NATIONAL STATISTICAL SYSTEM OF THE MALDIVES

DIAGNOSTIC ASSESSMENT

FOREWORD

The diagnostic assessment of the National Statistical System of Maldives carried out under ADB's regional technical assistance includes a systematic diagnosis of the statistical priorities and the binding constraints for development of statistics in the Maldives. The diagnostic review examined the Statistics Division of the Department of National Planning and the administrative-based reporting systems of the line ministries. It was carried out in consultation with the national statistical organisations (NSOs) and other stakeholders.

The analytical scheme for the review followed the input-process-output flow used in software design and development. Although the assessment did not intend to go to the specific and measurable results in the results-based management RBM context, it emphasises that statistical results are not the end of a process that entails considerable staff time and significant amounts of public or donor money.

In order to determine the outcomes the approach adopted in the study was to check whether the processes meet the Fundamental Principles of Official Statistics (FPOS) adopted by the United Nations Statistical Commission. Among the principles are relevance, impartiality, professional independence, accountability, transparency, cost-effective-ness, and confidentiality. As regards the qualitative outcomes, the four aspects: relevance, impartiality, transparency and confidentiality were highlighted in the study.

As regards relevance, the assessment found that the data provided by the NSS do meet many of the standard recommendations of international agencies.

- Three exceptions mentioned in this regard were the limitation of the national accounts, due to the paucity of available business data, which hampers the use of the data for macro-economic analysis;
- Lack of data for expatriate workers, who constitute a quarter of the resident population and an even larger percentage of the labor force, which hampers the use of the data to analyze social and economic issues; and
- Lack of environmental data, which is particularly important for the Maldives, given the vulnerability of the island nation to climate change.

As regards *impartiality* and professional independence, it highlighted that steps are needed to reassure the public of such impartiality. As regards **transparency**, it highlighted that much needs to be done to prepare and publish extensive metadata, including information about data quality. As regards **confidentiality**, the assessment states that the Statistics Division of DNP has been consistent in protecting the security of data.

Given the importance of reliable and timely statistics for evidence based policies, the government is fully committed to take forward the recommendations of this diagnosis and implement a long term strategy for the development of statistics in the country, which is currently under finalisation stage.

I sincerely thank ADB for its generous support in the statistics development of Maldives and acknowledge the commendable work of Mr.Alex Korns and the stakeholders who provided valuable inputs in the consultations

Mr. Ali Hashim

Minister of Finance and Treasury

ACKNOWLEDGEMENTS

Development of the "Diagnostic Assessment of the National Statistical System of Maldives" is a critical step towards the identification of important issues hindering the development of statistics in the country and allowing for strategic planning in the area of statistics.

The study was undertaken by, Mr. Alex Korns, an International Statistics Consultant supported by the Asian Development Bank, technical assistance program, "RETA 6333: Statistical Capacity Building in the Asia and Pacific Region". The guidance and support provided by Mr. Kaushal Joshi, ADB Statistician, was vital in the successful completion of this exercise. We gratefully acknowledge the efforts of Mr.Korns and Mr.Joshi and the continuing support and commitments from the Asian Development Bank towards the capacity building of the National Statistical System of Maldives. Mr.Ibrahim Naseem who assisted Mr. Korns as a local consultant also deserves special mention

Furthermore the timely and valuable contribution from the Members of the National Statistics Coordinating Committee is highly appreciated. Our heartfelt appreciation goes to all the stakeholder agencies and individuals who contributed to this process by providing their inputs and advice throughout the study.

This important document is made possible with countless effort and involvement of the highly motivated team of the Statistics Division of the Department of National Planning. Special mention is due to Ms.Ashiyath Shazna who lead the effort from the DNP side and the SD team who supported the exercise including Ms.Rasheeda Najeeb, Ms.Mariyam Niyaf, Mr.Idham Fahumy, Ms.Maharath Ahmed, Ms.Aishath Hassan, Mr.Ahmed Nihad, Ms.Aminath Shirumeen, Ms.Aishath Yumna Rasheed and staff from SD and who facilitated the exercise under the overall guidance of Ms.Aishath Shahuda.

Statistics Division
Department of National Planning

CONTENTS

EXECUTIVE SUMMARY

ADB's regional technical assistance project RETA6333: Statistical Capacity Building in the Asia and Pacific Region was initiated with the objective to implement the recently adopted approach to statistical capacity building. This approach includes a systematic diagnosis of the statistical priorities and the binding constraints for development of statistics in the selected country in consultation with the national statistical organizations (NSOs) and other stakeholders. Stakeholder consultations during these missions included understanding:

- the existing statistical institutions,
- the statistical legislation and coordination mechanisms,
- the strategic role and the activities of the Statistical Division (SD) of the Department of National Planning (DoNP),
- the role of the line ministries and other agencies involved in producing statistics,
- status of statistical activities through administrative data,
- conduct of sample surveys and censuses,
- availability of data series in various subjects,
- data gaps and deficiencies and user needs,
- issues relating to timeliness, quality and reliability of statistical products, adoption of international standards,
- suggestions for building capacity on a sustainable basis,
- current and past donor activity,
- staff and financial resources, etc.

The diagnostic review examined the dual pillars of the Maldivian statistical system: the Statistics Division of the Department of National Planning and the administrative-based reporting systems of the line ministries.

The analytical scheme for the review follows the input-process-output flow used in software design and development. The flow traces the inputs going into a process, the general nature of the processes performed on this input, and outputs produced for each task or process in a system.

Inputs under this review would constitute the following: staff, budget, institutional framework, legislation, infrastructure, and the national development plan. Enablers to the inputs would cover coordination, management, training and technical cooperation. Processes involve the entire production stages of statistical activities from planning and consultation with the users to the preparation and presentation of technical and analytical reports.

Outputs include the primary statistics collected and processed from households and establishments in censuses and surveys, and indicators obtained from these statistics and reports which generally would be guided by analytical frameworks such as the System of National Accounts, Millennium Development Goals, and Poverty Reduction Strategies. For this review, processes and outputs are discussed jointly, while outcomes have been reviewed separately to emphasize the over-arching requirement of relevance to national needs.

The statistical system in the Maldives is highly decentralised, with the Statistics Division (SD) of the Department of National Planning (DoNP), the NSO for the Maldives,being the core statistical unit, while other government agencies collect other kinds of data – mostly through administrative channels, but through registers to some extent and, and in fisheries area through catch and earning and other fishery related surveys and in the health area through household surveys.

More specifically, the SD is responsible for national accounts and price data, for population censuses and major household surveys, and for basic enterprise surveys. It exists only at the national level, with no staff or routine activities at the regional level. The lack of regional staff creates serious obstacles to the collection of routine data from the atolls – such as price data for the CPI. Placing statistical officers in the atolls would facilitate the collection of data for both SD and sectoral agencies.

Statistical activities are carried out in at least 15 other agencies outside DoNP. A survey of these activities, taken in the framework of the NSDS, showed that ten agencies (see table 5) already have their own statistical units, with varying capacity, while the others do not yet have separate statistical units.

The total number of active staff assigned to these statistical units is 48, far more than the 30 active staff at the SD. The existence of so many statistical units provides a good basis for statistical development, one that could be strengthened by the addition of a few more units.

A major obstacle to statistical development in the Maldives is the problem of high employee turnover in the government. For many kinds of activities in official statistics, skill depends as much or more on institutional memory and knowledge of specific cases as it does on an understanding of the relevant concepts and theories. For this reason, many problems and decisions can only be tackled by long-term employees.

When comparison is made with other countries, it can be said that the share of expenditures for the Statistics Division in non-census years is about average in relation to the state budget and the GDP.

The comparison to population points to a problem of relatively high costs for producing statistics in a country, such as the Maldives, with an extremely small population dispersed in nearly 200 islands and a relatively small GDP, due to the difficulty of getting the maximum efficiency out of statistical workers in a system where they are faced with two handicaps that can in principle be mitigated:

1. High staff turnover, which severely limits the accumulation of knowledge and experience, and
2. Dispersal of staff among some 15 agencies, which makes it difficult to share knowledge and coordinate human resources development.

These two factors are in addition to the basic handicap, for which no mitigating action is possible:

3. A small population base but a need to produce a full range of statistical products, similar to the range that would be produced in a much larger country a challenge that is specific to all countries with very small populations.

The combined effect of the three factors is to limit the range and quality of statistical products available as well as greatly to increase the cost of producing the required statistics.

Significantly, the existing salary scale gives very little recognition to senior statisticians, unless they enter management.

The assessment recommends three steps to improve efficiency:

- Improve staff retention by improving pay packages for experienced statisticians as one experienced staffer may cost as much as several junior staffers but is worth far more in terms of statistical judgment and productivity.
- Improved long-term training might also help, as long as the pay package is increased after training in a way that is consistent with the market value of the training.
- Creation of a common cross-agency cadre of statistical officers that shares information and skills and is mentored by the statistics agency through monthly seminars and linking of websites. Initially, this could develop on an informal basis.

It discusses distinct challenges facing the Maldives statistical system (MSS), and identifies a number of key obstacles that have emerged to hamper the development of statistical capacity. Some of the major obstacles include:

- The lack of a Statistics Act, which limits the authority of the Statistics Division to coordinate statistical activities throughout the government and to collect data from business units.
- The paucity of business data that is available to the (SD) from administrative sources. This includes the inability of the Department of Inland Revenue (DIR) to share its directory of business units with the SD, as well as the lack of a modern tax system of business taxes that would oblige business units to report their income to the DIR.
- The difficulty in retaining skilled statistical personnel with their accumulated knowledge in the Statistics Division, due to insufficient incentives for senior statistical staff to remain in government service for long periods when comparison is made with opportunities for this cohort outside the government.

The study concludes by examining the outcomes. One way to discern outcomes of the assessment would be to check on quantitative results – how many indicators were or were not provided, and with what frequency;

this, however, does not seem very fruitful as it would say nothing about the usefulness of the indicators. Another way is to check whether the processes meet the FPOS adopted by the United Nations Statistical Commission, as adopted in this study.

The first principle of official statistics, on relevance, reads: 'Official statistics provide an indispensable element in the information system of a 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 honor citizens' entitlement to public information.'

As regards the qualitative outcomes, the following four aspects were examined:

1. As regards relevance, the data provided by the NSS do meet many of the standard recommendations of international agencies. Three exceptions should be mentioned.

- The limitation of the national accounts to a single table (production account in constant prices), due to the paucity of available business data, hampers the use of the data for macro-economic analysis;
- The lack of data for expatriate workers, who constitute a quarter of the resident population and an even larger percentage of the labor force, hampers the use of the data to analyze social and economic issues; and
- The lack of environmental data, which is particularly important for the Maldives, given the extent to which its future is threatened by global warming.

2. As regards impartiality and professional independence, there has been considerable progress but steps are needed to reassure the public of such impartiality. The creation of an independent agency would be an important step in this direction.

