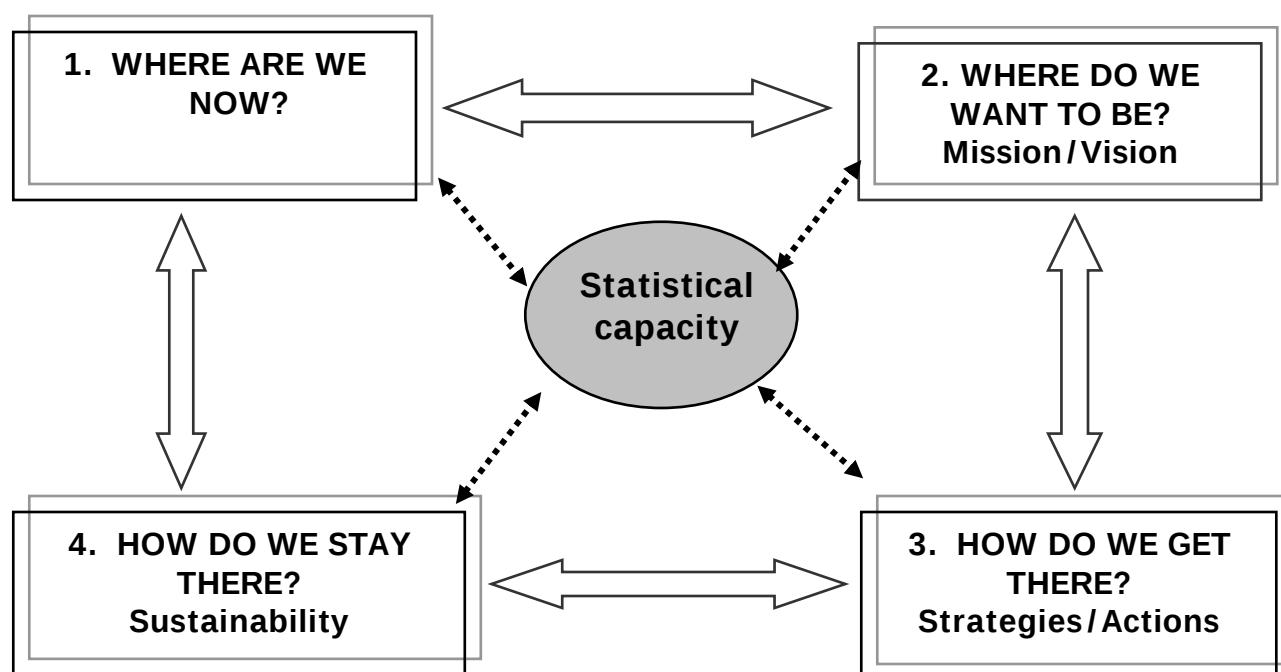
The next chapter presents an assessment of the National Statistical System.

2. ASSESSMENT OF THE NATIONAL STATISTICAL SYSTEM

2.1 Need for the Assessment

Very few countries will be starting strategic planning from scratch⁵. The purpose of the National Strategy for the Development of Statistics (NSDS) will normally be to build on and extend the current initiatives e.g. the IMF GDDS and structures to improve an existing NSS. As can be seen in figure 2.1, the assessment of the NSS should be the first step in the development of the NSDS. It is desirable that such an assessment is deep, realistic, objective and detached and a critical assessment of the current status of the NSS, including from the user perspective and taking account of ongoing improvement programmes. It should use best practices and be benchmarked against international standards and frameworks as appropriate. The assessment should lead to an understanding of the adequacy of the outputs and the organisation and management of the NSS as a whole.

Figure 2.1: Graphical presentation of the NSDS process



The assessment of the NSS was undertaken to create an understanding and paint a picture of where the NSS is now in terms of:

- legal and institutional framework for production of official statistics;

⁵ *Exceptions may relate to countries emerging from conflict where the pre-existing system may have been effectively destroyed, or new countries where statistical institutions do not exist or are quite rudimentary.*

- linkages and co-ordination arrangements among producers and between producers and users of statistics;
- current and future user needs;
- existing capacity (institutional, infrastructural, technical and resources) to meet these needs and fill existing capacity gaps;
- how statistics are produced - methods and procedures, adherence to international standards, constraints and problems, etc.; and
- how statistical data are processed, analysed and archived (IT policies and standards, databases).

2.2 The Process

In designing any strategy, careful attention should be paid to the process because it is now a truism that the process is as important as the strategy itself. In particular, it should be ensured that the process is participatory and inclusive, with key stakeholders mainstreamed and involved to ensure ownership of both the process and the product strategy. It should also be best practice compliant. The process of assessing the NSS has taken quite some time as can be seen below and did not pick pace until 2006.

For some time, there has been a felt need to restructure the CSO and reform the NSS to make production of official statistics more efficient. In order to meet this need, a number of efforts and assessments have been made since late 1990s and they include:

- Overhauling the 1951 Statistics Act by Parliament in 2000. The new Act is now more in line with the United Nations Fundamental Principles of Official Statistics.
- A review by the Pay Research Bureau (PRB) in June 2003 which recommended that the CSO should be restructured on a functional basis.
- A technical audit of the structure and functions of the CSO undertaken in September 2003 by Mr. Bill McLennan (who was Head of the UK Government Statistical Services from 1992 to 1994, Head of Australian Bureau of Statistics from 1995 to 2000, and Chairman of the UN Statistical Commission from 1993 to 1994). He considered the structure of the CSO to be inappropriate and his recommendations were similar to those of the PRB.
- An audit of CSO's IT infrastructure undertaken in June 2003 by Dr. Phan Tuan Pham, an Advisor on Informatics at the United Nations Statistics Division.
- A mission on Observance of Standards and Codes (ROSC) was undertaken by the IMF in April 2002.
- A national statistical audit was undertaken in May 2003 by the SADC-EU Statistical Training Project,
- A mission by Mr. William de Vries, the Deputy Director, United Nations Statistics Division undertaken from 1 to 5 May 2004. He held discussions with different ministries. He made a presentation on organization and management of the CSO.
- A mission by Mr. O. O. Ajayi, an AfDB consultant and formerly the Director General of the Nigerian Federal Office of Statistics undertaken in September 2005. He held consultations with key stakeholders towards the formulation of the Reference Regional Strategic Framework for African Statistical Capacity Building in Africa (RRSF).

Unfortunately, the recommendations made in all the above reviews, audits and consultations were largely unimplemented. This was due mainly to almost all top management posts remaining unfilled for 6 years in the wake of lengthy judicial procedures for resolution of staff dissatisfaction resulting from a first selection exercise by the Public Service Commission. However in 2005, CSO saw the need for and actually developed a medium-term Strategic Plan (2006 -2008) to guide it in developing statistics in the country. Key stakeholders in government and out of government (e.g. the private sector organizations) were consulted. The development of the Plan also took on board recommendations of the above mentioned reviews, audits and consultations.

It is important to emphasize that NSSs are part of the larger international statistical system and their development is impacted by what happens internationally. One of the international events that will profoundly impact NSSs in developing countries is the International Roundtable Meeting on Managing for Development Results held in Marrakech, Morocco in 2003. The meeting identified better statistics as a priority of the results agenda and came up with an action plan for improving statistics - The Marrakech Action Plan for Statistics (MAPS). According to MAPS, *“National statistical systems can meet the monitoring and evaluation requirements of PRSPs, MDGs and other national development plans' through integrated statistical plans covering all data sectors and users' and to increase the “number of countries with a fully costed, integrated statistical action plan”*. MAPS has set 2006 as the target date by which all poor developing countries should have developed a National Strategy for the Development of Statistics (NSDS) and to have started to implement it the following year with a view to producing better statistics for national and international use by the time of the next Millennium Review in 2010. The design of the NSDS is also recognized and presented as the overarching action by the Reference Regional Strategic Framework for Statistical Capacity Building in Africa (RRSF). The RRSF was endorsed by the meeting of Directors of national statistical offices in Africa (STATCOM-AFRICA) and the Forum on African Statistical Development (FASDEV) both held in Addis Ababa, Ethiopia in February 2006.

Early 2006, the African Development Bank (AfDB) undertook to assist Mauritius design an NSDS. During the mission of Prof. Ben Kiregyera, the AfDB consultant (27 February – 18 March 2006), various meetings were held with high government officials including the then Financial Secretary (designate), Senior Chief Executive (Ministry of Agro Industry and Fisheries), Director of Pay Research Bureau, Director of Audit, Chairperson of the Statistics Advisory Council, Permanent Secretary in the Ministry of Civil Service and Administrative Reforms (Prime Minister's Office), high level officials at the Ministry of Health and Quality of Life; the Director of Joint Economic Council; the Pro Vice Chancellor and staff of the University of Mauritius, the Director of Research Department at Bank of Mauritius, and the Director and staff of the CSO. The mission culminated in a major workshop on NSDS which brought together CSO, the Chairperson and members of the Statistics Advisory Council and high level stakeholders from: the Pay Research Bureau, the Bank of Mauritius, line Ministries, local authorities, the University of Mauritius, the private sector, the Joint Economic council, the National Economic and Social Council, the Mauritius Research Council, the media, labour unions, civil society (ACIM, MACOSS) as well as international organizations (UNDP, WHO, European Union). The workshop endorsed a number of proposals, the key one being to make the CSO an autonomous agency of government in order to make provision of official statistics more effective and efficient, and also to make the statistics more credible. This proposal was picked up by the Minister of Finance in the Budget Speech in June 2006.

A follow-up mission by the AfDB consultant was undertaken from 24 July to 11 August to advise and assist in drafting the NSDS for Mauritius in line with the workshop findings and further discussions with top level authorities both within and outside government. During this mission, the following activities were undertaken:

- a mini-workshop was organized for professional staff to go through key issues related to the NSDS, including the concept of NSS, the NSDS essentials and process, and key strategies for improving the NSS. The concept of autonomy was articulated.
- meetings were held with professional statisticians working in sector ministries with their supervisors at CSO to discuss how to assess sector statistics and agree on what information was needed as input into the NSDS from the sectors.
- further discussions with the Senior Adviser/Chief of Staff, Prime Minister's Office; Solicitor General and his Deputy; Senior Executive Officer, Ministry of health and Quality of Life; Director of Pay Research Bureau; Director General and senior staff of the Mauritius Revenue Authority; and various officials of the Ministry of Finance and Economic Planning.
- Establishing an electronic NSDS Bulletin to be shared with key stakeholders about progress in the NSDS process.
- Preparation of an Information paper for the Cabinet on proposed statistical reforms.
- Drafting the NSDS document.

2.3 Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

2.3.1 The tool

A “Strengths, Weaknesses, Opportunities and Threats” (SWOT) analysis is a powerful diagnostic tool used to assess the organization and its environment. The SWOT analysis was carried out on the NSS to:

- identify and evaluate controllable activities in functional areas among stakeholder agencies in the NSS which are performed especially well (**strengths**) or poorly (**weaknesses**), and
- identify and evaluate trends and events which are external to the system and largely beyond its control (e.g. economic, social, environmental, political, legal, governmental and technological trends and events) but which could benefit (**opportunities**) or harm (**threats**) the system.

Once the SWOT analysis is well done, strategies for improvement of the NSS suggest themselves. The results of the SWOT analysis are used to identify possible strategies as follows:

- **build** on the system's strengths,
- **mitigate** or eliminate weaknesses,
- **exploit** or take advantage of opportunities,
- **avoid** or reduce the impact of threats.

Based on the assessments highlighted above, a “Strengths, Weaknesses, Opportunities and Threats (SWOT)” analysis of the NSS was undertaken. The results of the analysis are summarized in the following table.

Table 2.1 SWOT analysis table

Strengths	Weaknesses
1. Statistical awareness and use of statistics	1. Some weaknesses in Statistics Act
2. Existence of a modern Statistics Act (2000)	2. Insufficient coordination between users and data producers
3. CSO has recognized authority in statistics	3. Inappropriate structure of CSO
4. Existence of different data sources	4. Inadequate human resources
5. Existence of Statistics Units in line ministries	5. Weak IT infrastructure
6. Existence of a Common Statistical Service	6. Inadequate information and knowledge generation
7. Network with local and foreign institutions	7. Unsatisfactory information knowledge management
8. Existence of a dissemination policy and publication programme	
9. Strong customer care	
10. Existence of a Strategic Plan (2006-2008)	
Opportunities	Threats
1. Ongoing Civil Service reform	1. Lengthy procedures for staff recruitment
2. Government policies	2. Response rates
3. Sub regional and international commitments	3. Budget constraints
4. Access to sub-regional resources and facilities	4. Erroneous interpretation
5. Possibilities to share knowledge and experiences	
6. International standards, frameworks and classifications	
7. Advances in Information and Communication Technology (ICT)	

2.3.2 Main Strengths

2.3.2.1 Statistical awareness and use of statistics

Statistics is taken a lot more seriously in Mauritius than in many other African countries. There is, therefore, relatively higher statistical awareness and use of statistics for evidence-based policy and decision-making at different levels in government and non-governmental agencies. Users are generally satisfied that CSO is playing a critical role of availing needed statistics for policy design and decision-making.

2.3.2.2 Existence of a modern Statistics Act (2000)

Many countries in Africa have outdated Statistics Acts. However, Mauritius has a modern Statistics Act of 2000. The Act largely conforms to the UN Fundamental Principles of

Official Statistics. The Act follows a fairly standard pattern used in many countries. The Act provides the legal basis for statistical work of CSO including the work of Statistics Units manned by CSO.

2.3.2.3 CSO has recognized authority in statistics

CSO has a recognized legal mandate on Statistics deriving from the Statistics Act (2000) which, among other things, defines the objectives and functions of the CSO, the statistical information it can collect and powers to collect such information, confidentiality of the information collected, restrictions on disclosure of the information and penalties for contravention of the provisions of the Act. This mandate is recognized among users and other producers of statistics in the country. The legal mandate aside, the CSO is recognized as an authority on statistics and is looked to for guidance on statistical matters by key stakeholders in the country because of its core competencies or unique capabilities in performing certain statistical functions. These competencies arise from the skilled workforce at the CSO.

2.3.2.4 Existence of different data sources

Different types of data are required for effective and evidence-based policy and decision-making at different levels. These data come from three main sources, namely, administrative records, censuses and surveys. These sources are outlined hereunder.

(a) Administrative records

Administrative records are the simplest and cheapest source of official data that are provided routinely as by-products of administrative processes in government ministries and departments. Much of the data from this source are collected and compiled primarily for internal use including planning, administration, decision-making and reporting. Realizing that a lot of data from this source remain in raw form and are not turned into information for management, increasingly, their collection and management are being systematized, published and made available for use by other stakeholders. Indeed, **Management Information Systems (MISs)** have been established in many line Ministries. These MISs are a rich source of statistical information mainly for sector-specific policies and programmes. In order to improve the quality of data from this source, CSO has out posted professional statistical staff to most line ministries and departments as was mentioned earlier.

CSO uses these records as sources of secondary data which it publishes in various digests and uses them in GDP estimation. Secondary data are compiled on transport and communication, trade, tourism, agriculture, education, gender, environment, cooperatives, energy, health and housing, etc. Some of the data are used to compile GDP. As was mentioned earlier, the CSO has its staff manning Statistics Units in a number of ministries and it is able to monitor the quality of the data they compile.

(b) Censuses

A census is another source of official statistics. A census is a statistical enquiry that involves complete enumeration of the whole population (or universe). From censuses, we obtain basic data needed for planning for socio-economic development. Censuses have a number of advantages. These include:

- provision of basic or benchmark data;
- provision of highly disaggregated data i.e. estimates for various domains – geographical, agro-ecological, administrative or some other domain (e.g. gender);

- provision of supplementary information that is required for efficient planning of sample surveys;

The main disadvantages of censuses as a source of official statistics include high cost which makes it difficult to carry out the censuses frequently, lack of timeliness and less accuracy. The most important censuses carried out in any country are:

- Population and Housing Census: This is the main source of data that are a basis for administration and planning for socio-economic development in any country. Census data are also used as the base for most development indicators e.g. literacy rates, mortality and fertility rates, etc. Mauritius last conducted a Population and Housing Census in 2000.
- Census of Economic Activities: This census collects data on operating characteristics and structure of all economic activities outside agriculture and assesses the contribution of each sector in the overall economy. It also provides data for compiling national accounts, production and productivity indexes. This Census was last conducted in 2002. Phase I of the census collected data on small establishments and itinerant units by direct interview while Phase II collected data from large establishments by mail.

(c) Sample surveys

Sample surveys are enquiries in which data are collected from a sample (or subset) of the population rather than the whole population. On the basis of sample observations, inference or general statements are made about the whole population and its characteristics. It is, therefore, important that as much as possible, the sample should represent the population from which it is drawn.

Two types of surveys are undertaken by CSO, namely household-based and establishment-based surveys. Household-based surveys, frequently large scale, have become the major sources of data for monitoring national development plans and progress towards the MDG in Africa. In Mauritius, the CSO undertakes household surveys mainly through the Continuous Multi-purpose Household Survey which started in April 1999. The main household surveys undertaken in recent past include the Household Budget Survey (2001/2), Labour Force Survey (1995) and the Continuous Multi-purpose Household Survey (CMPHS) which is an integrated survey programme with different modules. Establishment-based surveys include the Survey of Employment and Earnings which is conducted annually.

Sample surveys have a number of distinctive advantages over censuses. Sample surveys are less costly, lead to increased accuracy and do provide data in a timelier manner. However, sample surveys have a number of limitations. They are unable to provide highly disaggregated data (e.g. local area data). They are also subject to sampling errors. However, the magnitude of these errors can be controlled and measured when the surveys are based on samples that are randomly (scientifically) selected.

2.3.2.5 Existence of Statistics Units in line ministries

There exist Statistics Units in line ministries and other bodies (see section 1.5: Main Data Producers). These units are responsible for organizing schemes of data collection and management including data dissemination on sectors. As was mentioned earlier, CSO has seconded a number of its professional staff to man these units. These professionals are

supported by supervisors at CSO. All this has helped to improve the quality of administrative data.

2.3.2.6 Existence of Common Statistical Service

In decentralised statistical systems of both developing and developed countries, one of the main constraints to data production and management in line ministries is lack of motivation, despondency and high staff turnover. This is usually attributed to a small establishment that limits career prospects for staff as well as non-conducive terms and conditions of service. In addition, professional statisticians in line ministries have tended to lack peer advice and support, have missed out on training opportunities and failed to share in joint professional standards and a common sense of purpose. They have also tended to be isolated and to become more susceptible to inappropriate political pressure.

Mauritius has a well established Common Statistical Service which has eluded many African countries. Under this service, all professional statisticians manning Statistics Units in government ministries belong to CSO. The Common Statistical Service has immense benefits for the NSS that include, among others:

- promotion of professionalism and better co-ordination of statistical work in government ministries through peer advice and support, ensured training opportunities and a share in joint professional standards and a common sense of purpose.
- cost effectiveness in statistical production through sharing of strategic human resources and skills.
- improved career prospects for statistical personnel. In a number of line ministries, there are two or so staff positions for professional statisticians, which do not offer much in terms of career prospects. By having all statistical staff under one umbrella, an appropriate career path can be developed for them.
- better prospects for training and professional advancement for statistical staff.
- improved quality of administrative data.

This service could well provide a model for the rest of Africa.

2.3.2.7 Network with local and foreign institutions

The importance of networking cannot be over-emphasized. The CSO has established a network with local and foreign institutions. This makes it possible for CSO and its staff to share knowledge, experience and information with these institutions.

2.3.2.8 Existence of a dissemination policy and publication programme

It must be emphasized that statistical information is of no value unless it reaches those who need it, can be easily understood and is actually used. It is, therefore, of crucial importance that statistical information are widely disseminated and used. CSO has a dissemination policy and programme. As was mentioned earlier, CSO has a release calendar in compliance with GDDS. It also produces and publishes a detailed publications list indicating the title of the publication, when it was first issued, its frequency, year of the latest issue and price, and which regular and occasional reports will be produced. The publications list for CSO staff is published on its web site.

2.3.2.9 Strong customer care

CSO takes seriously customer care. In June 2006, it released a Customer Charter that spells out its vision, mission, structure, mode of operation, services and products. It also states the

CSO commitment to international standards and methodologies, data confidentiality and its commitment to the customer.

Also as part of customer care, CSO has considerably reduced the time it takes to release results from main censuses and surveys as can be seen in the Table 2.2.

Table 2.2: Time-lag between completion of field work and dissemination of results of main censuses and surveys

Census/survey	Time lag (months)
Population census	18
Housing census	7
Household Budget Survey	5
Continuous Multi-purpose Household Survey	3
Census of Economic Activities	8

Source: CSO records

2.3.2.10 Existence of a Strategic Plan (2006-2008)

CSO has a medium-term Strategic Plan (2006-2008). The plan was designed in a consultative and participatory manner, taking on board views of main stakeholders in the country. The main strategic objectives of the Plan are:

- to improve the quality of statistical products and services
- to boost staff motivation and satisfaction
- to improve data dissemination
- to assist in the development of the national statistical system
- to raise public awareness about statistics and the CSO
- to make more effective use of IT

Such a plan helps to focus vision, establish priorities, recognize opportunities, measure progress towards goals, inventory organizational assets and debits, connect aspirations and strategies, usher in changes, and get input and involvement from stakeholders.

2.3.3 Main Weaknesses

Many national statistical systems in Africa are riddled with organizational and institutional weaknesses many of which are universal to any large-scale organization (public or private). Often the weaknesses are not overwhelming; they are just persistent and will recur even when resolved. The following were identified as some of the weaknesses in the NSS.

2.3.3.1 Some weaknesses of the Statistics Act

The current Statistics Act has a number of weaknesses which include the following:

(a) Scope

It is CSO-centric and is not holistic in the sense of covering the whole NSS. For instance, the Act does not cover the statistics activities in the Ministry of Health and Quality of Life. The Act also does not cover The Rodrigues Regional Assembly. There is, therefore, a need to expand the Act to cover the entire NSS.

(b) Powers to the Minister and Statistics Advisory Council

The Act gives powers to the Minister to approve how data are collected and to have a say in the disclosure of information. These are professional functions which should be left to the CEO of the Statistics Office.

The provision for the Council to make public statements may undermine the authority of the CEO of the Statistics Office. The Act does not provide for the minimum number of meetings that the Council should hold in a year or for making formal reports to the Minister. Without such a legal requirement, there can be some laxity on the part of the Council.

(c) Appointment of Director of Statistics and security of tenure

The post of the Director of Statistics is very important. It is important that the Director should have a strong professional bend, be highly independent, have demonstrable excellent managerial instincts, have good contacts in government, etc. He/she should be looked at as an embodiment of the status, image, integrity and professionalism of the CSO, the national statistical system and the statistical profession. He/she must protect the integrity, credibility and impartiality of official statistics while being accountable to and taking political guidance from the Minister responsible for statistics. The Act assumes that the normal civil service procedures will apply to the appointment and protection of the Director of Statistics against external interference in his/her work. It is important that the Act specifically provides for the appointment of the Director through a transparent process of open competition. Mr. Roger Edmunds (former Chief Statistician of the British Department for International Development) has observed that the rules for the appointment of the Director and their application “*should be seen to be fair and demonstrably non-political. Open competition and limited term appointments will protect the impartiality of the post. Conversely, opaque mechanisms of government patronage will raise suspicions of the unhealthy closeness between the Head (Director) of the CSO and policy makers*”⁶.

It is becoming an emerging trend to appoint the Directors of CSOs on a fixed term contract (renewable) and to provide legal safeguards to prevent their arbitrary appointment and dismissal. The Statistics Act does not provide for this.

(d) Coordination arrangements

The Statistics Act provides for the Director of Statistics to “*coordinate and monitor statistical activities in all Ministries and Government Departments, local authorities and other statutory bodies*”. It, however, does not provide for how this should be done.

(e) Fines

Specific penalties for contravention of the provisions of the Act are provided. A number of sub-sections of the Act read as follows “.....*shall, on conviction, be liable to a fine not exceeding ***** rupees*”. The experience in many countries in Africa is that these figures can lose meaning in a short order if inflation escalates. For instance in a SADC country where currently inflation rate is above 600%, fines previously quoted in the Statistics Act amount now to a fraction of a cent and have no meaning whatsoever.

To avoid this problem, the fines are included in the regulations which the Minister responsible for statistics shall make and amend from time to time.

⁶ Roger Edmunds, *Models of Statistical Systems, PARIS21, October 2005*

2.3.3.2 Insufficient coordination between users and data producers

Evidence-based policy-making exists when policy decisions are based on careful and rigorous analysis using sound and transparent statistics. In the past, statistics have been used mainly for monitoring and evaluation - “downstream roles” - as areas where statistics could be used to support policy-making. However, it is becoming increasingly evident that policy outcomes are crucially affected by the use of statistics in “upstream” stages of policy-making such as issue recognition, programme design, policy choice and forecasting⁷. Generally, data producers have not been involved in policy discussions so that they can get statistics to play “upstream roles” in identification of policy issues. There is information that this is beginning to change as from the beginning of 2006. CSO is beginning to get invited to participate in government policy discussions.

Generally, coordination between data producers and data users is insufficient. For such coordination to be effective, it should be on-going, with standing data user-producer committees on different sectors. Presently there are two such committees, one on tourism sector and the other on manufacturing sector which meet once every quarter. These committees have not been established. In addition, stakeholder workshops where key statistical issues and survey results are discussed are not frequent.

Good coordination among data producers has to a large extent been achieved through the common statistical service with Statistics Units in most ministries manned by CSO staff. Where CSO does not have its staff manning a Statistics Unit as is the case with the Unit in the Ministry of Health and Quality of Life, coordination is unsatisfactory. Also CSO works closely with the Bank of Mauritius on statistical matters. On environmental statistics, it was reported that there are many institutions involved in the collection and archival of data, and that sometimes duplication of effort does occur, and that there is no harmonization and standardization in the collection and archival of environmental data. It was also reported that data on environment are scattered among various institutions/organizations in the public, private and NGO sectors and are not easily accessible.

(a) Insufficient coordination, networking and information sharing within CSO

Coordination, networking and information sharing within CSO itself is not as good as it could be. There is still “silo mentality” and the Local Area Network is not used as much as it could to improve communication and information sharing within the organization. There is also no newsletter either within CSO or across the National Statistical System.

(b) Insufficient coordination between data producers and the University

The role of the University in the development of the national statistical system cannot be over-emphasized. In addition to playing a major role in training statistical personnel, the University should use live data for teaching and illustration purposes. It should also play no less important role of developing and promoting appropriate data collection methodologies. On the other hand, data producers should influence what is taught at the University and CSO courses in statistics at the University.

The University of Mauritius has a Department of Economics and Statistics. The Department offers a joint programme of B.Sc (Hons) in statistics and economics which aims at equal emphasis on theory and application. It also runs a B.Sc (Hons) in statistics with either computer science or economics. The Department has in the past offered a tailored course to

⁷ *Measuring Up to the Measurement Problem: The Role of Statistics in Evidence-based Policy-making, PARIS21 Secretariat, Paris, March 2005.*

CSO staff on “Statistical Analysis and SPSS”. It was also reported that in the past, the Department offered a training programme in applied statistics at the request of CSO but this was discontinued. Teaching of official statistics at Universities should be promoted to produce graduates who will not require a lot of time to get them to function well as statistical personnel.

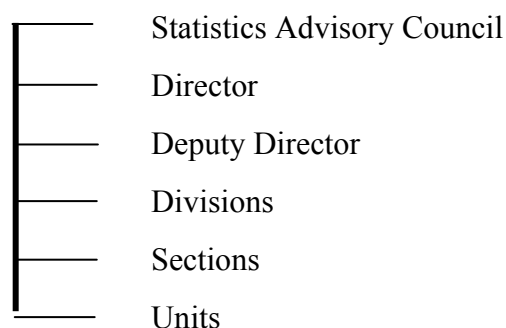
(c) Information sharing

The importance of information sharing is best encapsulated in the following quotation, “a little information, when shared, can go a long way”. Information should be made as widely and freely available as possible while safeguarding the privacy and protecting confidentiality and proprietary information. Why is information sharing important? Information sharing is very important especially for information that cannot be easily replicated. It reinforces open scientific enquiry, encourages diversity of analyses and opinion, promotes research, makes possible the testing of new and alternative hypotheses and methods of analysis, supports studies on data collection methods and measurement, enables the exploration of topics not envisioned by initial investigations, and permits the creation of new datasets when data from multiple sources are combined.

Information sharing in the country is not satisfactory and factors limiting information sharing include such things as the usual “silo mentality” - people wanting to do their own thing, data are sometimes not properly processed and analyzed by institutions holding them, full documentation may be missing, and information may not be stored in a readily accessible format. There are also physical and human resources constraints including deficiency of IT infrastructure or personnel to use the infrastructure. There is also no newsletter which all stakeholders in the statistical system can share.

2.3.3.3 Inappropriate structure of CSO

In organizational science, structures are not created to fit individuals; rather individuals fit into established structures. The current structure of CSO is not only inappropriate (a point made by McLennan in 2003) but is also confusing. It does not lay out the structure of the office properly. The current structure which is hierarchical should look like the following:



A new structure is proposed as part of the NSDS.

In addition to the inappropriate structure, there is confusion about professional career progression with managerial posts. Professional career progression should not be constrained by available administrative posts as is the case now. It is important to distinguish between professional career progression and managerial posts (see proposed career path in the next sub-section).

2.3.3.4 Inadequate human resources

The CSO is a scientific organization and like all such organizations, it should be run by highly professional and motivated staff. The importance of staff to a statistical agency cannot be over-emphasized. The United Nations posits thus, *“Nothing is as important to a statistical agency as its staff. For the difference between a well-organized, strongly motivated and technically competent staff, and one that only displays these attributes to a very modest extent is the difference between a good and credible office and one which is second rate. A decisive factor in the internal capability of a statistical agency is the caliber of its staff. An agency can only function well if good people are available to make it work. Organizational arrangements may contribute to enabling good people to do their work, but is essential to give utmost attention to building up the right kind of staff in organizing and managing a statistical agency”*⁸.

It is also important to mention that the complexity of activities expected to be undertaken by a modern CSO requires a wide range of talents to make it sufficiently versatile and effective. Accordingly, the CSO staff complement should be multi-talented with a variety of skills and academic backgrounds including statistics, demography, economics, sociology, information and communication technology, cartography, management, mass communication and public relations, marketing, etc.

While main data producing agencies including the Bank of Mauritius and line ministries indicated that they are insufficiently staffed, CSO faces a different set of staffing problems, including low professionalization, high vacancy rate and inappropriate staff mix.

(a) *Low professionalization:* Professional staffs are graduates with University degrees in statistics or related fields and they operate at a higher level. They assess user requirements, design data production systems, do data analysis and write statistical reports. On the other hand, sub-professionals are holders of the Higher Certificate in Statistics (formerly Stage I) awarded by the Royal Statistical Society. They generally perform at lower and intermediate levels and, moreover, in supportive roles to professional staff in such areas as data compilation, data entry, tabulation, etc. Other staffs include all those who do not fit into the category of professional and sub-professional staff.

It is important that the percentage of professional staff is sufficiently high for the CSO to perform its functions properly. The professionalization level of CSO is low. This can best be appreciated by benchmarking the level at CSO Mauritius against the levels in other African countries. It can be seen from the following table that while only 16% of all CSO staff in Mauritius are professionals, the percentage is 44% for Statistics South Africa and 41% for the Uganda Bureau of Statistics. The United Nations recommends a professionalization level of 50%. All this suggests the need to reduce the percentage of non-professionals and others, and increase that of professionals.

Table 2.3 Staffing levels by category (%)

Staff category	Mauritius*	South Africa	Uganda
Professionals	16	44	41
Sub-professional	22	47	24
Other	62	9	35

Source: CSO administrative records

⁸ UN Handbook, opt. cit.

One of the consequences of having many staffing gaps at high level is that professionalizing the CSO and staff development in general have become difficult. Among other things, the senior staff are expected to design programmes and systems for data collection and management, revise data collection instruments, coordinate with data users, do more detailed data analysis, supervise, train and mentor the more junior staff. For 6 long years, CSO had a deficit of 8 high level professionals to do this.

Partly because of this reason, CSO has not been holding periodic professional seminars, subscribing to international professional associations and contributing papers to learned journals.

(b) Vacancy rate: Many key posts at CSO were vacant for 6 years running until recently which did not help in professionalizing the office. In particular, all 3 and 5 established posts for Deputy Director of Statistics and Principal Statisticians respectively were vacant for this long. Twenty percent of Senior Statistician posts and about 30% of Statistician posts have also been vacant.

(c) Staff mix: The complexity of activities expected to be undertaken by a modern CSO requires a wide range of talents, a variety of academic backgrounds including statistics, demography, economics, sociology, IT, cartography, management, mass communication and public relations, marketing, accountancy, etc. to make it sufficiently versatile and effective. CSO does not have the kind of staff mix mentioned above. Obviously this has adversely affected the whole programme of professionalization of CSO, undertaking data analysis, etc.

(d) Human resources development strategy: CSO has been operating without a human resources development strategy. As a matter of policy, CSO does not provide support to its employees to go on training. If staffs want to go on training, they have to find themselves financial means to do so. Although there is an in-house training programme, it provides training to staff on an ad hoc basis. Moreover, no certificate is awarded to trainees in the programme. There is also no full time training officer. In order to further develop human resources, it will be necessary for CSO to develop a human resources strategy that should include a training programme for staff. It was learnt that CSO is working towards preparation of such a strategy.

(e) Lack of training in official statistics: The University of Mauritius has a Department of Economics and Statistics. The Department offers a joint programme of B.Sc (Hons) in statistics and economics which aims at equal emphasis on theory and application. It also runs a B.Sc (Hons) in statistics with either computer science or economics. The Department has in the past offered a tailored course to CSO staff on “Statistical Analysis and SPSS”. It was also reported that in the past, the Department offered a training programme in applied statistics at the request of CSO but this was discontinued. Teaching of official statistics at Universities should be promoted to produce graduates who will not require a lot of time to get them to function well as statistical personnel

(f) Career path: It is essential that the CSO has a well defined career path to facilitate career advancement/progression for both professional staff (those with degrees) and sub-professional staff (diplomates or those with qualifications from the RSS). Unfortunately at CSO in Mauritius as elsewhere in Africa, there is confusion about professional progression and administrative posts. It is, therefore, important that all staff understand the career path well and what it means. The best way to remove this confusion is to liken the CSO to other knowledge centers like Universities. In a University, academic staffs aspire to become professors and not Heads of departments or deans of faculties. So they do research and write

scholarly papers which are used as an objective way of assessing them. In most NSOs, professional staffs aspire to become heads of divisions or departments. But these are administrative and not professional posts. In Chapter 3, a career path for professional and sub-professional progression at CSO is presented.

2.3.3.5 Weak IT Infrastructure

The IT infrastructure includes level of computerization, Geographic Information System (GIS), databases, Intranet, Internet, Web site, data collection and management, main data collection systems (main censuses, main surveys and secondary data compilation), data management (level of IT expertise, data analysis capabilities, databases, data dissemination policy, etc). The objective for using IT is to maximize benefits that accrue to its application. These benefits include transforming the way statistical work is undertaken by strengthening work processes (e.g. speeding up data processing), facilitating complex data analyses and standardizing work processes (e.g. publications).

As a mainstream government department, CSO is expected to outsource from the government's Central Information Systems Division (CISD) various IT services including data entry, programming, etc. As a result, CSO IT infrastructure is relatively undeveloped and the department is unable to advance from the localized exploitation stage (lowest stage of IT application) where IT has not been fully integrated into their business processes to stages where the CSO is beginning to reap dividends from the information revolution.

Secondly, this outsourcing stands a risk of putting confidentiality and privacy of statistical information in jeopardy. The June 2003 report by Dr. Phan Tuan Pham, an Informatics Advisor states in part that "*Confidentiality and privacy of statistical information are the key reasons why CSOs aim at having their own IT infrastructure with proper physical and electronic security*"⁹. With agency status, the CSO would have its own fully fledged IT department and infrastructure and would not have to rely on another agency for the said purpose.

The IT situation in a number of agencies and ministries is not any better. It was reported that the National Transport Authority is now in the process of computerizing its records, lack of computerization in the Judiciary Department and Police Department is making it difficult for the Statistics Unit to meet the high demand for court and crime statistics, many institutions do not have databases and some institutions (e.g. Ministry of Public Utilities and National Remuneration Board) still backup data files on diskettes, etc. A lot needs to be done to optimize benefits accruing from IT applications by developing and strengthening the IT infrastructure. An e-Business Plan has been designed and it is expected to meet this urgent need.

2.3.3.6 Inadequate information and knowledge generation

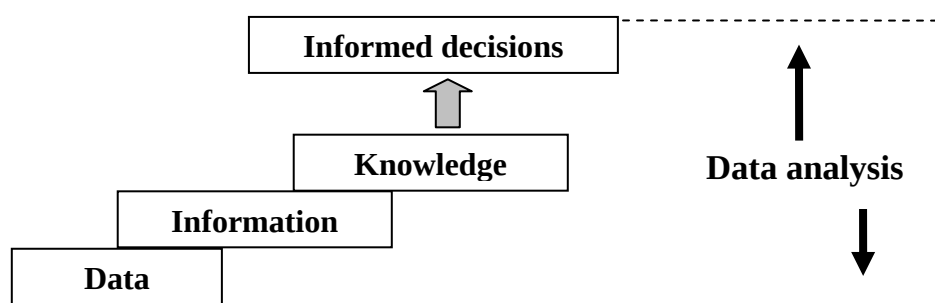
It is now widely recognized that data producers have tended to concentrate their energies and resources on data collection almost to the exclusion of information and knowledge generation. And yet it is the latter that holds interest on the part of end users, especially policy and decision-makers as can be seen in the following figure.

Often not all data collected by a National Statistical Office in Africa are fully analyzed and disseminated to users. As knowledge centres, data producers should graduate from data collection to information and knowledge generation by improving the way they analyze

⁹ *Phan Tuan Pham, opt. cit.*

data. Currently they process data, generate tables and write a descriptive text based on the generated tables. However, the tables and the data they contain do mask a lot of information. More detailed analysis is required to generate information and knowledge from the data. However to be able to do this requires analytic skills and subject-matter knowledge which are lacking among data producing institutions. In the case of the CSO, the capacity for data analysis has not been built because high level professional posts have been vacant for about 6 years.

Figure 2.1 From data to information and knowledge to decision-making



The situation has not been helped by the fact that there are no independent research centres that could do the kind of analysis explained above. Research centres play an important role in the development of a national statistical system in two ways. They do more definitive and policy-relevant analyses, and hence add value to existing data. Secondly, by subjecting data to scrutiny and more detailed analysis, they invariably will discover faults in the data. When these faults are reported back to data producers and discussed, future data collections can be improved. In particular, the feedback usually leads to improved questionnaire design, sample design and use of data collection methods.

There is no centre in the country undertaking and delivering independent, analytical, critical and multi-disciplinary research into social, political, environmental and economic issues that affect national development. Such a centre would provide intellectually stimulating environment where researchers would apply their skills to the practical problems of development, create a pool of knowledge and give government independent policy advice. It would use a lot of data from CSO and its outputs and the accumulated body of knowledge would be disseminated through web sites, publications, workshops, seminars and through teaching, especially at postgraduate level. Such centres exist elsewhere in Africa - in Namibia (*Namibian Economic Policy Unit and the Institute for Public Policy Research (IPPR)*), in Uganda (*The Economic Policy Research Centre*), in Nigeria (*Nigeria Institute of Social and Economic Research*), in Zambia (*The Institute of Economic and Social Research*), etc. Many of these institutions are or were funded by the African Capacity Building Foundation (ACBF) based in Harare, Zimbabwe and are based within national Universities.

Because of lack of such a centre, data collected by CSO and other institutions are not sufficiently analyzed to illuminate many policy issues crucial to the understanding of development issues and processes. A recommendation is made on establishment of such a centre.

2.3.3.7 Unsatisfactory information and knowledge management

Knowledge management is a major aspect of statistical governance and is essential for effective performance of any statistical organization. It involves designing an integrated

approach to identifying, capturing, retrieving, sharing, and evaluating the information assets of the statistical office. These assets include databases and library services.

(a) Databases

Often the concepts of datasets and databases tend to be confused. In addition to data, databases include software that makes it possible to query datasets and organize, manipulate and analyze data. While CSO has disparate datasets on many subjects, it has not yet developed integrated databases covering many subjects. In particular, it should be mentioned that while CSO is mandated by the Statistics Act of 2000 to become the “*central depository for all statistics produced in Mauritius*”, it has not yet become one. And yet the need for such a repository is overwhelming indeed. Such a repository would be useful for monitoring national development by:

- (i) consolidating all official statistics from different sources in one location,
- (ii) providing powerful, yet easy to use analytical tools,
- (iii) helping “tell a story” and thus improving decision-making, and,
- (iv) facilitating dynamic publishing and web dissemination to various constituencies.