3. As regards transparency, much needs to be done to prepare and publish extensive metadata, including information about data quality.

As statistical systems develop, transparency issues tend to come to the fore, and this process has not yet gone very far in the Maldives. Fortunately, staff have begun to pay more attention to such issues.

4. As regards confidentiality, the SD has been consistent in protecting the security of survey data, particularly for that stored on its servers. Not much public attention has been paid so far to the confidentiality issue, due perhaps to the paucity of business data in the hands of SD. The issue may become more sensitive in the event that SD is able to collect a wider range of business data.

A SWOT analysis for the SD of DNP was done to identify the key internal and external factors that are important to achieving the objectives of the organisation. SWOT analysis groups key pieces of information into two main categories:

- Internal factors – the strengths and weaknesses internal to the organization, and
- External factors – the opportunities and threats presented by the external environment.

The analysis identified the following as Opportunities:

- government's better appreciation for need for statistics,
- growing support for a Statistics Act,
- rising education levels among cohorts that provide recruits for statistical work,
- the government's firm intention to initiate a business tax system appears likely to lead to an administrative infrastructure that can provide better data to the statistical agency, and
- the creation of a WAN connecting government offices across Maldives provides many opportunities for collecting timely and accurate statistics

The analysis identified the following as Threats:

- chronic staff attrition at the SD, averaging 4 staff (13 percent) per year,
- a thriving private sector has created job opportunities that lures staff away from the SD, and
- in a 'low funding' scenario, the SD does not have resources to support even a minimum work plan.

Based on this diagnostic assessment and in consultation with stakeholders, a National Strategy for the Development of Statistics in Maldives has been prepared under the same ADB project, and is currently at the finalization stages.

Glossary of Abbreviations

ADB : Asian Development Bank
CEDAW : Convention on the Elimination of All Forms of Discrimination against Women
CPC : Central Product Classification
COICOP : Classification of Individual Consumption by Purpose
CPI : Consumer Price Index
DIR : Department of Inland Revenue
DoNP : Department of National Planning
DNR : Department of National Registration
DSD : Decision Support Division (MoHF)
ESCAP : Economic and Social Commission for Asia and the Pacific (UN)
FAO : Food and Agriculture Organization (FAO)
FDI : Foreign Direct Investment
FPOS : Fundamental Principles of Official Statistics (UN)
GDDS : General Data Dissemination Standards (IMF)
GDP : Gross Domestic Product
GNDI : Gross National Disposable Income
HCES : Household Consumption Expenditure Survey (India)
HDI : Human Development Index
HIES : Household Income and Expenditure Survey
HIV : Human Immunodeficiency Virus
HS : Harmonized System
HVI : Human Vulnerability Index
ICP : International Comparison Program
ILO : International Labor Organization
IMF : International Monetary Fund
IMR : Infant mortality rate

ISCO	: International Standard Classification of Occupations
ISIC	: International Standard Industrial Classification
IT	: Information Technology
JSC	: Judicial Services Commission
LAN	: Local area network
LES	: Large establishment survey
LFS	: Labor force survey
MBS	: Maldives Bureau of Statistics
MCHE	: Maldives College of Higher Education
MEB	: Macro-economic budget
MICS	: Multi-Indicator Cluster Survey
MDG	: Millennium Development Goals
MHRYS	: Ministry of Human Resources, Youth and Sports
MMA	: Maldives Monetary Authority
MCPW	: Ministry of Construction and Public Works (former)
MoED	: Ministry of Economic Development
MoFA	: Ministry of Fisheries and Agriculture
MoFT	: Ministry of Finance and Treasury
MoHA	: Ministry of Home Affairs
MoHF	: Ministry of Health and Family
MoHTE	: Ministry of Housing, Transportation and Environment
MoT	: Ministry of Transportation (former)
MoTAC	: Ministry of Tourism, Arts and Culture
MPRD	: Monetary Policy and Research Division (MMA)
MFSM	: Monetary and Financial Statistics Manual (IMF)
NCIT	: National Center for Information Technology
NSCC	: National Statistical Coordinating Committee
NSDS	: National Strategy for the Development of Statistics
NSO	: National statistical organization
NSS	: National statistical system
OLAP	: Online Analytic Processing

ONCHSS	: Online Nutrition and Child Health Surveillance System
PPI	: Producer Price Index
PPP	: Purchasing Power Parity
RHS	: Reproductive Health Survey
SCB	: Statistical capacity building
SD	: Statistics Division
SNA	: System of national accounts
SUT	: Supply and use table
TA	: Technical assistance
UNDP	: United Nations Development Program
UNFPA	: United Nations Population Fund
UNICEF	: United Nations International Children's Emergency Fund
UNSD	: United Nations Statistics Division

0.0. Introduction

Despite the overwhelming acknowledgement of the role of statistics in an information-dependent globalized world, it remains a cause for concern that the statistical systems in many Asia-Pacific countries, including the Maldives, have weak capacities. More specifically, these systems are unable to cope with the emerging internal and external demands for relevant, reliable, and timely statistics for policy-making, development planning and project/program evaluation. ADB perceives a critical need to mobilize national and international efforts towards statistical capacity building. Experience, moreover, has shown that piecemeal, uncoordinated and short-term investments by donor development agencies have not resulted in sustainable statistical systems in any developing country.

The ADB recently adopted a new approach, which focuses primarily on the statistically weak performing developing member countries. This approach includes a systematic diagnosis of the statistical priorities and the binding constraints for development of statistics in the selected country in consultation with the national statistical organizations (NSOs) and other stakeholders. This diagnosis will provide the basis for setting priorities and preparing an SCB strategy.

In support of this, a mission under RETA 6333: Statistical Capacity Building in the Asia and Pacific Region was carried out in the Maldives during 17 February – 12 March, again during 3-7 May, and finally during June 20-25, 2009. The main objective was to hold consultations with the stakeholders in the statistical system of the Maldives in order to make a preliminary assessment of the capacity of its statistical system. This included understanding:

- the existing statistical institutions,
- the coordination mechanisms,
- the strategic role and the activities of the Statistical Division (SD) of the Department of National Planning,
- the role of the line ministries and other agencies involved in producing statistics,
- status of statistical activities through administrative data,

- conduct of sample surveys and censuses,
- availibility of data series in various subjects,
- data gaps and deficiencies,
- issues relating to timeliness, quality and reliability of statistical products, adoption of international standards,
- suggestions for building capacity on a sustainable basis,
- current and past donor activity,
- staff and financial resources, etc

Consultations included a meeting of the National Statistics Coordination Committee (NSCC) on 18 February 2009 to explain to the representatives from the ministries the purpose of the mission and the process of undertaking the diagnostic assessment and preparation of NSDS and to seek suggestions and support from the NSCC in the process. There was another meeting during the second mission. Subsequently two subcommittees were created – one for Economic Statistics, the other for Demographic and Social Statistics. These met and provided inputs for the NSDS.

A diagnostics paper was prepared by the International Statistics Consultant from the mission findings and related materials that were made available by the SD and the line ministries. Annex 8 provides the list of persons and their organizational affiliations – including ministers, senior government officers and other stakeholders, consulted during the three missions.

The SD and the ADB jointly organized a Country Stakeholders Workshop Diagnostics and National Statistical Development Strategy for Maldives on 22 June 2009 under RETA 6333. The objective was to discuss the present status of the national statistical system (NSS) and the statistical capacity building needs in the short, medium and long term. Specific objectives were to (i) discuss the preliminary assessment of the Maldives statistical system prepared by the International Statistical Consultant, (ii) discuss the draft action plan for development of statistics capacity in the Maldives, and (iii) get feedback on the report from the country participants. The workshop was well attended with representatives from the SD, statistical units in other agencies, the line ministries, and other stakeholders (Participant list in Annex 1).

The workshop provided additional useful feedback for the mission. It concluded that: There is urgent need for improved coordination of statistical activities among different constituents of the national statistical system (NSS) and the SD in the decentralized statistical system. There was unanimity that the administrative data available in the line ministries should be improved and used to facilitate not only statistical needs for national accounts but also for monitoring by the ministries. There was also unanimous support for a strategic framework under the National Strategy for the Development of Statistics (NSDS) providing a vision for the development of a coordinated NSS.

It is recognized that statistics will be the most important tool for monitoring and evaluation of the progress of the implementation of policies as well as measurement of targets set out in the new government's manifesto and Maldivian Millennium Development Goals (MDGs).Issues of data quality need to be given a high priority, an objective that will require skill development of the SD staff as well as the line ministry staff. A related issue is the compelling need for policies to support better retention of experienced statistical staff, to avoid the loss of knowledge and training that occurs when an experienced officer leaves the system.There is also a need for more commitment to statistical activities from the line ministries.

A new government took over in the Maldives in November 2008, with a commitment to improve governance and social progress. Officials of the new government have shown a keen interest in improving the statistical basis for decision-making. For this reason, the NSS should be strengthened to bring more focus on collecting good quality statistics for measuring social development and vulnerability and generating indicators of progress in the atolls, on the employment situation (labor force), and other sectoral areas. There is also keen interest in improving the availability of business statistics, in conjunction with initiatives to introduce a new system of business taxation. A strategy for improving the availability of business statistics must rest largely on administrative statistics, due to the difficulty of collecting statistical data in business surveys. The strategy would be based on two kinds of data: First, a business register that is linked to administrative data sources and is updated, in so far as possible, through updates to administrative data systems, and second, access by the NSO to annual financial accounts of registered businesses that must be submitted annually. Enhanced national accounts statistics for the Maldives can only be built on the basis of more comprehensive business statistics.

This report incorporates the mission findings, feedback obtained from various government agencies and particularly from two subcommittees of the National Statistical Coordinating Committee (NSCC), the results of the country workshop on SCB, subsequent comments on the draft and information gathering carried out and facilitated by the SD staff.

In the modern period, statistical activities began in 1975 in the run-up to the 1977 census, the first population census following international guidelines. In preparation for the census, four young civil servants were sent in 1976 for a year of training in Kolkata, India, at the International Statistical Education Centre of the Indian Statistical Institute. They returned in July 1977 in time to help organize the census, the data for which were processed at the Department of Census and Statistics in Sri Lanka. Previously, the Maldives had been a British protectorate (1889-1965), and after independence became a republic in 1968. Censuses were conducted by the Elections Division of MoHA.

It was only in July 1980 that a separate unit titled the Statistics Section was formally established as a national statistics office in the National Planning Agency. Since then, the planning agency has undergone name changes, becoming the Ministry of Planning and National Development (MoPND), and the Statistics Section in the MoPND the Statistics Division in recent years. In 2005, parliament voted to shift to multi-party democracy. In 2008, a new president was elected. Upon his inauguration, the MoPND became the Department of National Planning (DoNP) in the Ministry of Finance and Treasury.

There is no Statistics Act. A Statistical Regulation from 1999 assigned to the MoPND the authority to take censuses and surveys and to issue permits for surveys to be carried out by any other agency or unit. The regulation also stipulated that individual data so collected will remain confidential.