The already mentioned limited development of the IT infrastructure has not made it possible for the CSO to develop the central depository for official statistics.

(b) Library facilities

A library is an essential infrastructural component of a statistical institution. It is used as the main repository of textbooks and other reference materials e.g. journals, periodicals magazines, maps, etc. CSO has a small library as part of its publication unit with about 4,000 publications both foreign and local including CSO publications. The library does not receive statistical journals which staffs need to read for professional growth and development. Also there is very little reading space in the library.

2.3.4 Opportunities

There are tremendous opportunities for building statistical capacity and strengthening the National Statistical System. Hereunder we highlight a few of them:

2.3.4.1 Ongoing Civil Service reform.

There are ongoing reforms to improve the performance of the public sector in the country. As part of these reforms, the Pay Research Bureau (PRB) in 2003 recommended that CSO should be restructured. It is also important that as part of these reforms, the need to raise the profile of statistics and reposition the CSO needs to be highlighted. In particular, there is a need to follow through the proposal in the Budget Speech to make the CSO an autonomous fully-government funded statistical agency.

2.3.4.2 Government policies

The new government has proposed a package of measures that will set the stage for more robust economic growth. The measures will also start the process of genuine economic democratization, help consolidate and further diversify the economy and stimulate employment creation. These measures will require a stream of good statistics to monitor progress in their implementation and eventual impact. The government has recognized the need to build more statistical capacity and to strengthen the CSO to respond to the new challenges as well as inform planning, administration and democracy.

2.3.4.3 Sub-regional and international commitments

As a SADC member state, Mauritius has an obligation to provide statistics to this sub-regional organization. SADC aims to promote development and growth, poverty alleviation, regional integration among member states and enhancement of the quality of life of all peoples in Southern Africa. SADC has designed policies, plans, programmes and protocols, which require statistical information from member countries. The SADC Statistics Committee comprising Heads of National Statistical Offices of member states and which acts as the Steering Committee for the SADC Statistical System has identified priority areas for development and reporting of statistics. The country is also under obligation to report on progress towards the MDGs.

2.3.4.4 Access to sub-regional resources and facilities

Many opportunities exist in the sub-region, African region and beyond for sharing experiences, good practice, resources and facilities with other countries. In the sub-region, a SADC Statistics Committee (SSC) coordinates the development of statistics in member countries by contributing to the harmonization process of SADC statistics; enhancing the cooperation between national statistics organizations in order to rationalize the use of two critical resources: regional expertise and external financing; improving the capacity building process in the national statistics organizations; and creating a network of knowledge partnership for statistics in SADC region. The country has benefited from various capacity building programmes organized by SADC including workshops and seminars, technical assistance, etc. There is an Eastern Africa Statistical Training Centre (EASTC), a regional statistical training facility in Tanzania, a SADC member state which offers statistical training at middle level. There is also a regional statistical training facility in Uganda, the Institute of Statistics and Applied Economics (ISAE) at Makerere University, which trains professional statisticians. Mauritius could benefit from the facilities offered by these training centres.

Mauritius has been involved in the activities of the United Nations Economic Commission for Africa and the African Development Bank, including hosting regional workshops and attending regional meetings and workshops.

2.3.4.5 Possibilities to share statistical knowledge and experiences

There are tremendous opportunities for professionals to share statistical knowledge and experience with countries in the sub-region internationally through workshops, seminars and meetings. A new journal, the African Statistical Journal, also provides a platform for knowledge and information sharing.

2.3.4.6 International standards, frameworks and classifications

There are a number of international standards, frameworks and classifications on statistics that the NSS can get off the shelf and use. These and similar frameworks have been accessed and used to improve the quality of national statistics. Of course they will need to be adapted to local conditions.

2.3.4.7 Advances in ICT

Advances in Information and Communication Technology (IT) (hardware, application systems, communications networks and skilled staff) provide great opportunities for

improving the way data are collected, processed, stored and disseminated to users. In particular:

- they have made IT hardware more powerful, relatively inexpensive and accessible;
- applications have become more user-friendly;
- they have led to the possibility to network to improve internal access to data and metadata;
- data processing has been speeded up to improve on timeliness,
- large datasets can be stored, databases can be created,
- platforms and networks can be created for sharing equipment and information,
- more imaginative and attractive statistical products can be produced; and,
- the Internet has made it possible to access information from the outside world in real time.

It is important that the NSS harnesses these advances in ICT to improve the statistical processes and delivery of data and information to the users.

2.3.5 Threats

2.3.5.1 Lengthy procedures for staff recruitment

In the past, civil service recruitment procedures have unduly delayed staff recruitment thereby affecting the efficient management of the CSO. This threat will be eliminated by making the CSO autonomous.

2.3.5.2 Response rates

A number of organizations including the CSO collect data from establishments. Also some private firms or research institutions are conducting surveys for market research or opinion poll. Some of these organizations do not have capacity for designing good data collection instruments or to properly analyze the collected data. What is more, a lot of the information required by these organizations is about the same. As a result, there is increasing unwillingness on the part of establishments to respond to various enquiries. In order to counter this threat, the CSO has been assisting government ministries and departments to collect data under their own legislation. It is also expected that the revised Statistics Act will require organizations conducting nation-wide surveys to get clearance from the CSO in the first instance. The clearance will not aim to prevent data collection by these organizations but rather it will aim to ensure that respondents are not unduly burdened; and that the methodology and instruments for data collection are sound.

2.3.5.3 Budget constraints

Budget constraints caused by inadequate funding will limit the development and sustenance of various statistical activities which in turn will lead to under-performance of statistical agencies.

2.3.5.4 Erroneous interpretation

Erroneous interpretation of data by data producers and users alike will undermine the integrity of statistics. This threat will be eliminated by training of both data producers and users in data interpretation as part of the statistical comprehensive programme proposed in Chapter 3.

2.4 Rationale for reforming the National Statistical System

The new government has proposed a package of measures that will set the stage for more robust economic growth and start the process of genuine economic democratization, help consolidate and further diversify the national economy and stimulate employment creation. Accurate, reliable and transparent statistics will be required to monitor implementation of these measures and to report progress in achieving objectives of these measures. Related to this is the need for the country to subscribe to the IMF Special Data Dissemination Standard (SDDS) in 2007 in order to provide investors with up-to-date data that are frequent, timely and accessible. This will facilitate the country's access (for both public and private sector) to international capital markets, potentially implying higher levels of foreign investment in Mauritius.

In order to better meet the current and emerging demand for data in the country, the sub-region and internationally, the National Statistical System needs to be reformed to make it more robust, more transparent and much better coordinated by a well structured, highly professional, strategy-focused and IT-driven national statistical *agency*. In order to produce better statistics for national and international use, developing countries have been called upon to prepare a National Strategy for the Development of Statistics (NSDS) by the end of 2006 for implementation by 2007 with the objective of having good quality statistics across the globe by the time of the Millennium Review in 2010.

Chapter 3 gives details about the NSDS that has been designed for Mauritius.

3. The National Strategy for the Development of Statistics

3.1 Introduction

In the last chapter, it was shown that while the NSS has some discernible strength, it also has many weaknesses which hinder development of official statistics in the country. This chapter presents the strategic framework for the development of statistics including elements of the NSDS. The NSDS aims to build on identified strengths, eliminate weaknesses, take advantage of opportunities for statistical development in the country and mitigate threats. It presents an approach that promotes the development of statistics in a participatory, holistic and synergic manner, and introduces modern and proven strategic planning and management principles and practices in the handling of official statistics.

The NSDS will cover all sectors and all key stakeholders including:

- data users at different levels in the public, private and civil society sectors, and the donor community – typically these include policy and decision makers, legislators, programme managers, etc.;
- data producers including CSO as the coordinating and supervisory agency of the system, line Ministries and public agencies such as the Central Bank of Mauritius;
- data suppliers including establishments and households; and
- research and training institutions, including Universities

The value addition of the NSDS approach is that it looks at statistical capacity building through a development and management lens; and looks at development policy and optimal management practices through a statistical lens - all in pursuit of better development outcomes.

3.2 Key NSDS Essentials

PARIS21 (Partnership in Statistics for Development in the 21st Century) has issued NSDS documentation that includes “NSDS Essentials” and “NSDS Design Guide” which set out key principles deemed important for the success of an NSDS. The four principles are that the NSDS should¹⁰:

3.2.1 *Be integrated into national development policy processes and context, taking account of regional and international commitments.*

The NSDS should:

- have political support and commitment, and be championed by high-level national official(s),
- be demand-focused and user-friendly, responding to needs and priorities for information to inform the process of managing for results,
- develop statistics as a “public good”, funded from government budgets, complemented (where appropriate) by international support,
- be mainstreamed as part of national development policy, including for the design, monitoring and evaluation of Poverty Reduction Strategies, sector strategies, and

¹⁰ *National Strategy for the Development of Statistics (NSDS) Documentation, PARIS21 Secretariat, 2004 Version, Paris, France*

other national development plans, as well as assessing progress toward the MDGs,

- respect all relevant legislation or regulation, recommending changes where appropriate.

3.2.2 *Be developed in an inclusive way, incorporating results-based management.*

The NSDS should:

- be the output of a consensus-building/advocacy process, which helps build commitment and partnerships, with clear processes for consultation,
- be the output of genuinely nationally led, owned and inclusive participatory processes including all stakeholder groups (e.g. users, analysts, producers; government, private sector, civil society; international and regional organizations, bilateral donors and specialized agencies),
- incorporate results-based management principles in the design of the NSDS and manage its implementation with performance indicators (e.g. for the supply of statistical information, value for money, user satisfaction, governance, support to national policies, confidentiality) and a performance reporting, monitoring and evaluation plan,
- follow the values and principles portrayed by the UN Fundamental Principles of Official Statistics to produce useful high-quality data that will have the confidence of users of statistics, and,
- draw on international standards, recommendations and experience to capitalize on worldwide knowledge and for consistency between countries.

3.2.3 *Be comprehensive and coherent and provide the basis for the sustainable development of statistics with quality (i.e., “fit for purpose”).*

It should:

- cover the whole national statistical system (NSS) including all sectors and data collection, analysis, dissemination and use from censuses, surveys and administrative systems, as well as the mechanisms for coordination and consultation (recognizing that implementation might need to be sequenced),
- provide a platform for the long-term, sustainable development of statistics whilst also addressing immediate data needs for development progress,
- provide a resource for evidence-based decision making, with quality i.e., “fit for purpose” (relevance, accuracy, timeliness, independence), and,
- serve as a coherence framework for international and bilateral assistance for statistics and to avoid parallel systems for monitoring and evaluation needs generally of donor programmes.

3.2.4 *Show where the statistical system is now, how it needs to be developed and how to accomplish this.*

It should:

- provide an assessment of the current status of the NSS (where we are), incorporating a comprehensive appraisal of statistical outputs measured against agreed criteria,

- maintain statistical production and procedures, building on existing activities and on-going processes, during the design and implementation of the NSDS,
- provide a vision for national statistics (where we want to go), strategies to deliver the vision (how do we want to get there), which address institutional and organizational constraints and integrate all statistical planning frameworks, and performance indicators (how do we know we have arrived): not just a work plan,
- incorporate sub-strategies for leadership and management, financial management, human resources, communications, infrastructure (e.g. information technologies) and dissemination as well as the technical work areas (e.g. national accounts, poverty statistics, health statistics),
- set out an integrated statistical capacity building programme (for building capacity to implement and adapt the strategy; turning statistics into information through analysis, dissemination, publicity and user education; is prioritized and timetabled - not everything can be done at once; provides the framework for (annual) implementation work plans; is realistic, pragmatic and flexible enough to cope with changes in priorities, new information needs and lessons learnt and is as easy to accomplish as possible, and,
- outline the financing requirements: responding to user needs but realistic about resources (implies prioritization, sequencing, cost effectiveness: e.g. considers alternative ways of compiling data such as administrative sources and sample surveys).

This strategic framework presents a clear definition of the vision, mission, values and principles, strategic objectives and core products (outputs) of the NSS which is essential for the NSS to function effectively.

3.3 Vision, Mission, Core Values and Principles

3.3.1 Vision

The current vision for the CSO is:

To be a key provider of world-class statistical information

The vision applies equally well to the entire NSS.

3.3.2 Mission

The mission of the NSS shall be:

To provide coherent, timely, relevant and reliable statistics, consistent with international principles and standards, for effective policy and decision-making, and for monitoring national development processes.

3.3.3 Core values and principles

The corporate values and principles that guide the conduct and behaviour of staff and decision-making in the NSS are:

3.3.3.1 Relevance

All statistical activities of the NSS shall aim at meeting data needs and expectations of users for a wide variety of purposes.

3.3.3.2 Credibility and integrity

The selection, compilation, presentation and release of statistics shall be done in a transparent manner and according to professional and ethical standards to reflect the public interest and to allow for assessment of the state of the nation and the performance of government.

3.3.3.3 Confidentiality

The compact with respondents to provide accurate information on condition that such information shall be treated with strict confidentiality as required by the Statistics Act 2000 is reaffirmed. All Bureau staff are required by law to give an undertaking of secrecy. Data shall continue to be released in such a way that does not permit the identification directly or indirectly of the respondents concerned.

3.3.3.4 Trust in people

The NSS's ability to fulfil its mission depends on people, not just on legislation or institutional processes. There will be renewed efforts to support, develop, motivate and empower staff; the staff in turn will be expected to show greater commitment to the values, principles and objectives of the NSS.

3.3.3.5 Access for all

Official statistics are a "public good"; they are for the benefit of all citizens of Mauritius. Everything possible will be done to ensure that they can be easily accessed and used by the Government, business community, civil society, research and training institutions and the wider public.

3.4 Strategic Objectives and Key Outputs

3.4.1 Strategic objectives

The NSDS consists of complementary and focused strategic objectives which are considered to be essential to achieve effective performance of the NSS.

The strategic objectives are to:

- achieve organizational and institutional development,
- develop human resources,
- develop more effective infrastructure,
- make better data available, and
- improve data management, dissemination and access

These objectives are SMART (Specific, Measurable, Achievable, Relevant and Time-bound). Each of these strategic objectives provides a "pillar" for the strategy. And for each one of these objectives, a number of strategies has been identified; so too have the activities, expected outputs, performance indicators and measures/verification, and assumptions have been identified.

The logical interrelationship among these elements is charted using the logical framework (logframe) approach and the corresponding logframe matrix is given in Annex II. The approach facilitates an analysis of these interrelationships and their relationships with the surrounding environment. Using this approach, the vertical logic is the hierarchy of objectives of the strategy. The horizontal logic is charted as follows: for a given level of objective (equivalent to a horizontal row of cells) the horizontal logic describes: how the achievement of the objective will be measured or verified, how this information will be obtained and what are the external factors that could prevent the project manager and staff from achieving the next level objective.

3.4.2 Key outputs

In pursuing the above strategic objectives, the following key outputs will be produced:

- **Social Statistics**

These include statistics on population, migration, vital events (births, deaths, marriages, etc), gender statistics, labour, education, health, etc.

- **Economic and financial statistics**

These include national accounts and statistics on money and public finance, external trade and distributive trade, business and agriculture.

- **Other statistics**

Other statistics cover environment, energy and new areas such as governance, democracy and ICT

3.5 Strategies

A strategy is a means by which long-term objectives are achieved. It is a declaration of intent, defining where an organization or system wants to be in the long-term, and ensures that day-to-day decisions fit in with long-term interests of the organization/system. This NSDS aims to create an NSS that is strategy and IT focused.

As mentioned earlier, for each strategic objective, a number of strategies have been identified for achieving the objective. The strategies are presented in the following table.

Table 3.1: Strategies of the NSDS

Strategic objective 1: Achieve organizational and institutional development	
Strategy	
1.	General awareness about statistics created in society
2.	Profile of statistics raised
3.	Mauritius Bureau of Statistics (MBS) established
4.	Improved arrangements for inter-institutional coordination, collaboration, networking and information sharing
5.	Improved technical coordination
6.	Improved data producer/supplier relationships
7.	Operational New Statistics Act
8.	Increased use of statistics in evidence-based decision-making and planning
Strategic Objective 2: Develop human resources	
9.	Improved staff recruitment and promotion

10.	Critical mass of personnel at the Bureau
11.	MBS professionalized
12.	Motivated staff
Strategic Objective 3: Develop more effective infrastructure	
13.	New home for the Bureau
14.	IT focused National Statistical System
15.	Effective management systems
16.	Strong statistical infrastructure
17.	Consolidate Documentation Unit
Strategic Objective 4: Make better data available	
18.	Quality of statistical products and services
19.	Participation in international initiatives
20.	Better census and survey data
21.	Better administrative data
22.	New areas developed
23.	Regular statistics available
24.	Data users satisfied
Strategic Objective 5: Improve data management, dissemination, accessibility and use	
25.	Value-added statistical products
26.	Improved reports
27.	Better disseminated data
28.	Data that are accessible and used
29.	Improve timeliness

3.5.1 Strategic objective 1: Achieve organizational and institutional development

3.5.1.1 Strategy 1: General awareness about statistics created in society

Statistical advocacy is about proactively creating statistical awareness, demand for or use of statistics and promoting investment in statistical production. It involves, among other things:¹¹

- making the general case for statistics as a necessary part of the enabling environment for improving development outcomes,
- demonstrating the use of statistical data for decision-making at sectoral level by presenting examples of how policy-makers can use available data from a range of sources to improve both policy and day-to-day management,
- emphasizing the role of statistics in supporting private sector investment and in promoting the development of effective and efficient markets
- making a case for specific statistical activities e.g. the Population and Housing Census, drawing attention to the range of uses census data could be put to and highlighting the costs and benefits of the census compared to other information sources,

¹¹ *A Case and Some Actions for Improving Statistical Advocacy in Poor Developing Countries* by B. Kiregyera, *Journal of Official Statistics*, Vol. 1, 2005

- mobilizing and properly using national and international resources for statistics, and
- promoting coordinated investment in developing statistical capacity

The nature and complexity of statistical advocacy demand that it should be carried out in an inter-disciplinary manner and in partnership, involving statisticians, policy-makers and development partners. In particular, the advocacy material which have been developed by PARIS21 (Partnerships for Statistical Development in the 21st Century) should as much as possible be used for this purpose. PARIS21 advocacy materials propose the following target audiences and messages (see table 3.2).

Table 3.2 PARIS21 target audiences and advocacy messages

Target audience	Key messages
Policy-makers, senior managers and funders in developing countries	Aim: Make better use of statistics and provide appropriate allocation in national budgets Key messages: • Role and importance of statistics in improving development outcomes • Desirability of developing a culture of evidence-based policy and decision-making • Integration of statistics into policy frameworks (e.g. Sector-wide Approaches) • Need for better statistics and better use of statistics to improve use of resources, including aid effectiveness. • NSDSs as a coherent framework to organize the development of their statistical system • Appropriate and sustained financing for statistics from national budget.
Statisticians and analysts in developing countries	Aim: Make best use of available resources to produce quality statistics in support of national policy frameworks Key messages: • Role of statistics to under-pin development progress; and to address the key priorities for statistics • NSDSs to serve as a coherence framework for all national/official statistics and statistical programmes, however, they are funded, including to coordinate donor programmes.

Source: *PARIS21 Draft Advocacy Strategy, Paris, 2005*

3.5.1.2 Strategy 2: Profile of statistics raised

The importance of statistics is such that statistics should be accorded high status both in government and the country. Experience has shown that where the profile of statistics has been raised, performance in statistical production and management has improved. How does a country raise the profile of statistics? There are different ways countries have gone about raising the profile of statistics, including the following:

- involving the NSO in policy discussions so that statistics can play more “upstream roles” of informing policy discussions and debate. This will require that the Director of the NSO sits on key committees of government where policy issues are discussed.
- making statistics a component of all major development programmes and initiatives.

- making the NSO a special department in a central ministry. Where this has been done, the post of Director of the NSO has been upgraded. The United Nations provides insightful advice on the status of the Director of the NSO in such a situation. It states, “*The external capability of a Statistics Office is much influenced by the status of the head of the statistical service in relation to colleagues in government hierarchy. There can be no doubt that the building of a robust statistical service is contingent on assigning top people to it. In view of the great national importance of many decisions which may be affected by statistics, it would appear to be in the national interest for the statistical service to have an equal opportunity to compete with other government departments for an outstanding individual of proven capability to be its leader and manager.. He/she should be in a position to develop rapport with policy advisers of other government departments and to negotiate various proposals on statistics with authority and insight...He should have the same status as the top civil servant of a ministry*”¹². In that case, the Director would report directly to the Minister responsible for statistics. In the SADC sub-region, this is the case in S. Africa, Malawi, Namibia, etc. In Mozambique, the Director of the CSO is at the level of Deputy Minister.
- making CSO an autonomous government statistical agency. The trend in statistical organization and management internationally is to make the NSO a fully-funded autonomous government statistical agency with a Board of Directors as its governing body. In Africa, this has happened in Tanzania, Uganda, Kenya, Ghana, Cote d’Ivoire, Nigeria, Rwanda, Zimbabwe, etc. In Asia, it has happened in India, Malaysia, Philippines, Australia, etc. And many countries in Africa including Namibia, Zimbabwe and Swaziland (SADC Members States) are on the verge of creating such agency. Last year, Britain took a decision to move its Office of National Statistics in the same direction.

3.5.1.3 Strategy 3: Mauritius Bureau of Statistics (MBS) established

(a) The case for an autonomous statistical agency

There are strong reasons why a NSO should attain agency status. The reasons include the following:

- (i) The United Nations recommends that, “*a statistical agency should be distinct from those parts of the government that carry out enforcement and policy-making activities. It should be impartial and avoid even the appearance that its collection, analysis and reporting process might be manipulated for political purposes*”¹³ Making the NSO an agency positively affects the way it functions. Decisions can be taken more quickly without the unwinding bureaucratic red-tape, making data production by the agency more efficient and effective than would be the case when the NSO is a department in government.
- (ii) Even when the NSO does its work with impartiality and professionalism, there are usually the negative perceptions about the impartiality of the data it produces when it is a government department. This point is well stated by Ms. Karen Dunnell, the National Statistician (Director) of the British Office of National Statistics (ONS). Reacting to the decision by the British Government to make the

¹² ***Handbook of Statistical Organization: The Operation and Organization of a Statistical Agency, 3rd Edition, United nations, New York, 2003***

¹³ ***Ibid.***

ONS autonomous so that the “*governance and publication of official statistics would be the responsibility of a wholly separate body at arms length from government and fully independent of it*”¹⁴, she said “*ONS has always worked in an independent, open and transparent way but there has been a perception that this is not so, which has been very damaging for official statistics as a whole*”¹⁵.

- (iii) Making the NSO autonomous will also make it more efficient by cutting out a lot of bureaucracy from its operations. This is what Prof. Tim Holt, the President of the Royal Statistical Society (RSS), had to say on this matter in respect of the said British Government decision, “*an independent statistical service was fundamental both to the effective functioning of the statistical service and to public confidence in official statistics*”¹⁶. It makes it easier to make and implement decisions on various aspects of the functioning of the statistics office and it also enhances its visibility.
- (iv) Consistent with the UN Fundamental Principles of Official Statistics, the 2000 Statistics Act provides for the Director of CSO “*to ensure the security and confidentiality of the statistical information*”¹⁷. Statistical confidentiality means that the dissemination of data (and the statistics which can be calculated from them) must not permit the identification directly or indirectly of the units concerned and that a prohibition is imposed against disclosing information of an individual nature except for statistical work. As a mainstream government department, however, the CSO has among other things to outsource from the government’s Central Information Systems Division (CISD) the data entry functions for its surveys and censuses. This outsourcing stands a risk of putting confidentiality and privacy of statistical information at risk. The June 2003 report by Dr. Phan Tuan Pham, an Informatics Advisor from the UN Statistics Division states in part that “*Confidentiality and privacy of statistical information are the key reasons why CSOs the world over aim at having their own IT infrastructure with proper physical and electronic security*”¹⁸. With agency status, the CSO would have its own full-fledged IT department and infrastructure and would not have to rely on another institution to handle its IT functions with potential for compromising data confidentiality.
- (v) Discussions with various officials in government and the stakeholders’ workshop held in March 2006 overwhelmingly supported the idea of turning the CSO into an autonomous national statistical agency. Such an agency should have a Board of Directors as its governing body and a Statistician General as its Chief Executive Officer. And in his Budget Speech in June 2006, the Minister of Finance mentioned that government would explore this possibility.

(b) Establishment of an autonomous government agency

This section provides an elaboration of the concept of autonomy and gives the broad structure of the proposed agency.

¹⁴ *RSS News, Volume 33 Number 5, January 2006*

¹⁵ *Ibid*

¹⁶ *Ibid*

¹⁷ *Statistics Act (Act. No.38 of 2000)*

¹⁸ *Phan Tuan Pham, opt. cit.*

(i) Name

There should be established an autonomous statistical agency to be called the **Mauritius Bureau of Statistics (MBS)**. The MBS should be a corporate, performance-driven and IT-intensive body with new paradigms and established to manage and operate a coordinated and effective NSS. In place of the current Statistics Advisory Council, there should be established a Board of Directors as the governing body for the MBS.

(ii) Board of Directors

Functions

The Board should be responsible for:

- advise government on the national statistics policy, procedures, methods and regulations relating to the development of national statistics,
- formulate and monitor the implementation of policies for more effective coordination of the National Statistical System,
- monitor the quality of official statistics and promote adherence to good practice and international recommendations and standards.
- formulate and monitor the implementation of policies pertaining to the organization and management of the Bureau,
- promote and protect the integrity of official statistics and the professional independence of the Bureau,
- appoint, promote and discipline senior staff of the Bureau,
- set guidelines for the recruitment, disciplining and promotion of junior staff,
- review the structure of the Bureau as necessary,
- approve the corporate plans, work plans and budgets of the Bureau,
- provide the Minister with a Progress Report on activities of the Bureau bi-annually and the entire National Statistical System every quarter,
- provide Parliament with an Annual Report,
- The Board may at its discretion delegate any of its functions to a committee of the Board or the Statistician General.

Composition

Membership of the Board should include:

- A Chairperson appointed by the President after consultation with the Prime Minister and Leader of the Opposition, for a period of 3 years (renewable for another term) and on such other terms as the President may determine. The person to be appointed as the Chairperson should be an outstanding expert in statistics, economics, management, information technology or related fields, and should be at the level of a senior manager in his/her respective organization. He/she should not be involved in active politics. The Chairperson shall not be a government official.
- The following other members of the Board shall be appointed by the Minister for a period of 2 years (renewable for another term) and on such other terms as the Minister may determine. Those to be appointed to the Board shall be outstanding experts in statistics, economics, management, information technology or related

fields, and shall be at the level of a senior manager in their respective organizations:

- the Statistician-General who shall also act as Secretary to the Board,
- the Financial Secretary,
- the Director of Research, Bank of Mauritius,
- the Dean of the Faculty responsible for the Department of Economics and Statistics of the University of Mauritius,
- the Director of the Joint Economic Council (JEC),
- the President of Mauritius Council of Social Services (MACOSS),
- a distinguished statistician with international expertise.

This composition of the Board is very similar to the composition of Boards created under the statistical legislation of other African countries where NSOs have become autonomous and the size is consistent with various international recommendations. The Act should spell out:

- how membership to the Board ceases,
- frequency of Board meetings,
- the conduct of the meetings and remuneration of Board members.

The Act should provide for the selection of members, based on merit, so as to ensure that all appointees are motivated, and have relevant knowledge and experience. Members of the Board should not be involved in active politics. To ensure continuity and more commitment, the Act should not provide for proxy representation except for the Statistician-General.

Statistician General

There should be a Statistician General of MBS who shall be the Chief Executive Officer (CEO) of the MBS. The Board should appoint the Statistician-General from among suitable candidates on a four-year fixed-term performance contract. It is becoming an emerging trend internationally to appoint the Heads of National Statistical Offices on a fixed term contract (renewable). Any person to be appointed as Statistician General should have good knowledge of statistics, be conversant with information management and have proven managerial ability. In addition, the person should not have been or should not be engaged in any political activity.

The Statistician General should:

- be proficient in statistics or have profound understanding of statistics,
- be able to manage a large organization, and be sensitive to needs of users.
- bring to the post the knowledge, prestige and wisdom usually acquired over a long career.
- have a strong professional bend, be highly independent, have demonstrable excellent managerial instincts, have good contacts in government, etc.
- be looked at as an embodiment of the status, image, integrity and professionalism of MBS, the national statistical system and the statistical profession.
- protect the integrity, credibility and impartiality of official statistics while being accountable to the Board.

The Statistics Act should provide sufficient legal safeguards to prevent his/her arbitrary appointment and dismissal. On his/her appointment, the Government Statistician shall become a full Member of the Board and Chief Executive Officer of the Bureau.

The main responsibility for the Statistician-General will be high-level and strategic management of the MBS as well as the coordination of the National Statistical System. The functions and responsibilities of the Statistician General should be well spelt out in the Statistics Act. They could include the following:

- coordinating the national statistical system,
- advising government ministries and departments, local authorities and other statutory bodies on issues relating to the development of statistics,
- decide on the appropriate methods for collecting and processing of official statistics and on the timing and form of dissemination of these statistics,
- represent Mauritius in international meetings or designate one or more staff from the MBS to do so.
- act as the Secretary to the Board and any sub-committees which the Board may establish and shall on the advice of the Chairperson of the Board or such sub-committee convene any meeting of the Board or sub-committee. The Statistician General should be required to attend meetings of the Board or of any of its sub-committees; and should be allowed to attend these meetings together with such other officers as he/she may deem fit.
- supervise generally the administration of this Act and control the operations and staff of the Bureau.
- be responsible to the Board for the administration and management of funds and property of the Bureau subject to the direction of the Board on matters of policy.
- organize, develop, support and promote a corporate culture and values of the Bureau and the System.
- be responsible for the supervision and discipline of the staff of the Bureau.
- present annual work programmes, human resource development programmes and any other programmes to develop national statistics to the Board for approval.
- present budgets and audited accounts of the Bureau to the Board for approval.
- perform any such other functions and duties as may be assigned by the Board.

Deputy Statistician General

It is expected that the Statistician-General will mainly be engaged in high level management and on strategic issues including image building, resource mobilization, representing the Bureau in national and international forums. There will be a need for a Deputy Statistician General to, *inter alia*, coordinate the technical work of the Bureau and act in the place of the Statistician-General when the latter is out of station. The proposed Act should provide for the Deputy Statistician-General to be appointed by the Board. Any person to be appointed as Deputy Statistician General should have good knowledge of statistics, be conversant with information management and have proven managerial ability. In addition, the person should not have been and should not be engaged in any political activity

(iii) Organization of the Bureau

The structure of the Bureau will mainly be subject-matter based. The structure should include departments, divisions, sections and units. This is a fairly standard way of organizing a modern Statistics Bureau.

Departments and Divisions

The Bureau will have two (2) subject matter Departments and two (2) service Departments. The number of Departments has been arrived at by rationalizing the existing divisions and creating some new divisions and sections.

The subject matter departments and divisions are:

- Economic and Financial Statistics
 - o Macroeconomic Statistics
 - o Financial statistics
 - o Production Statistics
- Demographic and Social Statistics
 - o Population Statistics
 - o Social Statistics

The service departments are:

- Technical Services
 - o Research, Methods and Field Operations
 - o Coordination and Public Relations
 - o Information Technology (including GIS)
 - o Documentation and Dissemination (including the Statistical Library)
- Finance and Human Resources
 - o Finance
 - o Human Resources (including training)

Scope of Work

The following table presents the scope of work to be undertaken by each department and division of the MBS. This scope of work can be used as the basis for estimating the number of staff required in the new Bureau. It will also be the basis for work assignments and job description for all staff of the Bureau.

Table 3.3 Scope of work for MBS by department and division

Department	Division	Scope of Work*
1. Economic and Financial Statistics	Macro Economic Statistics	National Accounts, Prices, Tourism, Commerce, Transport, Foreign Trade, Wholesale and Retail Trade, Financial Services, Public Utilities, Money and Public Finance, Income Tax.
	Production Statistics	Crops, Fisheries, Livestock, Environment, Cooperatives
	Industrial Statistics	Manufacturing, Mining & Quarrying, Energy, Construction, Central Business Register, Productivity
2. Demographic and Social Statistics	Population Statistics	Demography, Civil Registration, Migration, Projections
	Social Statistics	Education, Health, Labour Force, Gender, Poverty, Judiciary, Social Security, Consumer Prices, Crime and Governance, Housing and Living Conditions

National Strategy for the Development of Statistics in Mauritius

	Census and Household Surveys	Population and Housing Census, Household-based Surveys, Community Statistics
3. Technical Services	Research, Methods and Field Operations	Methods and Standards, Cartography and Mapping, Research, Field Operations
	Coordination and Public Relations	User interfacing, Common Statistical Service, Public Relations
	Information Technology	Technical Operations, Applications Development, Database Management, Web site, GIS
	Documentation and Dissemination	Publications, Library, Distribution
4. Finance and Human Resources	Finance	Budget, Payroll, Procurement, Benefits, Stores
	Human Resources	Office Management, Training, Public Relations, Transport

** These subjects will be grouped into suitable Sections and Units.*

(iv) Special Units

There should be three special units, which will be reporting directly to the Statistician-General. These are Audit Unit, Legal Unit and Communication and Public Relations Unit.

Internal Audit

The MBS should have an Internal Audit Unit. This Unit should work closely with the Division of Finance and Human Resources but report directly to the Statistician-General. This Unit should be responsible for developing and reviewing the systems of internal controls to ensure that there is no fraud at the Bureau and that the assets of the Bureau are protected. This Unit should review and monitor all financial and accounting information to ensure completeness and accuracy of entries.

Legal Unit

The MBS should have a legal Unit. This Unit should provide legal services to the Bureau including handling of contractual agreements, handling any litigations, etc. The Unit should be headed by a Legal Officer who is a qualified lawyer.

Communication, management and Public Relations Unit

The MBS should have a Communication and Public Relations Unit. This Unit should be manned by qualified and experienced professional communications experts. As the Statistician General focuses on high-level strategic management issues, he/she will need a special assistant with a management background to help him/her focus on these issues.

(c) Code of Practice for Official Statistics

In order to promote high standards and maintain public confidence in official statistics and analyses, the Statistician General will, under the new Statistics Act, be required to prepare and issue a Code of Practice for Official Statistics which contains principles and practices to be followed by producers of official statistics. The code will cover main activities involved in producing statistics, from planning through to dissemination. In addition to promoting professionalism, the Code of Practice will also act as a coordinating tool for the production of official statistics.

3.5.1.4 Strategy 4: Improved arrangements for inter-institutional coordination, collaboration, networking and information sharing

One of the weaknesses of the NSS and the CSO is inadequate coordination, collaboration, networking and information sharing. The following are proposals for reversing this situation.

(a) Coordination of the NSS

The following will be used to enhance coordination within the NSS:

(i) Coordination Division at Mauritius Bureau of Statistics (MBS)

This Division will aim to promote both internal and external coordination. With regard to internal coordination, it will support harmonization of data production schedules for different MBS divisions, compile capacity building needs of the divisions, prepare and distribute an MBS technical bulletin. With regard to external coordination, it will organize and coordinate data producer-producer meetings, identify key stakeholders in the NSS and harmonize their data production procedures, coordinate regional and international statistical initiatives, promote the corporate image, sensitize staff about the Vision, Mission, and Values, set standards for internal and external communication (letters, memos), analyze media content, develop relevant documentaries, advise on the best way to disseminate key statistical findings to different audiences and reinvigorate the Africa Statistics Day celebrations each year to create greater awareness about the role and importance of statistics to society.

(ii) Common Statistical Service

Currently, the CSO is running a Common Statistical Service under which statistical personnel manning most Statistics Units in Government Ministries and Departments are CSO staff. It was shown in Chapter 2 that such a service has the advantage of promoting professionalism, achieving synergy and cost-effectiveness in undertaking statistical work in government, improving prospects for career progression, training and professional advancement for statistical staff, and improving the quality of administrative data.

It is, therefore, important to bring all statistical personnel in government ministries and departments under this service. In particular, the Ministry of Health and Quality of Life, and the Fisheries Division of the Ministry of Agro Industry and Fisheries will be brought into the fold. In order to ensure that this service functions well, a separate Division should be established to handle this service. The Statistics Act should explicitly provide for the establishment of the Common Statistical Service to be managed by MBS.

(iii) Standing Committees

Standing **Data User-Data Producer Committees** for different sectors of the economy should be established and institutionalized. Such committees are essential for:

- mainstreaming and encouraging users to play “up-stream” proactive roles in national statistical development,
- increasing data relevance by advancing common understanding of policy issues and related data requirements,
- setting data priorities, clarifying the objectives for data collection and agreeing on the best methods for collecting data,
- enabling data users to routinely specify their data needs - the form in which data are required (e.g. summary data in form of indexes, trends, rates, etc.), the detail the data

should take (level of desegregation) and the time frame for data presentation (e.g. monthly, quarterly, annually),

- enabling data producers to indicate what data are available and their quality, how the data can be accessed, what data are expected to be collected, what problems are experienced in data production, etc., and
- enabling data producers to promote use of their products.

The committees should not be too large to be unwieldy and should preferably be chaired by a major data user. It is important to point out that in many African countries where these committees have been formed, they have not functioned well; in many countries, they have ceased to function after only a few meetings. The onus is on the CSO or its successor agency to ensure that these committees function well i.e. meet regularly, have interesting business to discuss and invitation to meetings are sent out in time.

Standing **Data Supplier-Data Producer Committees** should be established and institutionalised. Such committees should discuss ways and means to improve data collection instruments so as to reduce response burden and improve capacity of data suppliers (establishments and households) to respond to requests for data.

(iv) GDDS and SDDS

Currently, Mauritius subscribes to GDDS and plans to subscribe to the Special Data Dissemination Standard (SDDS) in 2007 in order to provide investors with up-to-date data that are frequent, timely and accessible. Both systems should provide a mechanism for monitoring progress as well as helping to coordinate statistical activities between different data producers.

(v) NSS Newsletter

An NSS Newsletter will be produced every quarter as a means to report on the NSS activities and also as a forum for dialogue among stakeholders in the NSS. The Newsletter will have an Editorial Board comprising staff from different stakeholder institutions and with an office at MBS. Stakeholders will be encouraged to actively contribute to an exchange of ideas, by initiating stimulating discussions, and by sharing information about past and upcoming events and activities of interest to the statistical user and producer community.

(b) Coordination and information sharing within MBS

One of the weaknesses of the CSO was identified as inadequate coordination and information sharing within the office. It is proposed that this weakness can be minimized by:

(i) Establishing a Coordination Division at MBS

The proposed structure for MBS provides for establishment of a Coordination Division whose functions will include, among other things, inter-institutional coordination among stakeholders, technical coordination among data producers, internal coordination of statistical work within the agency, and coordination of support from development partners.

(ii) Increased IT application

There should be increased IT application in order to enhance internal communication and information sharing. This can best be done by establishing an Intranet. The Intranet is a self-contained, internal network linking multiple users by means of Internet technology. In effect, Intranets put a fence around the Internet's limitless territory, establishing controlled-access sectors within which users can communicate freely and interact. The Intranet should be used to display general information, share data and facilitate interactive

communication. In particular, it should be used to distribute memos, regular news bulletins and to exchange and review work in progress e.g. draft reports.

3.5.1.5 Strategy 5: Improved technical coordination

Coordination among producers of statistics is essential to strengthen the quality, coherence and governance of national statistics and avoiding duplication of work. This should be promoted in order to come to agreements about use of common concepts, classifications, standards and methods. To ensure good quality and international comparability of data, the MBS should continue to adhere to latest revisions of UN recommendations wherever they exist.

3.5.1.6 Strategy 6: Improved data producer/ supplier relationships

Awareness programmes targeting data suppliers should be established and institutionalised. Such programmes should discuss ways and means to improve data collection instruments so as to reduce response burden and improve capacity of data suppliers (establishments and households) to respond to requests for data

3.5.1.7 Strategy 7: Operational New Statistics Act

The Statistics Act which is the basis for regulating statistical operations in the country will need to be strengthened. Proposals for strengthening the Act include:

- broadening its scope to cover the entire national statistical system with the CSO as the hub and coordinator of the system. The revised Act should, therefore, provide for firmer coordination mechanisms.
- making the Act the fundamental law on statistics, taking precedence over provisions for statistics in other agencies of government.
- creating an autonomous government statistical agency along the lines proposed in the next chapter in order to develop official statistics in the country in an effective and efficient manner.
- taking care of a number of weaknesses identified in the current Act (Chapter 2), among others.