The statistical system in the Maldives is highly decentralized, with the SD being the core statistical unit, but with others pursuing their own objectives in many ministries and other institutions, where the statistical activity is often combined with other functions, such as planning, policy and program formulation and monitoring, research and analysis. Other key ministries for sectoral statistics are the Ministries of Finance and Treasury; Economic Development; Human Resources, Youth and Sports; Health and Family; Education; Tourism, Arts and Culture; and Fisheries and Agriculture. The Customs Service also provides a considerable data.

Other ministries and institutions also collect, use and provide statistical information and form part of the NSS. The other major institution involved in the production and use of economic statistics is the Maldives Monetary Authority (MMA).

Since 1999, there has been no growth in the number of staff in the Statistics Division (formerly Section), although the educational level has improved. The Division has conducted a number of surveys. Clearly numerous outputs had been accomplished by the SD, with the support of Government and several development partners over the past 15 years.

0.1. Role in National Development Policy

It is necessary to establish at the outset the need for statistics to be relevant to the development process so that priorities can be set for statistical activities to be carried out by a system workforce, rather lean in both quantity and technical competence. This need also imposes on the government a requirement to provide resources, whether domestic or donor-financed, for the monitoring and evaluation processes. The first official formulation of a statistical policy for the Maldives can be found in the Seventh National Development Plan (2006-2010), implementation of which began in 2006 and was discontinued in November 2008 by the new government. The section on "National Statistics" calls for "a much stronger coordination between the various Government agencies that should be codified in a Statistics Act." The section laid down three policies for strengthening statistics, as will be discussed further in the report.

The new government, while discontinuing the Seventh Plan, has announced that its election manifesto will serve as the planning document for the period 2009-13. This document laid down four main goals, all of which will require voluminous data to monitor adequately:

- Five key pledges – including affordable housing, affordable health care and affordable living costs for all.
- Good governance – including regional development and decentralization
- Social justice – including educational and health development, and
- Economic development – including small and medium enterprises, and employment

In order to implement this socio-economic development vision, each agency must seek data to monitor performance.

The SD is, de facto, the lead agency to ensure regular availability of indicators for monitoring and evaluation purposes. However, no statistical master plan has yet been prepared to set out a long-term development strategy for the NSS that would provide the required data for monitoring progress. To fill that need, the National Strategy for the Development of Statistics (NSDS) presented in this report provides a strategic long-term view and financing plan for statistical activities for the period 2010-2019 and outlines the priority statistical infrastructure and work programs including key statistical outputs that should be undertaken during the period. The NSDS also provides an overview of required budgetary support, through domestic and/or external channels.

0.2. Framework of Review

This diagnostic review will examine the dual pillars of the Maldivian statistical system: the SD and the administrative-based reporting systems of the line ministries[1].

The analytical scheme for the review follows the input-process-output flow used in software design and development. The flow traces the inputs going into a process, the general nature of the processes performed on this input, and outputs produced for each task or process in a system. Inputs under this review would constitute the following: staff, budget, institutional framework, legislation, infrastructure, and the national development plan. Enablers to the inputs would cover coordination, management, training and technical cooperation. Processes involve the entire production stages of statistical activities from planning and consultation with the users to the preparation and presentation of technical and analytical reports. Outputs include the primary statistics collected and processed from households and establishments in censuses and surveys, and indicators obtained from these statistics and reports which generally would be guided by analytical frameworks such as the System of National Accounts, Millennium Development Goals, and Poverty Reduction Strategies.

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[1] The framework of the report was adopted from the report National Statistical System of Lao PDR: Report on Diagnostics and Long-Term Agenda for Building Capacity in Statistics, August 2008, and a similar report for Cambodia, National Statistical System of Cambodia: Report on Diagnostics and Long-Term Agenda for Building Capacity in Statistics, also August 2008 prepared by ADB.

For this review, processes and outputs are discussed jointly, while outcomes have been reviewed separately to emphasize the over-arching requirement of relevance to national needs.

Each of these elements (inputs, enablers, processes and outputs) will be briefly introduced and assessed for quality in terms of strengths and weaknesses. Where applicable, recommendations will be offered. This review will then establish a NSDS for the NSS.

1.0. Inputs

1.1. Legislation and the independence of the system

The Maldives, an archipelagic nation with a resident population of nearly 200 inhabited islands and only about 314,000 inhabitants (excluding about 80,000 foreign workers), has a small statistical system that has produced a range of statistical products since the 1980's. The system has evolved in a decentralized way, with the Statistics Division (SD) of the Department of National Planning (DoNP), the NSO for the Maldives, responsible for some core activities, while other government agencies collect other kinds of data – mostly through administrative channels, but through registers to some extent and, and in fisheries area through catch and earning and other fishery related surveys and in the health area through household surveys.

More specifically, the SD is responsible for national accounts and price data, for population censuses and major household surveys, and for basic enterprise surveys. It exists only at the national level, with no staff or routine activities at the regional level. Other major statistical activities are carried out by the following agencies:

- The Maldives Monetary Authority (MMA) conducts the Monetary Survey and produces an annual balance of payments table.
- The Ministry of Finance and Treasury provides an annual government budget, both planned and realized.
- The Ministry of Economic Development manages the company registration process and receives financial statements from businessess.

- The Ministry of Health and Family is conducting a Demographic and Health Survey (DHS) at this time, and collects other data through registration systems and through routine reporting by health care officials at the local level.
- The Ministry of Human Resources, Youth and Sport collects data on expatriate employment and is taking steps towards collecting job market data.
- Various sectoral agencies collect sectoral data, including data that is used to estimate value added for fisheries and tourism, two major sectors in Maldives

Although the Maldives does not yet have a Statistics Act, the need for one has been under discussion since the Eighties. In September 1999, the government issued a Statistical Regulation, the purpose of which was to standardize data collection, ensure confidentiality, minimize response burden and avoid duplication of data collection. The major thrust of the regulation was to authorize the then Ministry of Planning and National Development (MoPND) to collect data through censuses and surveys, and to require any other government agency or private party that wishes to collect data to do so only with the permission of MoPND.

In June of 1999, the SD, with advice and support from the ADB team, prepared a plan and an organization chart for upgrading the SD into a Department of Statistics. During ADB project TA 4103 the consulting team prepared a Draft Statistics Act in February 2005. The documents were sent to the President's Office, but the proposal of upgrading the SD was not approved. Instead it instructed the Statistics Division to strengthen its own capacity first. The Statistics Division has prepared a translation of the draft Statistics Act which has been officially sent to the Attorney General's office for submission to the majlis, the parliament. This draft, in Dhivehi, is to undergo minor modifications as per suggestions given by the ADB team during the NSDS preparation process. Meanwhile, a paper has been submitted to the President's Office for creation of a Department of Statistics pending a Statistics Act, but no action has been taken yet.

In discussion, officials in the Maldives expressed the need for a Statistics Act that would deal with a broad set of issues, including some that relate directly to the FPOS:

- Explicit assurances of the independence of the statistical agency, which would strengthen the agency in the face of widespread concerns about its independence. (Relates to Principle 2)

- An organizational structure that supports the independence of the agency.
- If possible, an autonomous status for a Maldives Bureau of Statistics (MBS), similar to that of many independent agencies in the Maldives, including the MMA and the election commission. Such a status would allow the creation of a special pay scale, needed to staunch the attrition of senior statistical officers.
- The ways and means of inter-agency coordination for statistics in the decentralized system that has evolved in the Maldives.
- Clarification of how the NSO can play a leading role in inter-agency coordination while still leaving scope for other agencies to collect sectoral data. (Relates to Principle 8)

A special issue arises for data confidentiality in the Maldives, an acute one due to the very small size of the economy. The Statistical Regulation guarantees the confidentiality of data for individual respondents. It states that information obtained is not to be released or published in any manner that will disclose the identity of the provider.

However, the Statistics Division lacks a conceptual framework to regulate the release of data for cells that encompass one sole or dominant reporting unit, where release could impair confidentiality[2].

1.2. Legislation and the independence of the system

Under the reorganization decreed by the government that took office in November 2008, the DoNP is subordinate to the Ministry of Finance and Treasury. The Statistics Division, one of three divisions in DoNP, includes four sections, the tasks of which are enumerated in the most recent DoNP mandate updated by the President's office in November 2008 when the MoPND became the DoNP. The four sections include eight units, as shown in the chart in annex 2. Of the four sections, the first two produce statistical data, while the second two play supporting roles.

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[2] The Draft Statistics Act, which has not yet been approved, does provide the following guidance. "Nothing in this section shall prevent or restrict the publication of any report, abstract or document without the consent referred to in subsection (1) where the particulars contained in the report, abstract or document render identification possible merely by reason of the fact that they relate to an undertaking or business which is the only undertaking or business within its particular sphere of activities, if the particulars do not render possible identification of the costs of production of, or the capital employed or profits arising in the undertaking or business."

- ST1, Population and Social Statistics. This section includes a unit for demography and another for poverty and social statistics and indicators. Its mandate includes conducting the quinquennial census of population and housing, as well as collecting social and poverty-related indicators from household survey data and the overall monitoring of the Millennium Development Goals.
- ST2, National Accounts and Economic Statistics. This section includes a unit for national accounts and another for economic statistics and indicators, especially price indexes. This section handles the compilation of the national accounts, the preparation of consumer and producer price indexes, and a unit value index for imports, which is, however, not operational at this time.
- ST3, Statistical Survey and Data Processing. This section includes two units: For statistical surveys and Analysis, and Data Processing and Management. It handles sample design, questionnaire development and field operations for surveys, and develops data entry programs and manages data processing for census and surveys conducted by the SD. It also processes permits for surveys taken by other agencies.
- ST4, Statistics Development and Coordination. This section includes a unit for Statistical Development and Standards and another for Data Dissemination. This section prepares most statistical publications and handles training of staff from atoll and island offices. This section also handles Maldivinfo and responds to inquiries and templates for international agencies.

The division is headed by a Deputy Executive Director who reports to the permanent secretary of the Ministry of Finance and Treasury. One problem with the current arrangement of the SD as a subsidiary unit of the DoNP is that, on occasion, the time of the director general may be diverted to DoNP tasks that are not directly related to statistics.

The division has recently revised its structure slightly. It is to be hoped that any research activities under the new structure will focus mainly on statistical issues such as reconciliation studies between conflicting estimates from different sources, or studies on improving data collection methods (methodological research) rather than policy issues or forecasting tasks, which would require a different skill set from that normally found in a statistical agency.

The active staff of the SD number 30, of whom three have a master's degree while six have a bachelor's degree.

Another eight have a diploma, while one has an advanced diploma. Besides the30, twelve staffers are away for overseas study, while another one is on leave to study in Male', for a total of 43 staff. Total authorized active staff is 36. Among the 30 active staff, 10 have worked in the division for more than 10 years. Of the 10, two have master's degrees and two have bachelor's degrees. A master's degree is held by one staffer with 5-9 years experience, while bachelor's degrees are held by another 3staffers with 5-9 years experience and two with 0-4 years experience.