3.5.1.8 Strategy 8: Increased use of statistics in evidence-based decision-making and planning

Chris Scot (2005)¹⁹ gives two reasons why evidence-based policy-making is desirable. The first is that it enhances the transparency of policy-making process. Understanding how decisions are made requires information about the procedures followed and the criteria used by policy-makers to reach decisions. Understanding why decisions are made requires disclosure of the information drawn on by policy-makers and revelation of the arguments adduced in favour and against particular decisions. Transparency is desirable on grounds of equity and efficiency. In a democracy, citizens have the right to know how and why decisions are taken which affect their lives. Such knowledge is an essential part of good governance. Transparency affords protection against decision-making processes being captured by sectional interests or becoming tainted by

¹⁹ *Measuring Up to the Measurement Problem: The Role of Statistics in Evidence-based Policy-making, Paris by Chris Scot, PARIS21, Paris 2006*

corruption. Furthermore, if the policy-making process is transparent, private firms and households can form reasonable expectations about how the government is likely to behave under given circumstances in the future.

Evidence-based policy-making is also desirable as it enhances the accountability of policy-makers. A central tenet of democracy is that civil servants should be accountable to politicians, and that politicians should be accountable to the electorate. Both types of accountability require good data to be effective. Politicians use statistics to shape party manifestos which are the objects of choice presented to the electorate. The availability of information to citizens allows them to monitor the performance of the governing party during its period of office and to hold it to account at the next election. Between elections, members of the legislature, interest groups and the media use statistics either to support or criticize the government. For their part, members of the government hold senior civil servants to account by demanding empirical support for the design of particular policies, by requiring evidence that programmes are being implemented as planned and by requesting information on the impact of specific interventions.

The Bureau will promote increased use of evidence-based policy and decision-making at every level by:

- improving data quality,
- improving data analysis and reporting, and
- improving data dissemination using different media.

3.5.2 Strategic Objective 2: Develop human resources

3.5.2.1 Strategy 9: Improved staff recruitment and promotion

Human resources development and enhancement entails designing and implementing explicit policies and strategies for: ascertaining personnel needs (carrying out a thorough job analysis to determine the level of skills/technical abilities, competencies, flexibility of the employee required, etc), standards and procedures for the recruitment, deployment, induction, careers development, training for managerial functions, appropriate performance management of staff; appraisal system; and staff motivation and retention.

The UN Handbook on Statistical Organization gives an example of a set of coherent objectives that the above listed elements are designed to help attain:

- increase the proportion of professional staff by expanding the annual intake of young professionally qualified staff;
- ensure that once recruited, qualified people are assigned suitable jobs and every one is treated fairly,
- devise a proper mixture of deterrents and incentives, to be made explicit to the staff,
- administer sufficient training to staff members at key points in their careers, so as to maximize versatility and motivation, and
- ensure that key jobs are staffed and have a possible successor ready to step in to an incumbent's shoes should the need arise.

It will, therefore, be necessary to develop and enhance human resources through training, mentoring, motivation, etc.

3.5.2.2 Strategy 10: Critical mass of personnel at the Bureau

Training programme

There are statistical personnel at CSO and in line ministries engaged in compilation of statistics who do not have knowledge of basic statistics. In addition, new and untrained low and middle-level staff continue to be recruited and these will need basic training in statistics. For this reason, the MBS will need to put in place a comprehensive programme based on an in-depth training needs assessment. The programme should include training of data producers to better assess user needs, produce data to meet these needs, better manage the data to enhance their usability. The training programme should include training for specific data collection, refresher courses, training in new areas such as energy, environment, gender, governance, etc. and development of strategic skills in such areas as survey sampling, GIS applications, data analysis, etc.

Usually such training is exclusively about imparting hard skills and knowledge. The programme will aim also to impart soft skills among staff including skills in communication, report writing, etc.

(a) In-house training programme

A lot of the training will be done in-house possibly with assistance of the University of Mauritius. The University itself will be urged to include in its curriculum some training in official statistics. This should not be a big deal because such training has been undertaken by the University before. However, the training function which has by and large been ad hoc will be institutionalized. The staff of the Bureau should be tasked to teach the practical aspects of statistics. The non-practical aspects will be taught by staff of the University of Mauritius.

The Eastern Africa Statistical Training Centre (EASTC) in Dar es Salaam, Tanzania which is meeting much of the sub-professional training needs of the sub-region or the Royal Statistical Society (RSS) in U.K. (formerly the Institute of Statisticians - UK) can be called upon to assist in designing the in-service training programme. The Bureau can also pick a leaf from Zimbabwe, Zambia and Malawi which have run successful in-service training programmes.

(b) Training Officer and Training Committee

The Bureau should designate an experienced statistician as a Training Officer. The officer will be charged with conducting training needs across the NSS, scheduling training programmes, identifying trainers and trainees for the in-service training programme, development of training materials, identifying training opportunities and fellowships abroad, etc. A Training Committee should be established by the Statistician General to vet and select trainees for various training courses.

3.5.2.3 Strategy 11: MBS professionalised

It cannot be over-emphasized that as a knowledge centre, the MBS will need to be manned by highly skilled and motivated professionals. As we saw earlier, the percentage of professional staff is still low. There is a need to increase it closer to 50% of all staff as suggested by the United Nations. MBS will also need to hold periodic professional seminars; subscribe to international statistical associations and get staff to join and participate effectively in the activities of these associations e.g. attending international conferences, writing articles for international journals, etc. These activities will contribute greatly to professional growth of the staff of the Bureau.

Mentoring young statisticians

In their recent article in the African Statistical Journal, Dr. Lehana Thabane *et al*²⁰ make a strong case for mentoring young statisticians. They argue that while the curricula in many training programs all over the world may vary from program to program, there is some consensus on the key skills that all statistics training programs should endeavour to deliver. However, there is little on how to help young statisticians to develop their careers once they join the work force. Many programs, whether undergraduate or graduate, do not incorporate mentoring as part of their elements. Mentoring is different from supervision. The latter usually focuses on guiding a student on their education plan through proper selection of courses and thesis write-up. On the other hand, mentoring goes beyond graduate education to foster career development at the workplace.

Once they join the workforce, many young statisticians are left to learn important career skills by trial-and-error. Mentoring can greatly shorten the learning period and improve the process of acquiring skills that are important for career development. Bruce Alberts (from the US National Academy of Science) states that, *“The Future of Science... so important that the health and prosperity of the worlds depends on skillful mentoring of the new generation by the one that precedes it”*. It is, therefore, crucial that the young generation of statisticians is mentored appropriately to help them acquire the skills needed for the responsibilities they will take on in the future.

Being a mentor is an important role with serious responsibilities. Thabane *et al* give the roles of a mentor as including:

- opening doors – providing opportunities for the mentee. These would normally be opportunities that would not normally be available without a mentor’s intervention or help;
- acting as a coach – providing guidance on how to define career goals, where to get resources, helping with networking, etc;
- acting as an advisor – providing specific advice on how to achieve the mentee’s stated career goals, providing alternatives and realistic measures of success;
- acting as a protector - protecting the mentee from internal system or organizational politics;
- providing honest and timely feedback – providing personal time and meeting regularly with the mentee to provide feedback or supportive criticism on issues as requested by the mentee; and
- acting as a guide – looking after the mentee’s interest and guiding him/her to a successful career. It is important to remember that the mentor is not a supervisor, but an advisor whose primary role is to nurture the mentee.

Study tours will be organized to give the Bureau staff an opportunity to study statistical systems and methods used elsewhere and learn from the experiences of countries especially those with similar socio-economic conditions. For instance, the Bureau staff can learn a lot from Statistics South Africa on IT applications, GIS and poverty mapping; Zimbabwe and Malawi on in-service training programme; Tanzania has an advanced socio-economic database; Uganda on

²⁰ *Dr. Lehana Thabane, Ms. Marroon Thabane and Dr. Charles Harry Goldsmith, The African Statistical Journal, Vol.2, May 2006*

establishment of an autonomous statistical agency and in fostering inter-institutional coordination mechanisms; etc

3.5.2.4 Strategy 12: Motivated Staff

(a) Rationale for staff motivation

One aspect of managing people is staff motivation which is crucial for successful strategy implementation. As Fred R. David points out: “*Objectives, strategies and policies have little chance of succeeding if employees and managers are not motivated*” (1997). In many statistical agencies, staff motivation is poor. As a result, staff are despondent and demoralised. And a number of agencies are experiencing high levels of staff turnover. It is therefore important that everything should be done to motivate staff. But what is motivation and why is it important?

Motivation is a force that makes us do things and results from our individual needs being satisfied so that we are able to complete tasks. Staff motivation is important for the following reasons:

- Motivated staff are more productive and higher productivity leads to better performance of the organization.
- Staff who are motivated will provide a better level of service to data users.
- Staff who are motivated are more likely to stay with the agency. They grow in experience and become even more valuable to the agency.
- An agency that is able to retain staff is able to minimise the cost of recruitment and training of new staff.

Some demotivating factors have been identified as: poor management, work conditions and pay level.

(b) Principles of motivation

The text box to the right lists principles of motivation:

(i) *Participation*: Staff should be involved in decision-making and in matters which directly affect them. The more they are involved, the more they will have a sense of ownership in decisions and be prompted in achieving objectives.

(ii) *Communication*: If staff do not know what they are supposed to be achieving, they will show little interest and have little motivation. On the other hand if they are informed of objectives and the results to be achieved, they will be more inclined to co-operate and feel part of the agency. Staff should not only be informed of results but also of changes and progress.

(iii) *Recognition*: If staff members receive recognition for work done, they will be inclined and motivated to work harder.

(iv) *Delegated authority*: Delegating authority enhances the position of staff, contributes to personal development and makes it possible for more people to make decisions themselves in connection with their work, within set guidelines.

Principles of staff motivation

- Participation
- Communication
- Recognition
- Delegated authority

(c) Ways of motivating staff

There are a number of factors which can enhance or weaken motivation. These factors are directly linked to individual needs, behaviour, attitude and hence productivity. Some of these factors are financial but most are not.

(i) Non-financial motivators

Most people work to satisfy needs of one type or another. Non-financial motivators are things other than money that motivate people to work. It has been observed that those factors encouraging motivation (job satisfaction) have little connection with money and are more associated with personal development and achievement. These motivators include:

- Basic needs:* a fair wage, a meal and a rest place
- Safety needs:* job security, safe working conditions, and pension schemes
- Social needs:* met by team work and perhaps providing social facilities *e.g.* a club or sports
- Self esteem needs:* reflecting how others see us at work and can be provided by rewarding staff with status symbols *e.g.* offices and new job titles. Allowing staff to gain qualifications at work can also boost self-esteem.
- Self-actualisation:* achievement of one's full potential by providing space for personal initiative.

(ii) Financial motivators

It is well known that money and the way it is paid can affect motivation at work. Usual payment systems include time rate or wages, piece rate, overtime, bonus payments, loyalty bonus (to induce staff to stay longer), and where appropriate perks (payment in kind *e.g.* free uniforms).

Managers should bear in mind these factors in designing programmes to motivate their staff.

(iii) Career path and progression

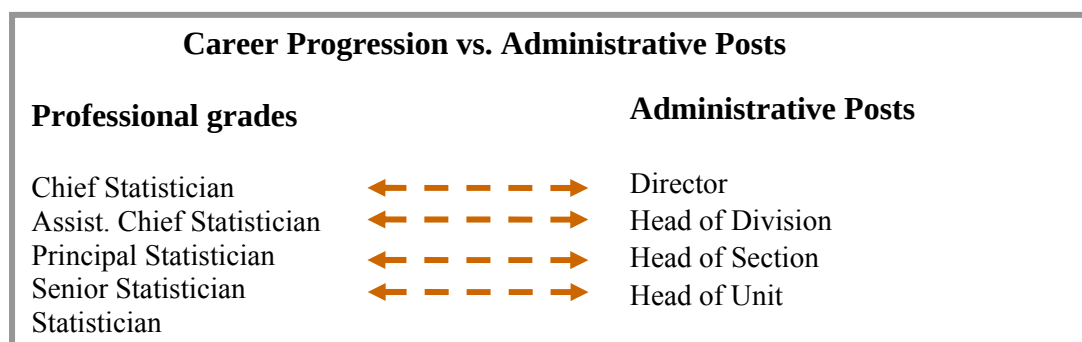
It is essential that a national statistical office has a well defined career path to facilitate career advancement/progression for both professional and sub-professional staff. Unfortunately there is always confusion in Africa about professional progression and managerial posts. It is, therefore, important that all staff understand the career path well and what it means. Like in other knowledge centers like Universities where academic staff aspire to become Professors and not Heads of Departments or Deans of faculties, it is expected that professional staff at the Bureau will aspire to become Chiefs *e.g.* Chief in Methodology, Chief in Agricultural Statistics, etc. To be eligible for appointment to administrative posts, one will have demonstrated professional growth by rising to certain professional grades as per the mentioned career path. To be appointed to the post of Deputy Director, one will have to be a Chief Statistician or equivalent *e.g.* Chief Economist; to be appointed to head a Department, one will have to be at the level of Assistant Chief Statistician or equivalent; etc (see the table below). Using this as a standard, similar career path can be developed for economists, sociologists, communications experts, IT personnel, etc.

Table 3.4 Proposed career path for Bureau staff

Professional Staff						
Chief Statistician	Assistant Chief Statistician	Principal Statistician	Senior Statistician	Statistician Grade I	Statistician Grade II	
Sub-professional Staff						
Chief Statistical Officer	Assistant Chief Statistical Officer	Principal Statistical Officer	Senior Statistical Officer	Higher Statistical Officer	Statistical Officer	Assistant Statistical Officers

For professionals, new graduates will start at the level of Grade II e.g. Statistician Grade II, Economist Grade II, etc. The highest professional grade will be Chief. For sub-professionals, the starting point will be Assistant Officer with a minimum of O-level or its equivalent and the highest grade will be Chief.

Figure 3.3: Recommended career progression and administrative posts



3.5.3 Strategic Objective 3: Develop more effective infrastructure

3.5.3.1 Strategy 13: New home for the Bureau

The MBS will need its own building, Statistics House, which it can customize for its operations. As was mentioned earlier, it is now occupying rented space which first of all is not enough. For instance, currently there isn't enough space for a reading library. Secondly, the rented building is not easy to customize. And thirdly, it can save government a lot of money by building a home for statistics than continuing to rent space for the office.

The CSO is already proposing the re-development of a prime site of State land (2,310m²) at Rose Hill to house its services and various units under one roof with up-to-date amenities. It is estimated that some 3,000m² of office space would suffice to accommodate the workforce of 250 + officers, sub-divided into 40 units, and catering for the following:

- Customer-counter service
- Documentation centre and library
- Computer Room and specialist staff (Chief Informatics Officers, DBA, System Analyst)
- IT Corner (10 PCs)
- Lecture room (for 100 staff)

- Proper Mess Rooms
- Conference Rooms (including one for Statistics Advisory Council & its Sub-committees)
- Publication Unit with reprographic equipment.

The cost of putting-up a 3,000m² building is estimated at Rs 37 million. This initial investment will be recouped over a period of five years after completion given the present annual rental charges is around Rs. 7 million (for less than 2,000m²). With a view to optimizing state assets, the Ministry of Housing and Lands has strongly supported this initiative and has even recommended that a medium-rise Ground + 9 Floor building with parking space for 50 cars be set-up. The excess office space may be given to other service providers. This project is also very much in line with one of priorities of government, and in the long-term will bring down public, expenditure to a sustainable level.

3.5.3.2 Strategy 14: IT focused National Statistical System

The proposed structure for the MBS provides for the establishment of an IT Division to help enhance IT function. Its functions will include technical operations, applications development, database management, web site development and maintenance and Geographic Information System (GIS) applications.

The IT infrastructure will be improved by implementing the e-Business Plan which has already been designed for the CSO to improve its work processes with an emphasis on enhancing productivity, quality and service delivery. The Plan will lead to:

- Establishment of IT standards and policies to provide overall and long-term development needs in IT to make the MBS IT-focused,
- modernization of the base IT infrastructure,
- creation of data integration platform capable of automated validation of data through business rules,
- development of a relational and integrated national social, economic and environmental database system, application server and reporting system. The database will act as a warehouse for all official statistics in the country,
- implementation of computer assisted data collection and capture,
- development of an Intranet to improve internal communication,
- better use of Internet resources for individual as well as organizational development,
- improvement in the web site by making it more interactive and dynamic,
- development and implementation of guidelines for data management, archiving and electronic security,
- generation of management information using OLAP (online analytical processing)
- upgrading guidelines on the use of IT resources, and
- training staff on IT.

As part of IT infrastructure improvements, IT equipment will be upgraded and new software acquired. In particular, more powerful computers and software will be acquired to support GIS work. Also more robust database software will be introduced. Already with support of UNFPA, 10 CSO staff were given training in November 2006 on REDATAM, a robust but user-friendly

database management tool that administers large volumes of micro data e.g. census data with a hierarchical (geographical) structure down to the smallest area of the census administrative exercise. It was developed to promote access to and analysis of census and other data for informed decision-making for sectoral and local government programmes and polices.

Since the e-Business Plan was originally designed for CSO, efforts will be made to extend it to those government ministries and departments where there is low level of IT application (e.g. where there diskettes are used as a data storage medium), making it difficult for data to be well managed.

3.5.3.3 Strategy 15: Effective management systems

Management systems and procedures will be established to ensure that the Bureau is run in a scientific, transparent and efficient manner. This will be done by the Organization Design Committee of government that comprises the Ministry of Civil Service and Administrative reforms, Pay Research Bureau, Management Audit Bureau and the Ministry of Finance and Economic Development. The following systems and procedures will be established as a matter of priority:

(a) Systems and procedures for staff recruitment and promotion

The Bureau will need high caliber staff to be able to perform well. Stringent systems and procedures will be established to ensure that the process of staff recruitment and promotion is not externally influenced, and that staff recruitment is based on merit. In particular, provision will be made for advertisement of every post to be filled.

(b) Terms and Conditions of Service

One of the main problems facing the CSO is the unattractive Terms and Conditions of Service. This has led to low morale and failure to attract and retain skilled staff at the CSO. There will be a need to put in place attractive and competitive Terms and Conditions of Service as a matter of priority in order to attract highly qualified and skilled staff, motivate and retain them. These should be made known to all staff and properly documented.

(c) Financial Regulations

To ensure transparency, accountability and efficiency in the management of financial and other resources, the Bureau will establish financial regulations. These regulations will cover such things as receipt of funds, storage, disbursement and budgetary controls. The regulations will indicate the signatories to the accounts and reporting of financial transactions.

These regulations will be properly documented and made known to all staff of the Bureau.

(d) Accounting Guidelines

Accounting guidelines laying down procedures for managing accounts records including bookkeeping, payment procedures, payrolls and accounting system will also be established, properly documented and used accounts staff.

(e) Procurement Guidelines

These will be established for laying down the guidelines and procedures to be used in procuring goods and services. They will make cross-reference to the financial regulations and will be good for general use in the Bureau. These guidelines will also be properly documented.

3.5.3.4 Strategy 16: Strong statistical infrastructure

The statistical infrastructure will be enhanced through improving statistical methodology, improving classifications and codes, developing and maintaining a Central Business Register and developing the Geographic Information System (GIS).

(a) Improving statistical methodology

It is planned to develop and/or improve methodology for data collection in some areas e.g. environment accounting (environment is a new area), governance, human rights, etc. It will also be necessary to develop a National Master Sample (NMS) to be used for household-based surveys.

(b) Central Business Register

Having and maintaining a Central Business Register will make it a lot easier to collect enterprise-based information and help to improve economic statistics. It will also help if other individuals collecting enterprise-based data can access and use the register.

(c) Develop Geographic Information System (GIS) capability

The Geographic Information System (GIS) is a system of computer hardware, software and procedures designed to support the capture, management, analysis, modeling and display of geographically referenced data for decision making. It is a way in which to begin to represent and model the real world. A GIS combines the graphic abilities of a computer-aided design system with the information-storing capacity of a database. Ultimately, GIS is used for decision support and decision-making concerning real-world problems. GIS allows us to produce a model from which decision can be made concerning the real world.

GIS capability should be developed to improve data analysis and presentation. In particular, GIS will be used to analyse and simplify the presentation of often complex sets of data and information and relationships related to complex phenomena such as poverty and vulnerability, and to generate improved analytical statistical products like vulnerability and poverty maps.

The envisaged development of GIS will include having in place professional and trained staff, having more powerful computers and printers, and having appropriate GIS software.

3.5.3.5 Strategy 17: Consolidate Documentation Unit

The consolidation will include, *inter alia*, acquiring more books, statistical and other journals, publications and reference materials (hard and soft), restoring old publications and providing a congenial reading environment in the library.

3.5.4 Strategic Objective 4: Make better data available

3.5.4.1 Strategy 18: Quality of statistical products and services

There is broad consensus in the international statistical community that: (a) data quality enhances their credibility, (b) quality in data increases their potential use and the benefits to be derived from them, and (c) data quality is a multi-dimensional concept that goes beyond the traditional view that equates quality with accuracy. It is, therefore, important to make data quality a cornerstone of statistical work in any country. In particular, it should be ensured that:

- there are regular consultative meetings with main data users
- there is quality consciousness and appreciation among data producers,
- statistical production processes focus on quality enhancement,

- mechanisms are put in place to monitor the quality of official statistics,
- users are enabled to assess the quality of statistical information and products.

There are different ways this can be done which include the following:

(a) Undertake regular consultations with main data users

Policy and decision makers as well as other key stakeholders should be fully involved in the development of the NSS, playing up-stream, participatory and proactive roles in the development of the system. That way, the NSS will become truly demand-driven rather than supply-driven, leading to better understanding of and response to user needs, generation of more demand for statistical data and information, and attracting more funding for data production. Special attention should be paid to mainstreaming gender issues in statistical production and analysis.

Data user-producer committees should be established in each sector and where these committees exist, they should be strengthened. The responsibility for ensuring that these committees are active and useful rests with the CSO.

- improve statistical infrastructure,
- train so as to build staff skills and competences,
- improve the design of data collection instruments e.g. forms and questionnaires,
- do follow-ups to increase response rates in establishment-based surveys and censuses,
- computerize data validation routines, carry out checks for data consistency and thoroughly check and edit publications.

(b) Create a culture of data quality awareness and encourage a personal sense of responsibility for quality at every level

Quality awareness should be created among data producers and users alike. Data producers should be educated on the importance of quality of statistical products and services, the various dimensions of data quality and actions that will contribute towards data quality. The IMF's Data Quality Assessment Framework (DQAF) and GDDS should be used to assess data quality. In addition, statistical audits should be undertaken periodically on main statistical activities in the country. On the other hand, data users should be supplied with sufficient information for them to be able to judge for themselves the quality and usability of various data sets. As much as possible, metadata (information about datasets) should be given in all statistical reports, databases and on the Internet.

(c) Improve coverage and quality of health statistics

This will be done by invoking the Statistics Act rather than the Public Health Act to collect service and morbidity statistics from private clinics, training personnel involved in data compilation in the public health sector, improving networking to realize improved submission of information and timeliness in information flow from service providers, and ensuring closer supervision in data collection to improve data quality.

(d) Prepare documentation on work methods and procedures

In order for the Bureau to function efficiently and also in order to preserve institutional memory, there will be emphasis on preparation of work methods and procedures. Of special interest will be production of self-contained User Manuals on different statistical operations and procedures. This will be in addition to other sets of documents such as those on basic values, purpose and direction for the Bureau and code of conduct for staff. These documents will be produced and made available to staff.

(e) Promote use of best practices, standards and methodologies

The United Nations Fundamental Principles of Official Statistics should be the overarching guiding principles for the NSS in order for the public to have trust in official statistics. It will be ensured that these principles are widely understood and followed by statistical personnel. In the same manner, best practices, standards and methodologies will be promoted across the NSS.

In the same way, instruments in use for data collection and especially questionnaires will be reviewed. It is generally recognised that the success of field data collection depends to a large extent on the quality of the questionnaires used. The questionnaire is the means through which information is transferred from those who have (or should have) it to those who need it. Not only does it inform the respondent about the type of data needed in a survey and standardise the process of obtaining it efficiently, but also it lays out a format for recording responses in an orderly and accurate manner. The review will aim to ensure that practical questionnaire i.e. those questionnaires which will elicit information on a minimum list of survey items carefully worked out to achieve survey objectives and which are both respondent and enumerator – friendly, are designed and used. For instance, one of the main complaints of establishments is that not only are they bombarded with so many questionnaires from different agencies asking for more or less the same type of information, but also the questionnaires are complex, requiring a lot of time and effort to fill out.

In connection with the review of the methodologies and instruments in use, there will be periodic auditing of existing data. The datasets to be reviewed include key administrative data (health and nutrition data), immigration data, vital registration data, various household surveys, Consumer Price Index (CPI), annual surveys in educational establishments, establishment surveys, etc. The overall purpose of the audit is to promote continuous improvements in official statistics by verifying that operational procedures and controls comply with the documented procedures and to determine their effectiveness in delivering products and services. The audit will determine whether the data sources and statistical techniques are available and can provide the basis for compiling data, and whether statistical outputs sufficiently portray reality. The audit will examine data sets from different sources, carry out plausibility checks and establish to what extent they are consistent among sources and also through time. It will also involve some modeling to make sense of a number of relationships.

The audit should lead to a policy on data quality. The policy should, *inter alia*, spell out conditions under which data will be published. For instance, the policy may proscribe publishing data from a survey which registers less than 45% response rate or whose data are subject to unacceptably high sampling errors, etc.

It is important to mention that data consistency will also be achieved by deepening and broadening inter-institutional coordination and linkages; system-wide adoption and application of standardized concepts, definitions and classifications; and collecting data during the same period of the year.

(f) Establish relationship with data suppliers

The Statistics Act requires public authorities, private enterprises and citizens to provide (when requested to do so) information required by CSO. However, respondent cooperation and provision of reliable data will be possible if data producing agencies establish constructive and meaningful relationships with data suppliers. These relationships will be developed and

enhanced following the principles recommended by the United Nations²¹ and other considerations:

- (i) Making clear and meaningful the purpose of data collection.
- (ii) All individual records must be perceived to be held in high confidence and protected from any other party in or out of government. Specifically the respondent will be assured that the information:
 - will not be accessed by any one with malicious intent,
 - cannot be shared with political authorities or regulatory agencies.
- (iii) Establishing, accepting and continually advertising the professionalism and objectives of the statistical agencies
- (iv) Creating a perception of the statistical agency being mindful and concerned about respondent burden. This is best achieved by eliminating duplication of surveys and censuses.
- (v) Making questionnaires more user-friendly. This will be achieved by better design and layout of the questionnaires, making questionnaires shorter and use of terminology that is known to respondents. For businesses, the terminology will be the one used in daily business. For households, the terminology will be the same as what is used by households.
- (vi) Providing enough time for data suppliers to find the information required from them and, where necessary, providing assistance to fill questionnaires.
- (vii) Developing ways of providing feedback to data suppliers when results from the information collected become available.

(g) Undertake error estimation of main estimates

In a number of reports, sampling errors of main estimates are either not calculated or when they are, the results are not given or well explained. This denies the users the opportunity to judge for themselves the usability of data they are given. For purposes of transparency, errors for various estimates will be computed and reported and the limitations of any data will be indicated.

(h) Undertake internal and external benchmarking

Benchmarking will be systematically undertaken. Two types of benchmarking will be done, namely internal and external benchmarking. Internal benchmarking will be done to compare results from different sectoral units with those which are deemed to be doing well. The idea is to raise performance of poorly performing units to the level of those which are performing well. External benchmarking on the other hand will be done to compare the Bureau's performance with that of high performing National Statistical Agencies in the sub-region, region and internationally with a view to attaining excellence (see also the section on monitoring in the next chapter).

(i) Undertake statistical audits

In order to monitor and maintain quality in statistical production, the Bureau will conduct statistical audits of major statistical collections every other year. The major statistical collections include key administrative data (health and nutrition data), immigration data, vital registration data, various household surveys, different indexes e.g. Consumer Price Index, Annual Education Census, establishment surveys, etc. The overall purpose of the audit is to promote continuous

²¹ *United Nations , opt. cit*

improvements in official statistics by verifying that operational procedures and controls comply with the documented methods and procedures, and to determine their effectiveness in delivering products and services.

3.5.4.2 Strategy 19: Participation in international initiatives

The MBS will intensify its participation in regional and international initiatives for improving official statistics. These initiatives include, among others: the GDDS regional project and the idea is to improve data quality to a level where Mauritius can graduate to SDDS; and the International Comparison Programme for Africa (ICP-Africa) which aims to strengthen the capacity of African countries to produce and use economic statistics and other statistics. Under ICP-Africa, countries are being assisted to design their NSDS and it is in this context that AfDB has assisted Mauritius design this strategy.

3.5.4.3 Strategy 20: Better Census and Survey data

(a) Censuses

Various improvements will be made in current censuses and surveys. In particular, socio-demographic and economic characteristics will be related to the housing and living conditions of the population by merging records of the Housing Census and the Population Census. This will facilitate more comprehensive and integrated analysis of census data. Further, an integrated housing and population database for small geographical areas will be set up to serve as an input into the development of GIS.

(b) Surveys

In order to rationalize the selection and implementation of different household-based surveys, National Statistical Offices frequently select a fixed nationwide random sample using a multi-purpose design from which sub-samples of various sizes could be drawn and used. Such a sample is called a National Master Sample (NMS). A NMS is an important tool for integrating different surveys or survey rounds. The advantages of master samples include:

- reduction in costs of frame construction and maintenance,
- samples for individual surveys can be selected more quickly and economically,
- possibilities for integration, micro-level linkages and combined analysis of data from different surveys e.g. linking child nutritional status from one survey with data on socio-economic variables collected in another,
- improvement of the accuracy of survey results from different rounds of a survey programme

A NMS will be designed to improve the way the Continuous Multi-purpose Household Survey and other surveys are conducted. The NMS will be used not only by the Bureau but also by several data producers who may want to undertake household-based surveys.

(c) Other improvements

Other envisaged improvements include harmonization and centralization of survey operations, research in questionnaire design and techniques for data collection, improving initial editing of questionnaires, establishing a system for feedback on data quality and harmonization of questionnaires and identification of alternative sources of data.

3.5.4.4 Strategy 21: Better administrative data

Under the NSDS, government ministries, departments and agencies that compile administrative data will be assisted as follows:

- the scope of data will be increased and capacity built so that more comprehensive, accurate, consistent and real-time data can be collected/compiled following established standards,
- where institutions that collect data do not have a Statistics Unit, such Units will be established,
- existing instruments and methodologies for data collection will be reviewed and personnel who compile data will be better trained and supervised, and
- better data management including storage, analysis and reporting of administrative data will be undertaken, including training of staff in data analysis.

3.5.4.5 Strategy 22: New areas developed

As was mentioned in Chapter 1, the Mauritius economy has been undergoing fundamental changes and demands for data have been shifting. It is important that there is better assessment of user needs especially in the new areas such as ICT and seafood hub. Once the needs have been established, then indicators for these areas should be developed in collaboration with key stakeholders. Other new areas for which indicators and data are needed include: governance, democracy and human rights.

Although the problem of poverty is not as acute in Mauritius as it is in many low human development countries in Africa, government has decided to put poverty reduction on the front burner. This will require that a poverty monitoring system is put in place. Key issues in poverty monitoring will need to be addressed including the following:

- Institutional framework
- Determining indicators for monitoring poverty
- Definition of information needs
- Information flow.

With funding from EU, the Bureau will produce a report on poverty for policy makers every two years. It will produce an annual report on MDGs and with funding from UNICEF, develop a national database on adolescents.

3.5.4.6 Strategy 23: Regular statistics available

The MBS will continue to compile regular statistics but in an improved manner as follows:

(a) National Accounts (annual)

Compilation of these accounts will be improved by: production of annual Supply and Use Tables, implementation of SNA93 – preparation of the full set of accounts (production, generation, distribution, capital and financial), and production of detailed Social Accounting Matrix (SAM), incorporating data from the 2001/02 Household Budget Survey and the 2002 Census of Economic Activities.

(b) National Accounts (Quarterly)

These will be improved by compiling other accounts, namely Income and capital Accounts which are compiled annually have to be computed on a quarterly basis depending on availability

of data and resources. Quarterly National Accounts will be released within 3 months after the reference quarter.

(c) Employment and unemployment statistics

The statistics published by the Ministry of Labour on employment and unemployment and those published by CSO are not consistent. It is important, therefore, that the MBS does something about this problem in order to produce more credible statistics.

Employment and unemployment estimates as well as quarterly wages and earning statistics will be released within 3 months after reference quarter.

(d) Indexes

Compilation of various indices will continue and be strengthened. These include:

- Consumer Price Index
- Foreign Trade Indices
- Construction Price Index (residential)
- Producer Price Index (Agriculture)
- Producer Price Index (Manufacturing)

3.5.4.7 Strategy 24: Data users satisfied

It is crucial that there is periodic assessment of user satisfaction. To do this, a User Satisfaction Survey, among other things, will be organized to assess how satisfied users are with the statistical products and services offered. This survey will be carried out every other year.

3.5.5 Strategic Objective 5: Improve data management, dissemination and access

3.5.5.1 Strategy 25: Value-added statistical products

The tendency at CSO and among other data producers all over Africa has been to generate statistical tables, do primary analysis and write reports based on these tables for general use. Often the reports give a commentary on many statistical tables, which are appended to the reports. Not much detailed analysis is done as a matter of course to meet specific needs, interests and perspectives of well-targeted users to create impact. Such analysis is essential to illuminate developmental issues, inform policy design and programme development, and form a basis for advocacy.

It is, therefore, important that data producing institutions graduate from being data producers and become producers of information and knowledge. This will require that they build up analytical skills or forge close collaboration with researchers, analysis and training institutions like the University to be able to do more definitive and especially policy-related analyses.

(a) Building analytical capacity at MBS

This strategy will aim at developing in-house analytical skills and expertise at the Bureau for data analysis and especially policy-related analysis and creation of value-added statistical products. That way, the Bureau will generate information and knowledge. Development of analytic capacity will involve, among other things training staff in use of a number of computer analysis packages and in harnessing the Geographic Information System (GIS). Therefore, the training programme envisaged for the Bureau will have enough space for building analytical capacity.

(b) Establishment of an independent centre for policy research

There will be a need to establish an independent policy research centre to provide government with independent policy advice based on rigorous analysis of sound and transparent data. Key

stakeholders including policy and decision-makers in government and the private sector welcomed the proposal to establish such a centre and encouraged the CSO to pursue the idea. Discussions held with University staff and especially the staff of the Economics Department showed that already, the University was formulating a proposal for the establishment of such a centre. This is not surprising given that in many African countries, such centres have been established at national Universities, in many cases with the support of the Harare-based African Capacity Building Foundation. Once established, the centre will need to have a special relationship with the MBS so that it can more freely and easily access data and participate in analysis of data collected in various surveys.

3.5.5.2 Strategy 26: Improved reports

Data reporting on all sectors will be improved by producing guidelines on how to prepare statistical reports, including statistical reporting in the in-service training programme, preparing a template for statistical reports so that they can have a standard look and feel and continual benchmarking of publications with those of renowned statistical agencies. In addition, subject matter specialists and researchers will be encouraged to do further subject-matter analyses of the datasets at the Bureau and to write thematic reports.

3.5.5.3 Strategy 27: Better disseminated data

(a) Data dissemination policy

It is important that after they have been processed and analyzed, statistical data and information are widely disseminated and made readily accessible. A dissemination policy and programme will be strengthened across the NSS to ensure that data and information are provided to key users in a user-friendly manner with sufficient metadata, making it easy for users to understand what story is being told by the data and also to judge for themselves the quality of the data. Of crucial importance will be achievement of timeliness in release of data according to pre-announced dates as well as ensuring that data are released to all users at the same time.

(b) Dissemination media

Different media will be used to disseminate data and information - reports, electronic (CDs, web site, etc) and newspapers. The statistical reports will be improved to make them more user-friendly using GIS functionality. Brochures about existing data will be prepared and distributed widely during the Africa Statistics Day celebrations.

3.5.5.4 Strategy 28: Data that are accessible and used

A number of actions will continue to be undertaken to make data more accessible to the public including the following:

- An integrated and accessible national social, economic and environmental database will be developed and maintained. The database will act as a one-stop-centre for national statistical data and information. Line ministries and departments which do not have databases will be assisted to develop them.
- A pricing policy will be established for MBS products and services
- Serious researchers will have access to micro data under clearly defined conditions to maintain confidentiality.

3.5.5.5 Strategy 29: Improve timeliness

Timeliness of statistical information is one important dimension of its fitness for use. The need for timeliness is especially felt in the release of short-term indicators for analysing economic cycle and ultimately take policy decisions, whether new or corrective. Timeliness is among the requirements set out by the IMF for subscription to the Special Data Dissemination Standard (SDDS). Mauritius intends to subscribe to the IMF Standard by December 2007. So far, the CSO meets all the requirements of the SDDS except for timeliness of three sets of indicators which need to be improved. They are:

- (a) Quarterly National Accounts,
- (b) Quarterly employment and unemployment estimates, and
- (c) Wages and earnings statistics which should be compiled on a quarterly basis.

According to the SDDS, these indicators need to be released within 3 months after the reference quarter.

4. IMPLEMENTATION, MONITORING, EVALUATION AND REPORTING

4.1 Strategy Implementation

4.1.1 Need for better implementation

Strategy implementation is perhaps the most critical aspect of the NSDS process as this is the phase when planned NSDS benefits are delivered. All other phases are, therefore, essentially supportive of the implementation phase. It has been observed that many effectively formulated strategies fail because they are not successfully implemented. Robert S. Kaplan and David P. Norton report that, “fewer than 10 percent of effectively formulated strategies were successfully implemented” (Kaplan and Norton, 2001). They thus conclude that “the ability to execute a strategy is more important than the quality of the strategy itself”.²² The purpose of strategy implementation is to:

- deliver the results, achieve purpose and contribute effectively to the overall NSDS goals;
- manage the available resources efficiently; and
- monitor and report on progress to support performance management.

Strategy implementation is invariably more difficult than strategy design. While strategy design involves positioning forces before action, focuses on effectiveness (*doing the right things*), requires good intuitive and analytical skills and co-ordination among a few people, implementation on the other hand involves managing forces during action, focuses on efficiency (*doing right things well*), is primarily an operational process requiring considerable funds, requires special motivation and leadership skills, and involves co-ordination among many people.

Implementation of the NSDS will involve, among other things, mobilizing drivers of strategic success including: revising the Statistics Act; creating strategy-supporting organizational structures; creating strategy awareness; and managing change.

4.1.2 Revising the Statistics Act

The proposed changes in the organization and management of official statistics need to be underpinned by a conducive Statistics Act. Already discussions have been held with the Solicitor General’s Office on steps to be undertaken to revise the Act. Using the appropriate machinery, a Draft Statistics Act (layman’s version) will be taken to the Attorney General’s Office for drafting into a bill, which should then be taken to Parliament. In the meantime, it will be necessary to sensitize Members of Parliament about the Draft Act and the need to support the NSDS and national statistical development.

4.1.3 Creating strategy-supporting organizational structures

Strategy implementation invariably requires change of organizational structures to take account of new role, status and challenges that lie ahead. The structure defines the allocation of responsibilities and powers, reporting relationships and processes, hierarchy levels and value added, allocating resources and determining skills requirements and affordability.

²² *Draft Key Issues in NSDS Design and Implementation, PARIS21, Paris , France, August 2006*

Proposals on the MBS structure were made earlier. The starting point will be to appoint the Statistics Board as soon as the Bill goes through Parliament. It is expected that in the meantime, the Statistics Advisory Council will be performing many of the functions to be performed by the Board. The new structure provides for further professionalization of the Bureau and a conducive career path for all staff of the Bureau. Provision has been made in the Plan to support new structures with new and more modern management systems and procedures and enabling infrastructures (physical and technical).

As much as possible, building bureaucracy, autocracy and top-down management style should be avoided in preference for streamlined, participatory and coordinated style of management that breaks down organizational silos and encourages cross-functional and problem-solving teamwork. To do this, a number of existing layers of management will be enhanced. These include the **Management Team, Departmental Teams** that meet regularly to discuss issues and matters affecting the Departments and feed their deliberations into the Management Team meetings and **Standing Committees and temporary working groups** to handle specific cross-functional tasks.