TABLE 1: ACTIVE SD STAFF BY SENIORITY AND EDUCATIONAL ATTAINMENT, 1999-2008

	1999	2004	2009
Total active staff	34	33	30
Of which Master degree	1.5	1.5	3
Of which bachelor's degree	1	0	6
Total staff with 10 years on job	6	7	10
With Master's degree	1.5	1.5	2
With Bachelor's degree	1	0	2

Over the period 1999-2009, the table shows a clear improvement in seniority, with 10 persons, equivalent to about 33 percent, having worked 10 or more years in 2009, up from only 18 percent in 1999. The table also shows a small decline in the number of staff and a marked improvement in the number of staff with degrees. The improvement in the number of persons with bachelor's degree was striking, although it is most marked among the younger staff with less seniority.

Recent years have witnessed gradual progress in the education qualifications of the intake of new staff at the SD, and perhaps throughout the government. An assessment in late 2004 noted that most newcomers were at the O-level, with a few at the A-level[3]. This is no longer the case. Data for May 2009 show that, among six working staff with 0-4 years of experience, all had qualifications above O-level, with three at A level, one at diploma, and two with bachelor's degrees.

The A-level certifications were obtained before they began work at the SD, while the diploma and degrees were obtained after joining SD. If the analysis shifts to all 13 staff with 0-4 years of seniority, including those undergoing training, seven have A level, two have diplomas and four have bachelor degrees.

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[3]"Human Resource Development Plan", Aug 2004, under ADB TA 4103.

The SD has no regional staff but discussions are ongoing about the Ministry of Home Affairs (MoHA) posting a statistical officer in each of the seven provinces that have been established under the new government, and/or placing officers at the atoll level. The lack of regional staff creates serious obstacles to the collection of routine data from the atolls – such as price data for the CPI, as mentioned in the final report of ADB TA-4103[4].

The SD has prepared a terms of reference (TOR) for statistical officers at the provincial or atoll level, although such officers would most likely be subordinate to MoHA. A draft TOR for an atoll-level statistical officer includes the following tasks:

- Collect prices data from selected shops on a regular basis for compiling the CPI,
- Update the listings and sketch maps required for censuses and household surveys,
- Update the list of establishments and households,
- Training of enumerators and supervisors for censuses and surveys,
- Coordinate and supervise data collection activities and data transmission for sectoral agencies, and
- Complete the forms and coordinate the training programs required by other government agencies.

From the list, it appears that the officer would facilitate the collection of data for both SD and sectoral agencies.

Statistical activities are carried out in at least 15 other agencies outside DoNP. A survey of these activities, taken in the framework of the NSDS, showed that fully ten agencies (see table 5) already have their own statistical units, with varying capacity, while the others do not yet have separate statistical units. The total number of active staff assigned to these statistical units is 48, far more than the 30 active staff at the SD. The existence of so many statistical units provides a good basis for statistical development, one that could be strengthened by the addition of a few more units. In particular:

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[4] "Maldives Capacity Building for the National Statistical System", Final Report, March 2006, ADB TA 4103.

- The Ministry of Housing, Transport and Environment is open to the possibility of setting up a statistical unit, as it has clear statistical needs that are not yet being met. Plans have already been made to set up a statistics unit in the Construction Industry Development Section during 2010, a step that would accommodate the need for construction data but not that for environmental data.
- There is a clear need for a statistical unit at the Ministry of Economic Development, given the wealth of enterprise data in its hands.

1.3. Budget

For 2009, the realized budget (expenditures) for the Statistics Division was 9.51 million rufiyaa, equivalent to $743,000, 34 percent of which was for payroll. This budget accounted in 2008 for .056 percent of GDP and .076 percent of the state budget.

TABLE 2: STATE BUDGET FOR OFFICIAL STATISTICS, 2004-2009

	2004	2005	2006	2007	2008	2009
Wages and salaries with supplements	1,284,064	1,819,185	2,232,995	1,901,185	3,329,177	3,262,940
Stationery and materials for current use	58,477	86,627	218,338	443,327	63,779	25,399
Transport services payments	33,469	218,620	303,885	880,301	792,442	218,228
Post & communication	129,228	357,587	881,281	197,013	16,788	597,500
Current repair & parts of equipment	12,715	16,155	35,279	31,990	0	0
Survey and census costs	3,114,260	4,051,504	13,255,728	0	0	1,843,016
- Census	3,104,372	1,238,040	13,255,728			
- Other Surveys	9,888	2,813,464				1,843,016
Other current expenditures	1,052,678	2,382,343	3,361,051	2,596,183	1,414,791	3,535,996
Expenditures on equipment and durables	167,687	70,080	470,570	127,324	57,204	29,862
TOTAL (INCLUDING CENSUS & SURVEYS)	**5,852,578**	**9,002,102**	**20,759,126**	**6,177,323**	**5,674,181**	**9,512,940**

The budget becomes larger in census and household survey years, because a census costs over 17 million rufiyaa, while a nationwide household survey such as the Household Income and Expenditure Survey (HIES) or the Vulnerability and Poverty Assessment (VPA) can cost more than half as much, due especially to transportation costs. For census year 2006, total spending for statistics accounted for 0.177 percent of GDP and 0.283 percent of the state budget. For 2006, the census costs include some costs (amounting to about Rf 1.8 million) that were taken from various codes of the budget, other than the census code.

When comparison is made with other countries, it can be said that the share of expenditures for the NSO (that is to say, the Statistics Division) in non-census years is about average in relation to the state budget and the GDP. Furthermore, the number of staff assigned to SD appears to be quite high in relationship to population: 30 active staff constitute 0.010 percent of national population, quite high in comparison, for example, to Cambodia, with a decentralized statistical system, where the share of NSO staff to national population is only .004 percent of national population, or to Mongolia, with a largely centralized statistical system, where the share is .0078 percent of national population. Actually, when the number of staff in statistical units in all agencies is combined, the total number of statistical staff is 78, equivalent to 0.025 percent of national population. Comparable figures comprising all statistical units are not available from other countries.

TABLE 3: STATE SPENDING FOR OFFICIAL STATISTICS, COMPARED WITH GDP AND TOTAL STATE BUDGET, 2004-2009

	2004	2005	2006	2007	2008	2009
1. General expenditures for official statistics (excluding census)*	2,738,318	4,950,598	7,503,398	6,177,323	5,674,181	9,512,940
- in Rf million	2.7	5.0	7.5	6.2	5.7	9.5
- in thousand US $	213.9	386.8	586.2	482.6	443.3	743.2
2. Budget for 2006 Census of Population and Housing & surveys	3,114,260	4,051,504	13,255,728			
3. Total expenditures for official statistics from the State budget	5,852,578	9,002,102	20,759,126	6,177,323	5,674,181	9,512,940
Including census:						
- in Rf million	5.9	9.0	20.8	6.2	5.7	9.5
- in thousand US $	457.2	703.3	1,621.8			743.2
4. GDP in Rf million (in current prices)	9,939	9,596	11,717	13,493	16,137	16,958
5. General state budget (Rf million, budget expenditures)	4,015	6,025	7,346	8,725	10,802	12,556
6. General expenditures for official statistics (ex pop. census), as a % of						
- GDP	0.028	0.052	0.064	0.046	0.035	0.056
- State budget (expenditures)	0.068	0.082	0.102	0.071	0.053	0.076
7. General expenditures for official statistics (including pop. census), as a % of						
- GDP	0.059	0.094	0.177	0.046	0.035	0.056
- State budget (expenditures)	0.146	0.149	0.283	0.071	0.053	0.076

1. Exchange rate with US dollar = Rf 12.8
  * Expenditure from the State budget, for expenses of the statistical section of the planning department / ministry

The comparison to population points to a problem of relatively high costs for producing statistics in a country, such as the Maldives, with an extremely small population dispersed in nearly 200 islands and a relatively small GDP, due to the difficulty of getting the maximum efficiency out of statistical workers in a system where they are faced with two handicaps that can in principle be mitigated:

1. High staff turnover, which severely limits the accumulation of knowledge and
2. experience, and

   Dispersal of staff among some 15 agencies, which makes it difficult to share knowledge and coordinate human resources development.

These two factors are in addition to the basic handicap, for which no mitigating action is possible:

3. A small population base but a need to produce a full range of statistical products, similar to the range that would be produced in a much larger country – a challenge that is specific to all countries with very small populations.

The combined effect of the three factors is to limit the range and quality of statistical products available as well as greatly to increase the cost of producing the required statistics.

Significantly, the existing salary scale gives very little recognition to senior statisticians, unless they enter management. Here is a sample of existing monthly salaries:

- Assistant statistical officer (lowest rank), Rf 6,520
- Statistical officer, Rf 7,610
- Senior statistical officer, Rf 8,295
- Assistant Director, Rf 9.035
- Deputy DG, Rf 13,065
- Deputy Executive Director, Rf 17,560

What can be done to improve efficiency? In practical terms, three steps would be helpful:

- Improve staff retention by improving pay packages for experienced statisticians, either with a major government-wide pay raise for senior staff or with a special pay scale for an MBS in the event that the independent agency is created. One experienced staffer may cost as much as several junior staffers but is worth far more in terms of statistical judgment and productivity.
- Improved long-term training might also help, as long as the pay package is increased after training in a way that is consistent with the market value of the training; otherwise, the trainees will be tempted to move on to a better-paid job within government.

- Creation of a common cross-agency cadre of statistical officers that shares information and skills and is mentored by the statistics agency through monthly seminars and linking of websites. Initially, this could develop on an informal basis. In the longer run, this could be formalized with measures that facilitate rotation of staff among statistical units and encourage retention of skilled statistical staff.

1.4. Infrastructure

The main part of the Statistics Division occupies premises together with the DoNP, on the top floor on the Ghazee building in downtown Male', beside the President's office. Division staff occupies a little less than half of that floor.

While no survey was made of the availability of computers in statistical units of agencies other than the NSO, there is no shortage of computers in the government, so the availability of computers can be assumed adequate for government operations across the board. The Statistics Division has enough computers so that every staff member can use his or her own computer. In March of 2009, there were 33 personal computers, all Pentium IV, plus two servers, for use by 30 active staff. Most of the 33 were paid for by the government, but donors paid for a few laptops. While a time series for personal computers in use is not available, it is said that each staff member has had personal use of a computer since 2000. During 1992-95, there was a pool of about 15 personal computers in a Computer Center for use of all MoNP staff. In 1992, there were only four PCs in the Statistics Section; additional computers were acquired for processing the population census 2000.