4.1.4 Structures for coordinating the NSS

Structures and systems for coordinating the NSS will be established or strengthened including:

- a new Board of Directors of MBS
- the recommended structure of MBS including the Department of Coordination and Corporate Planning
- the National Consultative Committee on Statistics
- strengthening the Common Statistical Service
- development of a Compendium on Main Concepts, Definitions, Norms and Classifications,
- up-dating GDDS and later the SDDS
- publishing a quarterly NSS Newsletter

4.1.5 Achieving strategic alignment (creating strategy awareness)

Often strategies are designed but not communicated to the workforce. In a study contrasting high- and low-performing organizations, Kaplan and Norton (1996) show that in 67% of well-performing organizations, staffs have a good understanding of overall organizational goals and 26% of senior managers are highly effective communicators as opposed to 33% and 0% in poorly-performing organizations respectively. It is important, therefore, that everyone in the Bureau and all stakeholders in the NSS including policy and decision-makers get educated about and understand and share the vision and mission of the NSS, the strategies for achieving them and how their individual actions and those of others will contribute to the success of the NSDS. Strategy awareness will be made everyone's everyday job, as is now the norm in strategy-focused organizations.

Communication being key to successful strategy awareness, an extensive and consistent communication programme will be mounted to develop an understanding of the Plan strategies throughout the Bureau, mobilize staff to support them, educate staff about management systems and provide for feedback about the strategies. Creation of strategy awareness will be followed by testing if staff understand the message (strategy mind share), checking that staff believe the strategies are being followed (strategy loyalty) and determining how many are teaching others

about the strategies (becoming strategy missionary). The communication programme will aim to use different communication media including seminars and workshops, newsletters, brochures and bulletins, electronically through Intranet, etc. The NSDS has made provision for facilitating this type of communication.

It should be emphasized that the communication programme will also aim to break communication barriers (the silo mentality) at the Bureau and in the NSS; encourage a two-way free flow of information and ideas on initiatives for achieving the objectives of the Plan, viz. top-bottom and bottom-top. The NSDS will also be publicized among the public as part of repositioning the Bureau²⁸.

4.1.6 Managing change

It cannot be emphasized enough that change is a way of life; it is the way to stay competitive and to grow. Indeed, breakthroughs in performance require that major changes be undertaken as drivers of strategic success. Change is always underway with all organizational systems and processes intrinsically subject to constant review caused by the ever-present social, economic and technological trends in society. While change is an opportunity, it is usually viewed as a threat and is always resisted. Indeed *“resistance to change can be considered the single greatest threat to successful strategy implementation”*²⁹. This makes change management an important issue in the implementation of the NSDS. Fred R. David (1997) has identified main causes for resistance to change as feeling of loss of status, implied criticism of present competence, fear of failure on the new situation, annoyance at not being consulted, lack of understanding of the need for change, or insecurity in changing from well-known and fixed methodologies or false comfort in the status quo and working with a fixed mindset.

It is, therefore, very important that the NSDS is implemented in such a way that change is well managed so that individuals can see it as an opportunity to enrich their careers and personal lives. Change will be managed, among other things, by anticipating the focus of resistance, eliminating unnecessary resistance caused by misconceptions through communication and creating a situation of participation and full explanation when changes are envisaged. Work ethics and mindsets will be made to change, and change-oriented thinking will be made to become a habit for every body through appropriate training for staff.

4.1.7 Strategic learning process

It is important that the Bureau should be an information-age strategic learning organization. Kaplan Robert S. and David P. Norton (1996) give three essential ingredients that will be followed in creating and sustaining a learning Bureau, namely:

- (a) a shared strategic framework that communicates the strategy and allows each participant to see how his/her activities contribute to achievement of the overall strategy,
- (b) a feedback process that collects performance data about the strategy and allows the hypothesis about interrelationships among strategic objectives and initiatives to be tested, and
- (c) a team problem-solving process that analyses and learns from performance data and then adapts the strategy to emerging conditions and issues.

²⁸ *Draft Strategic Plan Document for the central Bureau of Statistics, Kenya 2003*

²⁹ *Robert S. Kaplan and David P. Norton, opt. cit.*

These ingredients will guide the actions of the Bureau in keeping the Bureau a learning organization.

4.1.8 Creating a strategy –supportive culture

For the strategy to succeed, it should be strongly supported by a conducive organizational culture. Organisational culture captures the subtle, elusive and largely unconscious forces that shape a workplace. It is crucial, therefore, that issues of organisational culture are well studied to ensure that the culture does not inhibit implementation of the strategy (David, 1997). In particular, the design of the NSDS should aim to preserve, emphasise and build upon aspects of an existing culture that supports proposed new strategies.

Those aspects of existing culture that are antagonistic to a proposed strategy should be identified and changed. So NSDS implementation should involve creating a new set of values (*e.g.* work ethics), value systems (*e.g.* code of conduct) and a performance-based culture that focuses on results and links everyone and every unit in the organisation to unique features of the strategy. One thing that should be singled out for promotion is the equipment maintenance culture. Often equipment and particularly ICT equipment are bought and not maintained. This naturally shortens their lifespan. It is, therefore, important that a maintenance culture is developed within organisations. Different techniques are available to alter an organisation's culture including recruitment, training, goal-setting, transfer, promotion, praise, role modelling, positive reinforcement, etc.²³

4.1.9 Technical assistance

There will be a need for in-process guidance and hands-on technical assistance in those areas in which there is limited capacity or no capacity at all (new areas). This assistance will be particularly crucial in the early stage of Plan implementation and will be required to build capacity and establish systems in such areas as GIS, poverty mapping, modeling, production of satellite accounts, sampling, etc. The assistance will be sought on a needs basis.

4.1.10 Developing business plans and resource allocation

As part of the NSDS implementation programme, an action plan has been formulated to assist in the allocation of responsibilities and resources. Details of the Action Plan are presented in Chapter 5 and Annex III.

4.2 Monitoring and evaluation

4.2.1 Why monitor implementation?

The implementation of the strategy will be effectively monitored and at the end, its impact evaluated. Monitoring is essential: (i) to ensure that stated objectives are being achieved, (ii) for tracking inputs, activities and outputs, (iii) to determine if implementation is on course or not, (iv) to alert management to problems or potential problems before the situation becomes critical, and (v) for taking corrective actions to ensure that performance conforms to strategy or that the strategy is revised in light of new experience.

Hence by monitoring the implementation of the strategy, managers will be able to get a picture of whether set objectives and targets are being achieved or are likely to be achieved. Monitoring

²³ *Draft Key Issues in NSDS Design and Implementation, PARIS21, Paris , France, August 2006*

will be ineffective unless there are actions taken in response to what is measured and reported. There will thus be a need to learn from insights and experiences. For instance, if monitoring shows that a particular activity is on a wrong track, corrective measures will need to be taken or the implementation strategies will need to be revised. In that sense, the strategy will be a living document that will require adjustments as objective conditions change. Monitoring will also be essential for providing information that is required for accountability purposes.

4.2.2 Monitoring indicators

Different monitoring indicators will be used based mainly on the IMF's Data Quality Assessment Framework and the PARIS21 consortium Statistical Capacity Building Indicators. Some of them are already being used by CSO. Both qualitative and quantitative indicators covering the external environment, the statistical processes including managerial and technical support, and outputs will be used to monitor and measure performance/ progress. In particular, system-wide indicators will be used to provide an overview of the statistical production across the NSS, agency-related indicators will be used to provide a pointer to the breadth and depth of statistical activities undertaken within the NSS while output indicators will provide an overview of the internal capacity of agencies producing them.

At the end of the NSDS period, there will be an evaluation to assess the most significant constraints, the most successful activities and generally to assess how well the strategies have met the set objectives. It has been observed that evaluation works best when the emphasis is on learning for the future. Evaluations of the NSDS will very much take this into account³¹.

For meaningful monitoring and evaluation, however, only a few indicators selected on each of the five strategic themes will be monitored. These indicators are set out in the logical framework (see Annex II).

4.2.3 Benchmarking

Benchmarking is a method of making systematic comparisons in specific areas either within an organization or with other relevant organizations and especially with those organizations with best performance. The aim is to determine areas where improvements can be made. Internal benchmarking will be done by incorporating existing best practice and comparing results from different Departments, Divisions and Sections with reference to such things as timeliness, user satisfaction, etc. The benchmarking will form a basis for assessing performance in different work areas. On the other hand, international benchmarking will be done to compare the Bureau's performance with that of National Statistical Agencies in the SADC sub-region and the African region where some of the above developments are more advanced and which might be able to provide some data for benchmarking progress (e.g. Statistics South Africa is advanced in GIS, poverty mapping and IT generally; Tanzania has an advanced socio-economic database; Uganda is a model in statistical autonomy and independence; Zimbabwe is advanced in In-Service Training, etc). It is expected that a peer review process in line with the New Partnership for Africa's Development (NEPAD) Peer Review Mechanism and the recommendation of the United Nations Economic Commission for Africa, Committee on Development Information (CODI – III of 2001) will be initiated whereby a "peer review team" of experts is invited to review strategic goals and objectives, strategic targets, etc.

³¹ *Why invest in good statistics? PARIS21 advocacy brochure*

4.3 Reporting mechanisms

It is crucial that as part of the monitoring framework, reporting mechanisms are put in place. The reporting mechanism should provide for preparation and distribution of periodic progress, mid-term and final reports, specifying who is to prepare, distribute and receive which report and when, and what actions are expected from recommendations in the reports.

4.3.1 Quarterly Progress Report

Provision will be made in the Statistics Act for the Board of Directors of the Bureau to prepare and present a Quarterly Progress Report (QPR) to the appointing authority covering all statistical activities undertaken during the quarter, constraints and successes, and highlighting plans for the next quarters.

4.3.2 Annual Review

In addition to the QPR, there will be a need for an annual process of monitoring the implementation of the NSDS, with mechanisms for changing activities and targets, if this proves necessary. The Annual Review (AR) will be undertaken by the dedicated government departments/agencies (e.g. Management Audit Bureau, Pay Research Bureau, Ministry of Civil Service and Administrative Reforms, etc.).

4.3.4 Mid-term Review

The Mid-term Review (MTR) is a more formal process that will be undertaken to ensure that the NSDS is still relevant and for agreeing on changes in both the strategy and work programmes, where these are needed and justified. In addition, the mid-term review will reallocate resources according to performance and needs. This review will be undertaken by a consultant appointed by the Ministry of Finance and Economic Development.

4.3.5 Terminal Review (TR)

At the end of the NSDS period, there will be an external evaluation, Terminal Review (TR), which will also be undertaken by an independent consultant hired by the Ministry of Finance and Economic Development.

5. ACTION PLAN AND BUDGET

5.1 Action Plan

5.1.1 Need for Action plan

The NSDS provides strategic directions. However, for its day-to-day implementation, strategies will need to be translated into business plans or annual work programmes and budgets, with appropriate mechanisms for monitoring and assessing progress. The annual business plans constitute a tool for internal business management, informing users and other data producers regarding agencies' products and are the key documents for negotiating with government and donors for resources. Specifically, the business plans are essential for:

- defining annual objectives,
- guiding and representing a basis for resource allocation
- focusing activities towards meeting strategic goals
- establishing priorities and outlining indicators for measuring progress
- serving as major instruments for setting standards of performance and for monitoring progress towards achieving long-term goals and objectives.

Each Department at MBS will be required to develop its own annual objectives and a business plan, with detailed business objectives that are linked to the NSDS objectives. Every effort will be made to ensure that the annual objectives and business plans are well conceived and consistent with the overall goals and objectives of the NSDS. The business plans will be compiled outlining the specific actions to be taken, when and by whom in order to achieve the Bureau's goals within the budgetary and resource framework and will be monitored through quarterly reports. Each member of staff will be required to have a clear idea of what they are supposed to achieve and how their individual performance will be assessed. As per the **ISO 9000** series of standards which requires a "job description" of every participant in a productive enterprise, job descriptions of all staff will be well defined.

Managers will need to be assured that they will have the resources needed to achieve set goals and targets. The successful completion or progress towards achieving the business objectives will ensure that the organization's strategic goals are being achieved. Furthermore each business plan will be attached to the respective owner's business plan performance schedule.

Annex III gives elements of the business plan, indicating the following:

5.1.2 Output to be produced

Key outputs represent milestones of organization's strategic objectives. They represent achievements not the process or activities. The key outputs are important because they:

- lead to user/customer expectation and satisfaction. Users/customers will know in advance when certain statistical products will be available,
- promote the image of the organization,
- motivate staff by creating a sense of achievement,
- can be and are often used to measure the performance of the organization,
- will be useful when it comes to staff appraisal,

- facilitate the control of organization's operations,
- facilitate monitoring and evaluation, and
- set benchmarks for others to copy.

These outputs have been identified for each strategic objective

5.1.3 Key activities and responsibility centres

Key activities to be undertaken to deliver each output and who is responsible for undertaking them have been identified. This is crucial for accountability purposes.

5.1.4 Time frame and estimated cost

The time frame for undertaking each activity has been specified. Some of the activities are ongoing. Others are new. The activities have been scheduled in such a way that there is no overload in a particular year. As much as possible, the activities to be undertaken have been costed.

5.1.5 Resource allocation

All organizations have at least four types of resources that can be used to achieve desired goals. These are financial, physical, human and technological resources. Allocation of these resources is a central management activity that allows for strategy implementation. Every effort will be made to minimize the factors that commonly prohibit effective resource allocation including too much emphasis on short-run financial criteria, organizational politics, vague strategy targets, a reluctance to take risks and a lack of sufficient knowledge³⁰.

5.2 Budget and investment

The budget for the Bureau will include operations and capital budgets. It is expected that government will meet the bulk of the budget with development partners (whom we have identified) providing technical assistance as necessary. Government ministries/departments will be urged to include in their recurrent budgets provision for data collection and use by themselves in evidence-based policy, planning and decision-making.

³⁰ *Fred R. David opt cit.*

REFERENCES

Ajayi, O.O, Consultations with Key Stakeholders Towards the Formulation of the reference regional Strategic Framework for African Statistical Development, AfDB Report, 2005

Bank of Mauritius

- Bank of Mauritius Annual Report. Year ended 30 June
- 2004 Monthly statistical Bulletin , January 2006

Central Statistics Office

- A Guide to the Central Statistics Office
- Mauritius in Figures, 2004
- Economic and Social Indicators Publications Programme – Year 2006
- CSO Publications
- CSO List of books and publications received During the Month of December 2005
- Draft Strategic Plan, 2006 – 2008
- Organizational Chart

Edmunds Roger, Models of Statistical Systems, PARIS21, October 2005

Government of Mauritius, The Statistics Act No. 38 of 2000, Legal Supplement to Government Gazette of Mauritius No. 127 of 2 December 2000.

International Monetary Fund (IMF), Report on Observance of Standards and Codes – Data module, IMF Country Report No: 02/87, April 2002

Joint Economic Council, The Economic Transition of Mauritius, A Report of the JEC Task Force, February 2001

McLennan, Bill, Technical Audit and Reorganization of the CSO of Mauritius, October 2003

Ministry of Health and Quality of Life

- Family Planning and Demographic Yearbook 2004, Volume 30, Demographic and Evaluation Unit, November 2005
- Health Statistics: Annual 2004 (Island of Mauritius and Island of Rodrigues), Health Statistics Unit

PARIS21 Secretariat, National Strategy for the Development of Statistics (NSDS) Documentation, Paris, 2004 Version

PARIS21 Secretariat, PARIS21 Draft Advocacy Strategy, Paris, 2005

Phan Tuan Pham, A UN Report on Informatics Advisory Mission, June 2003

SADC, National Audit Report for Mauritius, SADC-EU Statistical Training Project, May 2003

United Nations, Handbook of Statistical Organization: The Operation and Organization of a Statistical Agency, 3rd Edition, New York, 2003

ANNEX I

UN FUNDAMENTAL PRINCIPLES OF OFFICIAL STATISTICS (UN Statistical Commission 1994)

- Official statistics provide an indispensable element in the information system of a democratic society, serving the government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honour citizens' entitlements to public information.
- To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing storage and presentation of statistical data.
- To facilitate a correct interpretation of the data, the statistical agencies are to present information according to scientific standards on the sources, methods and procedures of the statistics.
- The statistical agencies are entitled to comment on erroneous interpretation and misuse of statistics.
- Data for statistical purposes may be drawn from all types of sources, be they statistical surveys or administrative records. Statistical agencies are to choose the source with regard to quality, timeliness, costs and the burden on respondents.
- Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.
- The laws, regulations and measures under which the statistical systems operate are to be made public.
- Coordination among statistical agencies within countries is essential to achieve consistency and efficiency in the statistical system.
- The use by statistical agencies in each country of international concepts, classifications and methods promotes the consistency and efficiency of statistical systems at all official levels.
- Bilateral and multilateral cooperation in statistics contributes to the improvement of systems of official statistics in all countries.

National Strategy for the Development of Statistics in Mauritius

ANNEX II. A LOGICAL FRAMEWORK MATRIX

OUTPUTS		ACTIVITIES	INDICATORS	MEASURES/ VERIFICATION	ASSUMPTIONS	
Goal						
To improve development outcomes and governance by strengthening National Statistical Systems in the country						
Purpose: Provision of coherent, timely and reliable statistics for effective policy and decision-making, and for monitoring national development processes	Assess user needs on a continuing basis	User needs assessments undertaken	Periodic reports	Commitment of Government & MBS		
	Develop & implement a work programme as a component of the NSDS	Work programme implemented				
	Develop & implement a capacity building programme as a component of the NSDS	Capacity building programme implemented				
	Design a Customer Charter	Customer Charter in place	User Satisfaction Surveys			
	Assess user satisfaction	Users satisfied				
Strategic Objective 1: Achieve organizational and institutional development						
1.1	General awareness about statistics created in society	Prepare and disseminate materials on statistical literacy through talks and presentations	Greater awareness about statistics	Periodic Users	Commitment on part of the part of Bureau	
		Organise public relations campaigns for data suppliers, decision-makers, analysts and researchers	No. of meetings held, press releases issued			
		Data dissemination workshops	Greater use of data by society	Satisfaction Surveys		
		Africa Statistics Day Celebrations	Celebrations held annually	Periodic reports		
		Work towards inclusion of statistis in school syllabi				
		Prepare a student's corner on MBS web site				
1.2	Profile of statistics raised	Involve Statisticians in policy discussions	Number of policy discussions where statisticians are represented	Periodic Review	A responsive clientele and public	
		Building a startistics component in all major development programmes and initiatives	Number of programmes and initiatives with statistics component			
		Making CSO an autonomous agency	An autonomous agency created			Reports
1.3	Mauritius Bureau of Statistics (MBS) established	Establish an autonomous statistical agency, Mauritius Bureau of Statistics	MBS up and running			MBS in place
		Board of Directors of MBS appointed	New responsibilities defined	Periodic review		
1.4	Improved arrangements for inter-institutional coordination, collaboration, networking and information sharing	Strengthen collaboration arrangements, bringing Health, Fisheries and Food Crop Production	Number of arrangements established			Stakeholders see virtue in coordination, collaboration, networking and information
		Publish & widely circulate an NSS in fold Newsletter	Institutions receiving Newsletter	Progress Reports		
		Publish an Annual Report	Annual Report published			
1.5	Improved technical coordination	Promote use of common concepts, standards and classifications	Compendium of Common Concepts, Standards and Classifications	Progress reports	Stakeholders agree to use compendium	
1.6	Improved data producer/ supplier relationships	Awareness programmes targeting data suppliers	Increased cooperation of respondents	Technical Reports	Suppliers will find time to listen	
1.7	Operational New Statistics Act	Draft New Statistics Act	New Statistics Act in place	Progress Reports	Goodwill of Government and Parliament	
		Get the Act through appropriate processes for enactment	New Bureau organizational structures in place			
1.8	Increased use of statistics in evidence-based decision-making and planning	Improve quality of statistics	Higher quality statistics judged by established standards	User Satisfaction Surveys	Willingness and capacity to use statistics	
		Improve data analysis and reporting	Increased demand for statistics	Periodic Reports	Capacity to produce appropriate poverty reports	
		Develop dissemination strategies	Number of statistical products disseminated			
		Produce report on poverty for policy makers	Report produced			
		Produce annual reports on the MDGs	Report produced			
			Develop national database on adolescents	Database developed		Capacity to develop and maintain a database