The "statistical infrastructure" for the Maldives is not yet very well developed. The statistical usefulness of registers needs more recognition, and this is a suitable topic for mention in a Statistics Act. There are some population registers managed by various agencies, as will be discussed later in the report, but none of them is yet serving a statistical function. Another kind of infrastructure that is lacking altogether is classifications that have been customized for the needs of the country. Instead, the division has used raw international classifications from the United Nations Statistics Division, that is to say, classifications that were intended for use as outline frameworks for national classifications, not for direct field use. At most, these have at times been supplemented with notes that mention local names for some codes.

For economic surveys, the division has used the International Standard Industrial Classification (ISIC) version 3 and the Central Product Classification (CPC) v. 1.0. For occupational data, it has used the International Standard Classification of Occupations (ISCO) 88. And for national accounts, it has used Classification of Individual Consumption by Purpose (COICOP).

A statistical business register, which is critical for conducting surveys of firms or establishments, is lacking. An effort was made under ADB project TA 2988 to develop a business register by matching the list from the Registrar of Companies with the results of an establishment list prepared during canvassing for the 2000 Population Census; the Census data appeared to show that 1620 firms from the Registrar were not located in the designated area, or no longer functional. (As a rule, however, a business register should be based largely on administrative records and not on door-to-door canvassing, if at all possible, as the latter has often been shown to be an unreliable source for register-building[5].) Next, updating forms were sent out to 970 apparently active firms, and replies were received for about 500 of these; reminder letters were sent to the non-respondents. Finally, an approach was made to the Department of Inland Revenue (DIR) to request that the DIR ask firms that renew their licenses to provide updated addresses. This initiative, however, was unsuccessful because most of the persons who visited the DIR office to pay the license fee were unable or unwilling to fill out the form[6]. In the end, the Statistics Section found these approaches unsatisfactory and abandoned efforts to build a business register. Future efforts to build a business register will need to rely on better data from other agencies such as the DIR, most likely by means of better updating procedures in those agencies.

In 2006, the Maldives began to develop Maldivinfo, a customized version of Devinfo for the Maldives, providing user-friendly access to a database with development indicators at the national, atoll and island levels. The system is intended for use in analysis and planning by officials at the national and local levels, particularly with regard to planning for the MDG's. Training in the use of the system has been provided to 80 officials. The system includes more than 280 indicators and 70,000 cell values:

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[5]Alex Korns, "Updating the Sri Lankan Register of Industry and the Role of IT", invited paper for the 3rd International Conference on Establishment Statistics, Montreal, Sept. 2007.
[6]"Project Progress Report: Final", ADB TA-2988, June 2002, p. 8.

- Some MDG indicators go down to the island level, taken from the censuses of 1990, 1995, 2000 and 2006 and the VPA's of 1997 and 2004.
- Some data goes down to the atoll or regional level, taken from seven house-holds surveys including surveys taken by the SD as well as those taken by the Ministry of Health and Family.
- National data is shown for a much wider variety of indicators.

Maldivinfo was implemented in 2007 and is being upgraded under a project for 2008-09. The current system, based on Devinfo 5.0, can be downloaded from the DoNP website[7].

1.5. Information Technology

The SD has a LAN and two servers, which it uses for storing and backing up most data, but has not yet developed an integrated database or data warehouse. Data is backed up often from work stations to an SD server (separate from the DoNP server), while data on that server is backed up to a second server twice a week. For data security, firewalls in the servers restrict access to outsiders. There is special interest in the possibility of developing a small database for key indicators in the form of time series (mostly monthly) that number in the hundreds. There is also interest in developing a data warehouse.

Meanwhile, the Government of the Maldives, acting through the National Center for Information Technology (NCIT) has been developing a wide-area network (WAN) under its e-government initiative that connects government offices in each atoll with government offices in Male', including all ministries. This involved laying optical fiber to most government offices in Male' and the 20 atoll capitals, with ADSL used to serve temporary offices. Inter-island connection is by satellite and microwave, mostly by microwave[8]. The WAN is already being tested and is expected to become fully operational in mid- 2009. A Singaporean company has developed an application for uploading data from the atoll capitals. This medium creates an opportunity for sectoral agencies and for the Statistics Division to collect administrative and other data much more rapidly than before. That potential can only become a reality, however, if the agencies involved will develop suitable templates and train staff, particularly in the atolls. The medium also provides technical support for an initiative that is under active consideration: namely, to station statistical officers at the provincial or atoll levels, in connection with the new government's push for decentralization of governance to the regional level.

[7]www.planning.gov.mv
[8]Asymmetric Digital Subscriber Line.

The SD itself has been tasked with preparing a new general questionnaire for data collection from the atolls – separate from sectoral data that is being collected at the behest of each sectoral ministry. The previous general questionnaire, designed some years ago by the Atolls Ministry, comprises mainly data items that are not very sensitive to real changes on the ground so that the value of the information on a quarterly basis is not very clear.

Consideration needs to be given to alternative approaches. For example, registered population is not very sensitive to changes on the ground, and is, therefore, not useful as a quarterly indicator, but that was a standard question in the old questionnaire. If resident population is to be collected, instead, island officers on islands with large populations may not be in a position to answer reliably, whereas officers on the many islands with small populations will be in a position to answer. One way to deal with this would be to prepare alternative questionnaires for islands with small and large populations. For the larger islands, where officers cannot provide a reliable estimate of resident population, a sample panel of registered households could be selected and visited quarterly to learn if they are resident or not.

2.0. Enablers

2.1. Coordination and Prioritization

During the 1990's, an inter-agency Technical Committee on National Accounts met regularly to discuss the accounts and provide inputs to the national accounts unit in the Statistics Section. Subsequently, a National Statistics Coordinating Committee (NSCC) was created during 2001 but its role is not mentioned in any legislation. The committee includes 29 members representing 19 different agencies (see table 4), too many for technical discussions. During the 12 months prior to the ADB mission in February-March 2009, it met only once, so that many of the participants in the first meeting with the ADB mission were new to the NSCC.

TABLE 4: MEMBERSHIP IN THE NSCC & THE MACRO-ECONOMIC COORDINATING COMMITTEE, MAY 2009
(Members of the Macro-Economic Coordinating Committee are highlighted in grey)

1	Ministry of Civil Aviation & Communication	12	Department of Inland Revenue
2	Ministry of Economic Development	13	Department of Judicial Administration
3	Ministry of Education	14	Department of National Planning
4	Ministry of Finance and Treasury	15	Judicial Service Commission
5	Ministry of Fisheries & Agriculture	16	Maldives Customs Services
6	Ministry of Foreign Affairs	17	Maldives Monetary Authority
7	Ministry of Health and Family	18	Maldives Police Service
8	Ministry of Home Affairs	19	National Centre for Information Technology
9	Ministry of Housing, Transport & Environment		
10	Ministry of Human Resource, Youth & Sports		
11	Ministry of Tourism, Arts & Culture		

In 2006, a Macro-Economic Coordination Committee was formed to monitor fiscal and monetary developments more closely, in support of an IMF-sponsored Medium-Term Fiscal Framework. Members include the seven agencies highlighted in table 4.

Statistical awareness in the Maldives, while not yet high, is increasing. The Seventh National Development Plan, for 2006-10, was the first government planning document ever to devote a section to the theme of statistical development. Under "Goal 11, Strengthen Local Governance and Public Administration", the section lays out a comprehensive analysis of the obstacles to the development of statistics and an action plan, in broad outline, for overcoming those obstacles.

The section comprised an introduction and three policies. The introduction mentioned the UN FPOS. The policies were:

1. "Develop legal and institutional framework to strengthen national statistics". The introduction to this policy cited "overlapping activities, inefficiency in utilization of resources and an excessive response burden resulting in low response rates". This policy included the following "strategies":

   • A Statistics Act. "The decentralized structure of the statistical system re-quires much stronger coordination between the various Government agen-cies that should be codified in a Statistics Act."

    • Strengthen coordination via the NSCC.

    • Prepare a National Strategy for the Development of Statistics (NSDS).

2. "Ensure the availability of statistics and indicators required for development planning, monitoring and evaluation". Strategies were mentioned for improving the quality and frequency of national accounts, price statistics and establishment statistics. Also for MDG and SDG indicators and poverty indicators[9].

3. "Build the national capacity to improve the quality and availability of the required statistics". Strategies included:

    •"Training at graduate level for statisticians at Government agencies".

    • "Place statistical officers at the regional, Atoll and island levels".

Although the new government has decided to discontinue implementation of the 7th plan and proceed on the basis of its election manifesto, many ideas mentioned in the section on statistics were mentioned by officials during discussions.Therefore, it is very likely that most of these policies will be continued by the new government. In support of the new policy framework, it would be important to identify suitable indicators for most or all of the goals in the manifesto. This would be a job for a task force comprising SD and major ministries.

In 2007, the IMF advised the Government of the Maldives, through the MMA, to consider the advisability of joining the General Data Dissemination Standards (GDDS) program of IMF. Since that time, SD has begun to prepare the required documentation (metadata), but has not yet finished.

At mid-year, the SD prepares a detailed work program and budget for the coming year. After review, this is sent to the Ministry of Finance and Treasury for approval. Recently, a three-year action plan has accompanied the annual work program.

In other countries, it is normal that data from multiple sources fails to agree when compared for a common concept. A little-known aspect of official statistics involves investigating such discrepancies and resolving them into conceptual differences (often rather subtle) and errors in one or both sources. Very little work in this vein has been done in the Maldives. During the late Nineties there was considerable concern about a gap in estimated infant mortality as between household surveys and administrative data and the issue was revisited in the report for the 2004 VPA.

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[9]SAARC Development Goals, where SAARC stands for South Asian Association for Regional Cooperation.

In reviewing progress so far, it does not seem that the NSCC has played a very active role in coordinating statistical activities, due to lack of a clear legal mandate and to the large size of the committee, which is not efficient for technical discussions. In future, it is recommended that NSCC tasks be clarified in a Statistics Act, and that most of the work be assigned to thematic subcommittees with few members, such as the current economic and social subcommittees. This would allow for technical discussion and for the preparation of concrete work programs for cross-agency issues – such as the steps needed to create a business register from administrative data.

2.2. Training and HRD

A major obstacle to statistical development in the Maldives is the problem of high employee turnover in the government. For many kinds of activities in official statistics, skill depends as much or more on institutional memory and knowledge of specific cases as it does on an understanding of the relevant concepts and theories. For example, the judgments that must be made in national accounts depend very much on knowledge that is accumulated on the job. For this reason, many problems and decisions can only be tackled by long-term employees.

Turnover is high for the SD, when compared with other countries, so that seniority is relatively low. As mentioned earlier, only 37 percent of active staff have been with the SD for at least 10 years and the number was much smaller five and ten years ago. In Mongolia, by contrast, the figure was 46 percent in 2007 (41 percent in the central office and 48 percent at the regional level)[10], even though Mongolia also has a problem with high turnover at the central office.

Turnover has been especially high in the two key areas of IT and economic statistics (ST2). The list of six staffers leaving the SD since January 2008 includes three IT staff and two from the prices and economic statistics unit, all of whom left for the private sector. In addition, among the eleven staffers currently on long-term overseas training, six are from ST2, including three fairly senior staff from the national accounts unit and another three trainees from the prices and economic statistics unit.

[10]SAARC Development Goals, where SAARC stands for South Asian Association for Regional Cooperation.

A study of separations data for May 2001 to August 2004 under ADB TA 4103 showed an average of four departures per year, for a total of 13 during the study period. Of those, nine were for persons with four or five years of experience, but two had more than 15 years of service, one with a bachelor's degree and one with a diploma[11]. A similar study by SD in June 2009 showed that 12 staff had left during the three years from May 2006 to May 2009, again for an average of four departures per year. During the more recent period, three departures had ten or more years of experience, while four had 5-9 years of experience. For 2008-09, at least, the rate of separation was six persons during 15 months, higher than four per year. With such a high attrition rate, it will be difficult to build sustainable statistical capacity.

Data for overseas training during 2001-09 show a total of 106 person-training sessions (this includes many persons who received training more than once), mostly short courses. For the 106 sessions, 22 were for persons who have since left the SD, indicating a loss rate of 21 percent. If, however, one looks back at the 32 trainings that are documented as having taken place during 1987-2000, only 14 (or 43 percent) of those were for persons who are still with the SD in 2009.

Since 2005, there has been significant progress for one of the initiatives cited in the 7th plan, i.e., to "provide training at graduate level for statisticians at Government agencies". In June 2005, a two-year advanced diploma program in statistics was initiated in the Faculty of Education of the Maldives College of Higher Education (MCHE), for study evenings (after work). The contents are designed for fulltime study but it is conducted as an evening program. ADB TA-4103 assisted in the development of the curriculum for this program.

In the planning for this advanced diploma program, it was hoped that 30 students would enter the program each year. So far, however, the results have been far below that level. For the first class, 20 students entered, of whom 11 graduated, while another seven entered the second class in January 2008, of whom six are still in the program. The small number of enrollees in the second batch was due to the concern by many students that the course was rather demanding for an evening program, so they did not enough have enough time for their assignments.

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[11] "Human Resource Development Plan", Aug 2004, under ADB TA 4103, p. 8.

There are plans to upgrade the college to a university soon, possibly during 2010[12], at which point the statistics program could become a degree program, most likely placed in the Faculty of Arts. Curriculum planning will be needed for the upgrade and the shortage of suitable teachers remains a major problem.

Another important advance in recent years is the increasing number of SD working staff with college degrees. In 2004, there were none of these, now there are 6, all of whom obtained their degrees with government assistance. As of May 2009, 11 staff were undergoing training abroad, three for the master's and eight for the bachelor's. In addition, one staff in the Maldives was pursuing an advanced diploma while still working in the SD. Eight of the overseas students are studying in Malaysia.

SD has from time to time undertaken to train officials from atolls and islands in basic statistics, in the hope that such knowledge will enable officials to provide better data to the central government. A statistics program for atolls chiefs was begun in the 1990's and continued until 2003. In 2007, the SD began giving atoll-level training sessions to groups including two officers from each island and two from the atoll office. The course was initially for two weeks but this was later reduced to a week, because staff could not afford more time away from the job. The course emphasized the importance of accurate data. The participants are given exercises to carry out with their own island data; at end of the course, they do a project and present their own findings. There are three modules:

- Statistical process (questionnaire design, sample selection, data collection, tabulation, reports & publications),
- General terminology (definitions, key variables, mean, median, variance, but not very detailed),
- Indicators (economic stats (e.g., how CPI is calculated), poverty & MDG, demographic (including labor, health & social)).

The lecturers are from SD. SD covered the cost of local travel and per diems initially, but has had to cut back the training for lack of funds and has recently begun cost sharing with MoHA, the latter paying for local travel and per diems. So far, the program has trained 104 officers.

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[12]A subcommittee of the majlis is considering legislation for this change.

The "Human Resource Development Plan" prepared in August 2004 under TA 4103 also reviewed the future prospects for training costs. The study noted the likelihood that the level of educational attainment of new staff would gradually rise, concomitant with the rise in educational levels and educational options in the country[13].   In line with predictions, subsequent data show that most new entrants in the past five years have had A-level rather than O-level certificates. Further increases in qualification are likely over the next few years, as higher education develops in Male'. Nevertheless, the study predicted that the government would still need to pay for overseas education at the master's level (at an estimated cost, in 2004 prices, of $25,000 per student), and to some extent at the bachelor's level, for many years to come.

A limitation of the existing system for government-funded overseas training is that staff trained by a government office can work in any office within the government during his/ her bond period. This is making it difficult to optimize the use of training funds allocated to the SD.

2.3. Technical Cooperation and Assistance

Donor assistance heretofore is summarized in annex 3. In the 1990's the main donor was the UN Population Fund (UNFPA) and the UN Development Program (UNDP), which provided substantial assistance for the population censuses of 1990 and 1995. Subsequently, the main donor was the Asian Development Bank (ADB), which provided technical assistance, training and other assistance valued at $1.5 million under two projects for strengthening national accounts during 1996-2002, and subsequently under a project for statistical capacity building during 2004-05.

These three ADB projects helped the Statistics Section to upgrade its capacity in several critical ways:
- Review quality of key economic data;
- Upgrade national accounts and CPI while converting to more recent base years;
- Develop standard procedures, more elaborate than previously, for those data-sets, with comprehensive training manuals;
- Create a PPI for the first time;

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[13]Loc. cit., p. 9-11.

- Attempt a business register, a prolonged effort that ended in failure but yielded valuable lessons;
- Overseas training and in-country training and workshops;
- Develop a curriculum for an advanced diploma program in Applied Statistics; and
- Prepare a draft Statistics Act, one that forms the basis of the draft that has been prepared for consideration by the *majlis.*

Average per capita GDP in the Maldives is already quite high: About $3,000 in 1995 prices on the basis of the exchange rate and well above that level on a PPP basis. Per capita GDP has long been relatively high, but donors have continued to provide assistance in the light of two problems that have held back the country's development:

- The narrow fiscal basis for government revenue in light of the lack of a modern tax system. As a result of this situation, the new government actually finds itself in something of a fiscal crisis, one that it may need to overcome by introducing a modern tax system.
- The somewhat retarded development of modern governance in the Maldives, as exemplified among other things by the retarded development of modern statistics.

In recent years, donors have already cut back on assistance to the Maldives; e.g., starting in 2000, the UN provided much less assistance for the census than previously. Donors now plan to ''graduate'' the Maldives in 2011 from the ranks of the least developed countries. This was decided once before in December 2004 but was promptly reversed after the Maldives was hit by the Asian tsunami.

3.0. Processes and Outputs

3.1. Statistics Division of the DoNP

In the modern period, statistical activities began in the runup to the 1977 census, the first population census following international guidelines. In preparation for the census, the Elections Division of MoHA in 1976 sent four young civil servants for a year of training in Kolkata, India, at the International Statistical Education Centre of the Indian Statistical Institute.They returned in July 1977 in time to organize the census, the data for which were processed at the Department of Census and Statistics in Sri Lanka.

[13]Loc. cit., p. 9-11.

In July 1980 they were transferred to a newly-established unit called the Statistics Section in the National Planning Agency. The Statistics Section acquired its first computer (a Data General Eclipse S-120) in August 1983. Since that period, the planning agency unit has undergone many name changes, becoming the Ministry of Planning and National Development (MoPND) in recent years[14].

The new Statistics Section began work in 1981 on a Consumer Price Index and national accounts, with the assistance of visiting consultants from the Economic and Social Commission for Asia and the Pacific (ESCAP) and senior staff of MMA.

Previously, the Maldives had been a British protectorate (1889-1965), and after independence became a republic in 1968. In 2005, parliament voted to shift to multi-party democracy. In 2008, a new president was elected. Upon his inauguration, the MoPND became the Department of National Planning (DoNP) in the Ministry of Finance and Treasury, while the Statistics Division retained its name and was henceforth located in the DoNP.

3.1.1 Population Statistics

The Maldives began taking population censuses in 1911, followed by decennial censuses in 1921 and 1931. The practice was interrupted by World War II, so the next censuses were taken in 1946, 1953 and 1957. The first modern-type census of population and housing was taken in 1977 by MoHA, with financial and technical assistance from the UNFPA. The 1985 census was organized by the planning agency and was the first ever processed on a computer in the Maldives. Since then, censuses were taken every five years or so by the planning agency. There is no Census Act, but authority to take censuses is mentioned in the Statistical Regulation of 1999.

The 28th census of population and housing was scheduled for 2005 but postponed until 2006 on account of the Asian tsunami in December 2004. The census found approximately 300,000 citizens (mainly resident citizens but also fewer than 10,000 citizens temporarily living overseas), but not including some 53,900 registered expatriate workers.

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[14] Based on input from Mr. Fuwad Thowfeek, former executive director of SD, email, 8 June 2009.

Enumerators collected information in personal interviews; some residents refused to answer questions but most cooperated. Data entry was done in only one month with a scanner and Optical Character Recognition (OCR); this was deemed quite successful, with only about 1 percent of documents requiring additional review. This was a project undertaken with technical support from an Indian firm. Questionnaires were printed in India and all the programming related tasks and technology acquired from the Indian company. Staff from Indian team was in charge of the scanning and data processing operation and physically present during the whole operation. Knowledge transfer and technology transfer was not very high. Unfortunately, all staff involved in designing and implementing OCR at that time have now left the SD, so their knowledge is lost to the division.

Until recently, most analysis of census results was carried out by international advisors. For the 2006 census, for the second time, a volume of studies by domestic researchers was published in 2008, with articles on population growth, migration, nuptiality, fertility, mortality, education, employment, family structure, youth, gender, population displaced by the tsunami, population projections, housing conditions, and establishments[15].

The next census was scheduled for 2011, which will be the 100th anniversary of the first census. Late in 2009, however, it was decided to conduct a mini-census instead in 2011, followed by a full census in 2016, with censuses to follow every 10 years thereafter. The SD prepares population projections for the nation, but not for any local areas, in the absence of reliable data on internal migration. A National Population Register, which will be discussed below under the Ministry of Home Affairs, has a record for every Maldivian, but cannot provide reliable data for each island inasmuch as the place of registration is not yet based on the place of current residence.

Census 2006 did not cover expatriate workers and other expatriates living in the Maldives. The administrative records kept by the labour ministry were thought to give an overall picture of the expatriate workers Although the standard international concept covers all residents, including expatriates, the Maldives has decided to exclude them due to the considerable operational obstacles to covering them, as experienced during the previous attempts in 2000 and prior censuses. These obstacles include the difficulty of finding a common language for the interview, and the widespread fear by expatriates (especially illegal ones) of contact with authorities.

[15]Analytical Report 2006, Population and Housing Census 2006, available on DoNP website.

Nevertheless, this omission is now recognized as a problem that needs to be remedied, given the considerable role of expatriates in the economy as well as the social problems associated with their presence.