National Strategy for the Development of Statistics in Mauritius

Strategic Objective 2: Develop human resources					
2.1	Improved staff recruitment and promotion	Develop and document criteria for staff recruitment and promotions that balances complementary expertise & backgrounds	Criteria for staff recruitment and promotions established, documented and used	Progress reports	Technical assistance to develop and document procedures
		Advertise all posts to be filled	Number of staff recruited		
2.2	Critical mass of personnel at the Bureau	Start In-Service Training Programme	In-Service Training Programme started		
		Carry out other training at different levels (short-term and long-term)	Number of staff trained at different levels	Progress reports	
		Develop hard and soft skills	Skills developed	Annual Reviews	
		Undertake study tours and attachments	Number of study tours and attachments undertaken		
2.3	MBS professionalized	Increase % of staff in professional category	% of professional	Progress reports	Commitment on part of government
		Number of seminars held			
		Subscription to international statistical societies	Number of subscriptions		
		Staff urged to join various international statistical societies & attend conferences	Number of staff belonging to various International societies		
2.4	Motivated staff	Define career path	Career path defined for all categories of staff		Government commitment
		Provide training opportunities for staff	Staff trained in different areas	Progress reports	
		Reward quality and promote professionalism	Promotions based on merit	Annual Reviews	
			Achievement awards		
		Develop attractive teams and conditions of service	Attractive terms and conditions of service established and applied		

National Strategy for the Development of Statistics in Mauritius

Strategic Objective 3: Develop more effective infrastructure					
3.1	New home for the Bureau	Prepare a proposal for building a new office block	Bureau in own office block	Progress reports	Human and financial resources available from Ministry of IT
3.2	IT focused National Statistical System	Establish an IT Section at MBS	IT Division established		
		Implement e Business plan:		Progress reports	
		Develop consolidated and reconciled database	Consolidated database in place		
		Develop applications on common platform (including on line surveys)	Applications available		
		Implement computer assisted data collection and capture	Systems in place		
		Develop and implement guidelines for data management, archiving and electronic security	Guidelines available and used		
		Generate management information using OLAP (on line analytical processing)	Management information available		
		Data warehousing	Systems in place		
		Develop and improve an interactive website	Interactive website developed		
		Update Guidelines on use of IT	Guidelines in place and used	Progress reports	
		Improve computerization in government ministries and departments	Better computer environment in government ministries and departments		
		Train staff on IT	Number of staff trained in IT		
3.3	Effective management systems	Develop recruitment procedures	Recruitment procedures developed	Progress reports	Resources from Government available Technical assistance will be forthcoming
		Develop Terms and Conditions of Service for staff	Terms and Conditions of Service developed		
		Develop Financial Regulations	Financial Regulations developed		
		Develop Accounting Guidelines	Accounting Guidelines developed		
		Develop Procurement Guidelines	Procurement Guidelines developed		
		Make effective use of the LAN for communication	Increased sharing of information		
		Establish an open system of management with regular meetings at all levels	Open management system in place		
		Establish a performance management system	Performance management system in place		
		Set up a Suggestion Scheme to improve team activities	Suggestion Scheme in place and operational		
3.4	Strong statistical infrastructure	Improve statistical methodologies inc. s/design	Sound statistical methodologies applied		Expertise in statistical methodology
		Improve classifications and codes	Standardized classifications/ codes	Technical reports	Willingness to use standards and codes
		Carry out time series analysis	Methods constantly being revised	Technical reports	Sufficient resources available
		Develop modelling capacity	Capacity developed	Technical reports	Sufficient resources available
		Develop and maintain a Central Business Register	Up-to-date Central Business Register established		Sufficient resources available
		Develop GIS capability	Increased use of GIS functionality		Appreciation of GIS
3.5	Consolidate Documentation Unit	Acquire more books, journals, publications and reference materials (hard and soft)	No. acquired yearly		Sufficient resources available
		Provide congenial environment	Change in environment		Sufficient resources available
		Restore old publications	No of publications restored		Sufficient resources available

National Strategy for the Development of Statistics in Mauritius

Strategic Objective 4: Make better data available					
4.1	Quality of statistical products and services	Regular consultative meetings with main data users	Number of consultative meetings held	Progress reports	A culture of quality developed
		Up-date Central Business Register	Central Business Registers up-dated		
		Develop appropriate methodologies and promote best practices	Methodologies developed and best practices promoted		
		Prepare documentation on work methods and procedures	Methodological documents in place	Annual Reports	Data users will be able to assess the quality of statistical products
		Improve design of instruments	Better survey instruments		
		Upgrade staff professional knowledge	Staff professional knowledge upgraded		
		Improve training of field staff	Number of field staff trained		
		Reduction of non-response rates	High response rates		
		Undertake internal and external benchmarking with a view to attain excellence	Number of systems and practices benchmarked		
		Undertake error estimation of main s/indicators	Practice promoted	Progress reports	Expertise available
		Undertake statistical audits	Number of agencies audited		
4.2	Participation in international initiatives	Participate in GDDS, graduating to SDDS	Improved data quality	Progress reports	Commitment to GDDS principles
4.3	Better Census and Survey data	Participate in ICP			
		Prepare for Census 2010	Population and Housing data updated	Progress reports	Resources available
		Merge records from Housing Census and Population Census	Merged Population and Housing Census data	Census reports	
		Develop integrated population and housing census database for small geographical areas	Integrated population and housing census databases for small geographical areas	Census reports	Technical assistance required and available
		Harmonize /centralize survey operations	Increased response	Progress reports	Awareness among data providers
		Provide feedback on quality	Improved communication between Units	Progress reports	Resources available
		Initial editing	Queries are more easily settled	Progress reports	Resources available
		Research in Q/design and techniques of persuasion	Increased response	Progress reports	Resources available
4.4	Better administrative data	Harmonisation of questionnaires and identification of alternative source of information	Lower response burden	Progress reports	Resources available
		Update existing instruments for data collection	Improved data collection instruments		
		Improve training of data collectors	Better trained data collectors	Statistical audits	Resources from government available
		Improved data management in line ministries and departments	Better databases developed		
		Improve training in data processing	More trained staff in data processing		
4.5	New areas developed	Establish methodologies and indicators for new areas	Methodologies and indicators in place		Better understanding of the needs of new areas
4.6	Regular statistics available	Compile regular statistics	Regular statistics available in time	Progress reports	Existing resources still in place
4.7	Data users satisfied	User Satisfaction Survey	Number of User Satisfaction Surveys undertaken		

National Strategy for the Development of Statistics in Mauritius

Strategic Objective 5: Improve data management, dissemination, accessibility and use					
5.1	Value-added statistical products	Build analytical capacity at the Bureau	Number of staff members trained in data analysis	Progress reports	Willingness among institutions to collaborate
		Use GIS functionality in data analysis	Increased GIS products		
		Use subject-matter experts outside the Bureau	Number of collaboration arrangements in data analysis		
5.2	Improved reports	Produce Guidelines on how to prepare statistical reports	Guidelines in place and used		Staff willingness to learn
		In-house training on statistical reporting	Number of staff trained		
		Prepare a template for statistical reports so that they can have a standard look and presentation			
		Continual benchmarking of publications with those of renowned statistical agencies	Number of benchmarks undertaken		
5.3	Better disseminated data	Design a dissemination policy	Dissemination policy designed and operational		Willingness to share data
		Improve web-dissemination by making the web site interactive and dynamic	Greater use of the web site to disseminate data		
		Establish an Integrated Management Information System (IMIS)	Data disseminated interactively through website		Data users empowered to use data
		Prepare user-friendly brochures to be distributed on Africa Statistics Day	Brochures prepared and distributed		Data users empowered to use data
		Greater use of GIS in statistical reports	Reports using GIS		
5.4	Data that are accessible and used	Create an integrated and accessible socio-economic database	Accessible database in operation		
		Promote data usage for policy and decision-making	Increased use of data at all levels		
		Establish a pricing policy for MBS products and services	Pricing policy established and implemented		
		Facilitate access to micro data	No. of databases made accessible		
5.5	Improve timeliness	Release QNA within 3 months after r/quarter	SDDS conditions fulfilled	Progress reports	
		Release quarterly wages and earnings statistics within 3 months after r/quarter	SDDS conditions fulfilled	Progress reports	Resources are available
		Release employment and unemployment estimates within 3 months after r/quarter	SDDS conditions fulfilled	Progress reports	Resources are available

National Strategy for the Development of Statistics in Mauritius

ANNEX III: ACTION PLAN

Goal: To improve development outcomes and governance by strengthening National Statistical System in the country

Purpose: To provide coherent, timely and reliable statistics for effective policy and decision making, and for monitoring national development processes

OUTPUTS	ACTIVITIES	RESPONSIBILITY CENTRE	TIME FRAME	ESTIMATED ANNUAL COST
Strategic Objective 1: Achieve organizational and institutional development				
1.1 General awareness about statistics created in society	Prepare and disseminate materials on statistical literacy through talks and presentations	Research, Methods & Field Operations	On-going	Rs 200,000
	Organise public relations campaigns for data suppliers, decision-makers, analysts and researchers	Research, Methods & Field Operations	On-going	
	Data dissemination workshops	All Divisions	On-going	
	Africa Statistics Day Celebrations	Research, Methods & Field Operations	Every year in November	
	Work towards inclusion of statistics in school syllabi	Research, Methods & Field Operations	December 2007	
	Prepare a student's corner on MBS web site	Webmaster	January 2008	
1.2 Profile of statistics raised	Involve Statisticians in policy discussions	Ministry of Finance & Economic Development/Line Ministries	On-going	
	Building a statistics component in all major development programmes and initiatives	Management and Government	On-going	
	Making CSO an autonomous agency	Management and Government	Starting 2007	
1.3 Mauritius Bureau of Statistics (MBS) established	Establish an autonomous statistical agency, Mauritius Bureau of Statistics	Management and Government	June 2007	
	Board of Directors of MBS appointed	Management and Government	June 2007	
1.4 Improved arrangements for inter-institutional coordination, collaboration, networking and information sharing	Strengthen collaboration arrangements, bringing Health, Fisheries and Food Crop Production	Management	June 2007	
	Publish & widely circulate an NSS in form of newsletter	Research, Methods & Field Operations	Starting March 2007	Rs 100,000
	Publish an Annual Report	Research, Methods & Field Operations	July 2007 and yearly	Rs 50,000
1.5 Improved technical coordination	Promote use of common concepts, standards and classifications	All divisions	On-going	
1.6 Improved data producer/supplier relationship	Awareness programmes targeting data suppliers	All divisions	On-going	
1.7 Operational New Statistics Act	Draft New Statistics Act	Research, Methods & Field Operations	March 2007	
	Get the Act through appropriate processes for enactment	Management	June 2007	
1.8 Increased use of statistics in evidence-based decision-making and planning	Improve quality of statistics	Research, Methods & Field Operations	On-going	
	Improve data analysis and reporting	Research, Methods & Field Operations	On-going	
	Develop dissemination strategies	Research, Methods & Field Operations	On-going	Rs 50,000
	Produce report on poverty for policy makers	Decentralised Cooperation Programme (EU-funded programme)	August 2007	Rs2.5 million (EU-financed)
	Produce annual reports on the MDGs	Ministry of Finance with inputs from CSO(Demographic & Social Stats. Division) & Ministry of Foreign Affairs	Starting July 2007	Nil
	Develop national database on adolescents	ODEROI (Observatoire de droits des enfants de l'Océan Indien)	April 2007	Rs500,000 (UNICEF funded)

National Strategy for the Development of Statistics in Mauritius

Strategic Objective 2: Develop human resources					
2.1	Improved staff recruitment and promotion	Develop and document criteria for staff recruitment and promotions that balances complementary expertise & backgrounds Advertise all posts to be filled	Management Human Resources Division	September 2007 On-going	
2.2	Critical mass of personnel at the Bureau	In-Service Training Programme	Research, Methods & Field Operations	On-going	Rs 75,000
		Carry out other training at different levels (short-term and long-term)	Research, Methods & Field Operations	On-going	Rs 200,000
		To set up Work Improvement teams	All Divisions	On-going	
		Organise regular professional seminars	Research, Methods & Field Operations	On-going	
		Develop hard and soft skills	Human Resources Division	On-going	
		Undertake study tours and attachments	Human Resources Division	On-going	200,000
2.3	MBS professionalized	Increase % of staff in professional category	Human Resources Division	On-going	
		Staff urged to join various international statistical societies & attend conferences	Human Resources Division	On-going	
2.4	Motivated staff	Define career path	Human Resources Division	August 2007	
		Provide training opportunities for staff	Research, Methods & Field Operations	On-going	Incl. in 2.2
		Reward quality and promote professionalism	Human Resources Division	On-going	
		Develop attractive Terms and Conditions of Service	Human Resources Division	August 2007	Incl. in 3.3
		Develop a policy for staff rotation	Human Resources Division	March 2007	

National Strategy for the Development of Statistics in Mauritius

Strategic Objective 3: Develop more effective infrastructure					
3.1	New home for the Bureau	Prepare a proposal for building a new office block	Management	Proposals already submitted to MOFED	Feasibility: Rs 5 million
3.2	IT focused National Statistical System	Establish an IT Division at MBS	Technical Services Department	Starting July 2007	Rs9 million
		Implement e-Business for MBS		Starting July 2007	
		Develop consolidated and reconciled database		Starting June 2007	
		Develop applications on common platform (including on line surveys)		Starting June 2007	
		Implement computer assisted data collection and capture		October 2007	
		Develop and implement guidelines for data management, archiving and electronic security		June 2007	
		Generate management information using OLAP (on line analytical processing)		December 2007	
		Data warehousing		March 2008	
		Develop and improve an interactive website		On-going	
		Update Guidelines on use of IT		On-going	
		Improve computerization in government ministries and departments		On-going	
		Train staff on IT		On-going	
3.3	Effective management systems	Develop recruitment procedures	Management and Organization Design Committee	September 2007	
		Develop Terms and Conditions of Service for staff		August 2007	
		Develop Financial Regulations		October 2007	
		Develop Accounting Guidelines		September 2007	
		Develop Procurement Guidelines		August 2007	
		Make effective use of the LAN for Communication		On-going	
		Establish an open system of management with regular meetings at all levels		On-going	
		Establish a Performance Management System		December 2006	
		Set up a Suggestion Scheme to improve team activities		January 2007	
3.4	Strong statistical infrastructure	Improve statistical methodologies inc. s/design	Research, Methods & Field Operations and all Divisions	On-going	Rs 200,000
		Improve classifications and codes	Research, Methods & Field Operations and all Divisions	On-going	
		Develop modelling capacity	All Divisions	On-going	
		Develop and maintain a Central Business Register	Research, Methods & Field Operations	On-going	
		Develop GIS capability	Research, Methods & Field Operations and all Divisions	On-going	
3.5	Consolidate Documentation Unit and Library	Acquire more books, journals, publications and reference materials (hard and soft)	Research, Methods & Field Operations and all Divisions	On-going	Rs 100,000
		Provide congenial environment	Research, Methods & Field Operations and all Divisions	June 2007	
		Restore old publications	Research, Methods & Field Operations and all Divisions	On-going	

National Strategy for the Development of Statistics in Mauritius

Strategic Objective 4: Make better data available					
4.1	Quality of statistical products and services	Regular consultative meetings with main data users	All Divisions	On-going	
		Update Central Business Register	Research, Methods & Field Operations and all Divisions	On-going	
		Develop appropriate methodologies and promote best practices	Research, Methods & Field Operations and all Divisions	On-going	
		Prepare documentation on work methods and procedures	Research, Methods & Field Operations and all Divisions	On-going	
		Establish harmonised system of data collection	Research, Methods & Field Operations and all Divisions	September 2007	
		Improve design of instruments	Research, Methods & Field Operations and all Divisions	On-going	
		Upgrade staff professional knowledge	Research, Methods & Field Operations and all Divisions	On-going	(included in 2.2)
		Improve training of field staff	Research, Methods & Field Operations and all Divisions	On-going	(incl. in capital)
		Reduction of non-response rates	Research, Methods & Field Operations and all Divisions	On-going	
		Undertake statistical audits	Research, Methods & Field Operations and all Divisions	On-going	Rs 300,000
		Undertake internal and external benchmarking with a view to attain excellence	All Divisions	On-going	
		Undertake error estimation of main s/indicators	All Divisions	On-going	
		Improve coverage and quality of statistics on health outcome, and on the delivery and use of health services	Statistics unit, Ministry of Health	December 2007	World Bank funded
4.2	Participation in international initiatives	Participate in General Data Dissemination System (GDDS)	All Divisions	On-going	
		Graduating to Special Data Dissemination Standard (SDDS)	All Divisions	December 2007	
		Participate in International Comparison Program (ICP)	Economic & Financial Statistics Division	On-going	Rs 3,000,000
4.3	Better census and survey data	Prepare for Census 2010	Demographic & Social Stats. Division	Process started	Rs 150 million (Total)
		Merge records from Housing Census and Population Census	Demographic & Social Stats. Division	Process started	
		Develop integrated population and housing census database for small geographical areas	Demographic & Social Stats. Division	Starting December 2006	Rs 300,000
		Harmonize /centralize survey operations	Research, Methods & Field Operations	June 2007	
		Provide feedback on quality	Research, Methods & Field Operations	Starting July 2007 & on-going	
		Initial editing	Research, Methods & Field Operations	Starting July 2007 & on-going	
		Research in Q/design and techniques of persuasion	Research, Methods & Field Operations	Starting July 2007 & on-going	
		Harmonisation of questionnaires and identification of alternative source of information	Research, Methods & Field Operations	Starting July 2007 & on-going	
4.4	Better administrative data	Update existing instruments for data collection	Research, Methods & Field Operations and all Divisions	On-going	
		Improve training of data collectors	All Divisions	On-going	
		Improved data management in line ministries and departments	All Divisions	On-going	
		Improve training in data processing	Demographic & Social Stats. Division	On-going	Rs50 000
4.5	New areas developed	Establish methodologies and indicators for new areas	Research & Analysis Cell and all Divisions	On-going	
		Develop indicators on key aspects of governance (administration of justice, crime and security)	Research, Methods & Field Operations	December 2007	World Bank funded
4.6	Regular statistics available	Compile regular statistics	All Divisions	On-going	CSO's regular budget
4.7	Data users satisfied	User Satisfaction Survey	All Divisions	On-going	

National Strategy for the Development of Statistics in Mauritius

Strategic Objective 5: Improve data management, dissemination, accessibility and use					
5.1	Value-added statistical reports	Build analytical capacity at the Bureau	Research, Methods & Field Operations	On-going	
		Use GIS functionality in data analysis	All Divisions	On-going	
		Carry out time series analysis	All Divisions	On-going	Rs 200,000
		Use subject-matter experts outside the Bureau	All Divisions	On-going	
5.2	Improved reports	Produce guidelines on how to prepare statistical reports	Research, Methods & Field Operations	August 2007	Rs 100,000
		In-house training on statistical reporting	Research, Methods & Field Operations	3rd quarter 2007	
		Prepare a template for statistical reports so that they can have a standard look and presentation	Research, Methods & Field Operations	June 2007	
		Continual benchmarking of publications with those of renowned statistical agencies	All Divisions	On-going	
5.3	Better disseminated data	Design a dissemination policy	Research, Methods & Field Operations	June 2007	
		Improve web-dissemination by making the web site interactive and dynamic	Webmaster	February 2008	Included in 3.2
		Establish an integrated Management Information System (IMIS)	Webmaster	February 2008	Included in 3.2
		Prepare user-friendly brochures to be distributed on Africa Statistics Day	Research and Filed Operations	Mid-November	Included in 1.1
		Produce soft copies of reports for dissemination	Research, Methods & Field Operations	On-going	Rs 25,000
		Greater use of GIS in statistical reports	All Divisions	On-going	
5.4	Data that are accessible and used	Create an integrated and accessible social, economic and environmental database	Demographic and Social Stats. Division	December 2007	Nil
		Establish a pricing policy for MBS products and services	Management	June 2007	
		Facilitate access to micro data	All Divisions	Starting June 2007	
5.5	Improve timeliness	Release QNA within 3 months after every quarter	Economic and Financial Statistics Division	December 2007	
		Release quarterly wages and earnings statistics within 3 months after r/quarter	Demographic and Social Stats. Division	December 2007	Nil
		Release employment and unemployment estimates within 3 months after r/quarter	Demographic and Social Stats. Division	December 2007	Nil