There has never yet been a census of establishments, nor of agriculture, in the Maldives.

3.1.2 Household Surveys & Poverty Data

An HIES was taken in 1993 in Male' and used for reweighting the Male' CPI; the next one was taken in 2002-03, which was the first nationwide such survey. The sample size was 880 households in 2002-03. For the 2002-03 HIES, ADB TA 4103 provided technical assistance for sample design and data cleaning, while a consultant wrote a very thorough analytical report. Sample households were asked to record expenditures in a diary for a week; inquiries about more rarely-purchased items were made for longer time periods, based on respondent recall. The data was collected in four quarterly rounds. In Male, but not in the atolls, half the sample was repeated each quarter, but it is not clear what advantage this panel approach for Male' had in the analysis.

The survey provided data on income poverty but not on the other dimensions of poverty. The survey found only seven households with a daily average per capita expenditure that was below the one US dollar cutoff (PPP equivalent) then specified by the MDG indicators. But poverty analysis in the report is based on the concept of "poverty dominance" rather than a single poverty line, inasmuch as there has been no official poverty line for the Maldives. When the 2002-03 HIES was compared with the 1997-98 VPA, a substantial decline in income inequality was observed for the five-year period, on the basis of comparisons for the following variables:
- Ownership of consumer durables inside and outside Male,
- Average per capita expenses per quintile inside and outside Male,
- The Gini Coefficient, and
- Poverty headcounts using various cutoffs in money terms (with no adjust-ment for the small *deflation* that was observed during that five-year period)

The 2002-03 HIES data was also analyzed for labor force behavior, income sources, savings, finances and wealth, indicating that a wide range of data was collected. The small sample greatly limited the scope for sub-national analysis.

Comparisons among five regions outside Male' and Male' were based on a sample of only 120 households per region.

The VPA was taken in 1997-98, and another in 2004, with a sample in both years of about 2800 households. For 2004, UNDP provided support for analysis and supervision and the World Bank paid for technical assistance, while the government paid field costs. Field work took six months in 1997-98 but only two months in 2004. In addition to a household questionnaire, the VPA also used an island questionnaire to collect data about so-called crises such as flooding, food or water shortage, and epidemics, etc. during the last six years and other problems experienced by residents. In both years, a minimum sample of at least 10 households was taken in every inhabited island, up to an island population of 1500 persons, and this minimum was taken in 168 islands in 2004. With this sample, estimates at the island level were considered reliable for certain indicators but not for others. For the 2004 sample, a panel approach was used in the atolls, with a target of 50 percent overlap. Although the Maldives has no standard poverty line on the view that there is no need for a single line, the VPA (like the 2002-03 HIES) showed a sharp decline in income poverty from the previous VPA to very low levels at any of several alternative cut-off points.

In addition to examining income poverty, the VPA also observed variations in a Human Vulnerability Index (HVI) among regions and over time. The HVI was constructed from survey-based indicators for 13 dimensions of poverty, using a method akin to that for the Human Development Index (HDI). The dimensions include: Income poverty, electricity, transport, communications, education, health, drinking water, consumer goods, housing, environment, food security, and employment and recreation. With its well-dispersed sample, the VPA yielded island-level maps of the 12 dimensions of poverty. Overall, the two VPAs show a sharp decline in the HVI for the atolls from 4.8 in 1997-98 to 3.2 in 2004, while the HVI in Male' increased slightly from 2.0 to 2.1 reflecting increased crowding.

The large sample for VPA also supported an analysis of child mortality. Infant mortality is normally measured using direct and indirect methods. Direct methods are usually based on registrations of births and deaths, while indirect methods involve interviews with households on the survival status of their children. The VPA-2 report reviewed infant mortality rates (IMR) from three sources, with the following findings:

- Indirect analysis of the VPA showed that the IMR declined from 62 in 1997 to 41 in 2004.
- Indirect analysis of past censuses showed that the IMR declined from 121 in 1985 to 41 in 2000.
- Direct analysis of VRS data showed that the IMR declined from 60 in 1985 to 27 in 1997 and 15 in 2004.

In other words, all three sources showed a sharp decline in IMR over recent years, but the indirect methods show much higher mortality levels than the direct methods. Similar differences between direct and indirect estimates of IMR have been found in many countries, especially developing ones, and have often been observed to reflect gaps in the reporting of births and deaths, especially for births and deaths of children who die soon after birth.

With its large sample involving every inhabited island, the VPA is costly. For 2004, full cost data are not available from the SD, as operational costs were funded directly by the World Bank in a contract with a Danish firm. UNDP did spend $187,000 for supervision and analysis of the VPA-2.

In 2005, the Statistics Section conducted a Tsunami Impact Assessment Survey with funding from UNDP, using a methodology similar to that for VPA-2.

The Maldives has never conducted a labor force survey per se, but labor force questions were included in the VPA and the census. In the 2004 VPA, the labor force was defined as those aged 15 years and up. Prior to the 2004 VPA, unemployment was measured using the standard international concept, with active job search as one of the criteria, but this concept was broadened for the 2004 VPA-2 and the 2006 census to include many discouraged workers, resulting in an abrupt increase in measured unemployment from approximately 2 to 14 percent. The change was made in response to the observation that local conditions in the small islands may make active search redundant. (News about opportunities in the small communities gets around quickly and active search does not help).

The measurement of unemployment in the Maldives is complicated by certain special features of the labor market. Until the 1990's, there was no unemployment problem; school leavers were virtually guaranteed jobs in the government, and were even bound, by the terms of their education, to accept such jobs.

Since then, however, the volume of annual graduates has increased to 3,000 per year while government hiring has stabilized at low levels, so that most graduates can no longer expect a government job. While many jobs are available in the private sector, the most menial of these can be filled by expat workers from poor countries at salaries of US $80 per month[16], whereas the minimum acceptable wage for a Maldivian graduate is $300. Accordingly, many young Maldivians do not work because they cannot find a "suitable" job; it is questionable, however, in what sense they may be considered as "involuntarily unemployed". The weakness of the revised concept is that it ignores the fact that some young persons may expect a type of job that is unlikely to be available for them.

For the future, the SD may wish to consider the option of presenting two unemployment measures – a narrow one based on the International Labor Organization (ILO) concept and a broader one such as in VPA-2. The narrow one would provide an indicator of labor market tightness for assessing the macro-economic situation, more specifically, the degree of labor market slack that would permit a rapid, non-inflationary, expansion of employment, while the broader one would provide an indicator of social problems related to insufficient employment at socially-acceptable wages.

In the future, the SD plans to combine the HIES and VPA so as to conduct one such survey every five years in order to economize on costs. A combined survey was scheduled for 2009; the plan was to do a survey in Male' (640 households) and on every inhabited island (4840 households), at a budget of Rf 16.4 million. Due to budget stringency, however, the sample was cut to 640 Male' households only with a budget of Rf 1.1 million. During 2010, it is planned to cover a representative sample of the atolls with a proposed budget of Rf5.7 million.

A pilot survey on disability is intended for the near future in preparation for introducing questions on disability in the next census. SD carried out a pilot survey during July and August of 2009, under the "Disability Statistics Project", sponsored by the UN Economic and Social Commission for Asia and the Pacific (ESCAP). A total of US$ 15,000 is being funded by ESCAP and the government contribution is Rf 83,622. An ongoing study focuses on childhood poverty, with UNICEF support as part of the global initiative. The study, begun in 2008, uses data from VPA 2004 and HIES 2002-03, data which had limitations in this regard.

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[16]Illustrative estimate provided by an official of MHRYS.

3.1.3 National Accounts

The first national accounts estimates were prepared by visiting IMF consultants in 1982. The effort then benefitted from ESCAP assistance and a long-term adviser for a year. A visiting consultant formulated the first methodology in 1987. The initial accounts were rudimentary but were put on a firmer basis with ADB projects in support of national accounts during 1996-98 and 1999-2002. A major handicap in the preparation of national accounts for the Maldives has been the difficulty in obtaining data from firms, as will be discussed later in more detail.

Published national accounts for the Maldives have largely been limited to the production approach in constant prices, except that, during 2003-05, a current price estimate of total GDP based on the expenditure approach was published. The current base year for the national accounts is 1995, the previous one was 1984. In 1999, at the time of the revision to the 1995 base year on the basis of a pilot Supply and Uses Table (SUT) for 1995, estimated GDP was raised by roughly 40 percent over the previous level. The method and system of spreadsheets used to calculate the GDP since 1995 is known as the Macro-Economic Budget (MEB). For the production approach in constant prices, the estimates are extrapolated using about 20 quantum indicators such as kilograms of fish, bed-nights, deflated value of imports of building materials, electricity generation, production of desalinated water, quantum indicators for water, air and sea transportation, number of phone calls, and the deflated value of imports of consumption goods as a proxy for volume of domestic trade.

The national accounts unit of the Statistics Division (then the Statistics Section) benefitted from the advice of many consultants under the three ADB projects described above in section 2.3. On an unpublished basis, this includes a more extensive set of accounts for both the production and the expenditure approach:
- For many years, production-approach estimates were prepared in current prices; however, they were never published due to serious concerns about their consistency with the constant-price series. Moreover, preparation of the current-price estimates was stopped in 2005, with the concurrence of an advisor on the ADB team, in view of large and unexplained discrepancies with the constant price estimate.

- Since 1984, estimates have also been prepared for the expenditure side but none have ever been published, again due to reliability concerns. Total GDP based on the expenditure approach in current price was published briefly during the period 2004-05. The major concerns have to do with household consumption and gross fixed investment, both of which are extrapolated using certain categories of imported goods. The relationships between imports and the aggregates for Household Final Consumption Expenditures and Gross Fixed Capital Formation are still based on the 1995 SUT, which may have diverged far from the current reality.

Why has there been so little progress in the preparation of national accounts for the Maldives, despite the considerable technical assistance by the three ADB projects? The basic reason is limited capacity, due to the shortage of personnel and the high rate of staff turnover. For example, the central role of an SUT in preparing reliable national accounts is well known. The last SUT, for 1995, was prepared around 1997 with help from ADB consultants; among Maldivian staff who were involved in the work, only one key staffer remains in the SD at this time, meaning that most of those skills and that knowledge have been lost. At present, the SD has engaged the services of an international consultant to propose a balancing of the 2003 SUT, as it is a complicated task and such knowledge is difficult to pass on and requires a lot of experience. The staffer who gained the experience during the SUT project was able to do almost all of the work required for the SUT, except for the balancing.

Although three persons currently work on national accounts, only two persons with knowledge and experience now work on it full time. At least three persons with knowledge and experience would be needed to do a proper job, if it is wished to publish multiple tables including:

- Quarterly production accounts in constant prices,
  Annual production accounts in current prices,
  Annual expenditure accounts in current and constant prices, and
  Gross national disposable income (GNDI).

The preparation of tourism satellite accounts would require additional staff inputs, as this is a complicated technical exercise that requires not only data on the demand side as measured through expenditure surveys of inbound tourists, outbound tourism and domestic tourism, but detailed data on the supply side from the national accounts, which is lacking for the Maldives.

Staff shortage is no new story. It was often noted by the ADB consultants, and occasionally alleviated by the return of staff from overseas training. While national accounts involve much "bean-counting", the work often involves ad hoc research as well to investigate puzzling data and surprising discrepancies. The ability to undertake such spur-of-the-moment applied research requires available time during working hours and – most important – long work experience, giving an officer the confidence to probe such topics. Attrition of senior staff therefore poses a serious threat to plans to upgrade national accounts. Overcoming the lack of experienced staff will take much time as well as a long-term commitment by the statistical authorities, including a commitment to take the necessary steps to retain experienced staff.

Another reason for the minimal progress is the paucity of business data. Realistically, therefore, the SD can only expand its capacity for national accounts by taking the following four steps:
- Gradually increase the availability of business data, from both administrative records and surveys. The ways and means of doing this are discussed in other sections below.
- Increase the number of active, experienced workers assigned to national accounts from two to at least three.
- Take steps to improve staff retention, so that more senior staff is motivated to stay in the division.
- Prepare an SUT once in five years.

Required supporting data includes:

- Sharing of full financial reports of registered companies from the MoED,
- Establishment surveys for the corporate sector, with better and prompter response rates and more complete data (less item nonresponse),
- Employment data for the private sector,
- Better data from fishermen and farmers,
- Private investment data from the corporate sector, and
- More comprehensive data for profits and remittances by foreign-owned businesses, especially in the tourist sector, essential for estimating GNDI.

The division is now preparing an SUT for 2003, the results of which will be used to re-benchmark GDP.

The ADB also has a regional project, RETA 6483, that is designed to assist the Maldives and other countries with preparation of a SUT based on SNA 1993. With the assistance of an international consultant hired with government funding, the division is also developing an upgraded methodology for estimating GDP, which it calls the New MEB. The method utilizes financial statements of firms and the entire government budget as well as the previously-used sources for quantum production. It is planned to improve the reliability of constant-price GDP estimates in several ways, including the development of a wage index for government employees (including civil service, political appointees, and independent agencies) to deflate government administration in GDP and separate social services such as education and health from government administration.

Although there is considerable concern about the possible understatement of GDP for the Maldives, the non-observed economy has not yet been much studied. Direct estimates have not yet been prepared. The SUT provides indirect estimates, but cannot capture the size of the non-observed economy. On the production side, the main difficulty is the paucity of enterprise data. On the expenditure side, there are several kinds of understatement.

- The measure of imports is presumed to be missing two components: under-invoicing of declared imports and the suitcase trade, particularly that for personal use.
- Imports of services such as overseas health care and education are presumably large but not much research has yet been devoted to measuring them, so the estimates are subject to wide error.
- Exports of services are difficult to measure due to the paucity of financial data for enterprises and the changing composition of the tourist trade, with growth until recently concentrated at the luxury end of the market.
- The only broad measure of household consumption is from the HIES, which probably underestimates consumption, as is the tendency of such surveys in other countries. The understatement elsewhere is due mainly to the tendency of affluent households to evade coverage by such surveys as well as recall errors. There is no specific local evidence for this, so this surmise is based on international experience. The expenditure diaries used in collecting Maldives consumption data do not, alas, provide much protection against recall error, as the most likely overlooked items are consumer durables that are rarely purchased, so that data for these purchases is perforce based on recall.

3.1.4 Price Statistics

The SD releases a Consumer Price Index (CPI) and a press release for Male' on the 15th of month following the reference month, releases a press release about the CPI the following month and releases a national CPI at the end of the month following the reference month.

Maldives has had a CPI since 1985. Initial CPI price collection in the field was done by the then Ministry of Trade and Industries until the late 1980's, when the Statistics Section took over collecting data. Two IMF missions during the 1990's helped upgrade the CPI, including rebasing it to 1995 using the 1993 HIES[17]. Beginning in 2006, the SD published a monthly press release presenting the price data in some detail and analyzing changes. Initially, the CPI was for prices in Male' only. This was updated to a June 1995 base period, using a basket based on the 1993 HIES, and subsequently to a 2004 basket based on the 2002-03 HIES with coverage extended in June 2004 to four main commercial centers in the atolls, Hdh. Kulhudhuffushi, Gdh. Thinadhoo, S. Hithadhoo and Gn. Fuahmulah. Technical assistance from the ADB team (TA 4103) supported these CPI upgrades.

Collection of the atoll price data has been subject to delays and difficulties, due to lack of trained staff in the atolls. Nationwide, the recommended method for collecting data is by means of field visits, which leads to better data. In practice, the division has often collected data by telephone and mailout forms, with verification visits usually made once every few months. It has been recommended that that the CPI be updated by means of the frequent introduction of new outlets and new brands, but this has not yet been done for lack of staff time. Until recently there was only one staffer (now two) to work on both the CPI and the PPI, a result of the continuing flight of skilled people discussed earlier, particularly for the unit that handles price statistics unit. Three staff from this unit are doing their bachelors abroad.

Data processing initially used MS Excel spreadsheets, with index construction using macros. With the help of TA 4103, this system was replaced with a system in Prima, a customized software package for price and quantity indexes. Prima provides a wide range of editing features.

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[17]Based on input from Ms Mariyam Waheeda, former director of SD, email 14 June 2009

But the SD programmers are unable to alter the Prima program to allow the users to introduce new outlets without the intervention of the original programmers, a feature that has become an obstacle to the introduction of new outlets. It is not clear to what extent the inability is due to lack of know-how for changing outlets and introducing new ones, or simple lack of administrative rights.

The Statistics Section also participated in the International Comparisons Program 2005 (ICP 2005), an international project that collected data for measuring Purchasing Power Parity in nearly every country. Activity in the Maldives was funded by the ADB.

Under ADB TA 4103 the division began to collect enterprise data for calculating quarterly production and producer price indexes. The resulting production indexes are considered less reliable than the price indexes. The price and production data continues to be collected but has never been published. The available price indexes for some goods appear to have a strong seasonal component, for others erratic behavior is seen. One difficulty is that there are only one or two respondents for many product lines, while some original respondents have shut down. Some enterprises don't respond while others respond very late, so that the data cannot be finalized until long after the reference period. The weights are based on very incomplete enterprise data and the division is keen to obtain more complete production data from the ongoing Economic Survey, for use in rebasing the weights.

3.1.5 Enterprise Statistics

Formal-sector enterprises, that is to say corporations, partnerships and cooperatives, must register with the Ministry of Economic Development (MoED, formerly the Ministry of Trade (MoT)). All registered enterprises are obligated by law to file annual financial reports (income and profit) with the Ministry.

Until recently, the Ministry has not paid much attention to whether all enterprises file or not, nor has it ever entered the data into a database. The National Accounts Unit has been allowed at times to scan some of the forms for entry at the division, using a scanner kept at MoED by the SD. This was done in the 1990's and again until 2004 when annual reports for 207 firms were scanned each year, after which the former MoT, stopped providing the data.

In November 2009, the MoED signed an agreement again to make the data available to DoNP, so it is hoped that scanning can soon begin again. The data are extremely useful for preparing current-price measures in national account.

Beginning in 1998 with the help of the ADB project, the Statistics Section carried out a Large Establishment Survey (LES) at about 500 registered enterprises, covering the years 1995-97. Conducted as a mailout, the survey was continued annually in most years until 2004. The two main problems were relatively low response rates (below 20 percent), and tardy responses so that the data were not very useful for on-time preparation of the national accounts. The procedure was to send the questionnaire by mail, with follow-up reminder letters and phone calls. Some difficulties that were encountered and noted in a 2000 report included[18]:

- Misplaced questionnaires at some firms, so that questionnaires had to be re-sent,
- The questionnaires used some terms that were not familiar to the respond-ents,
- Many firms did not keep their accounts in a proper form,
- Special difficulties with joint venture companies, with headquarters outside the Maldives, and
- Many of the accountants were expatriate workers who had recently begun working for the firm and were unfamiliar with the historical data.

A Small Establishment Survey (SES), using an area frame and covering unregistered establishments (including household ones), was carried out in 1999 and later repeated in 2001-02, both times for a one-month reference period. For 1999, the frame included 2266 firms for randomly selected areas of Male' and for three other islands on a complete enumeration basis. A measure of non-response was not available although response was much better than for the LES. Interviews were carried out during August to October 1999. The expansion of the results to represent the entire country was considered unreliable due to the small number of islands covered and the lack of control totals for the number of establishments by type for the whole country.

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[18]"Large Establishment Survey 2000", an undated team report from ADB TA-2988 that appears to have been written in late 2001 or early 2002, recounted the difficulties and concluded as follows. "In total, 68 establish¬ments returned the form, out of which 59 were processed. No analytical report is expected from this survey. Response rate was reasonable for construction, hotels and resorts but very poor in manufacturing and trade."

At present, the SD is conducting an Economic Survey for reference year 2007 that combines coverage of large and small establishments and utilizes field visits instead of a mailout, resulting in a sharply improved response rate. For the list sample of 2976 establishments, responses were obtained from 1533 establishments, or 51.5 percent, while 825 or 27.7 percent could not be found and 618 were either unavailable to be interviewed or refused. For the area sample of 5170 establishments, responses were obtained from 3702 or 71.6 percent, while the remainder were either unavailable for interview or refused. When the results for these two strata are compared, the following conclusions suggest themselves:

- The lower response rate for the list sample is entirely due to the large share of sample establishments that simply could not be found; there were no such cases in the area sample. If establishments that could not be found are excluded from the ratio, the response rate for the list sample becomes 71.2 percent (1533 out of 2151), virtually the same as for the area sample.
- For the both samples, the response rate was considerably higher in the atolls than in Male'. For the list sample, it was 38.7 percent in Male' and 71.8 percent in the atolls. This again is partly due to the larger share of establishments that could not be found – 36.2 percent in Male' and only 14.3 percent in the atolls.

The lack of a good business register for the larger establishments will make it difficult to carry out a good adjustment for nonresponse. This is just one more example of how a solid business registry could facilitate the conduct of economic surveys for the formal sector in the future.

Taken together, these findings suggest that the response rate in future establishment surveys can be improved as follows:

- Using an up-to-date business register with clear addresses and a well established updating procedure, thereby excluding closed establishments,
- Using enumerator visits, especially important for the larger establishments, as was done in the Economic Survey but not in the previous LES. If necessary, involve senior staff in visits to the largest establishments.

The chronically low response rates for establishment surveys in the Maldives are related to the absence of a system of business taxes, so that businesses are used to operating with great freedom and minimal obligation to report to government.

Hopefully, firms will gradually become more cooperative with statistical surveys if the new government implements a system of business profit taxes, as it indicated by a bill that has now been tabled with the *majlis*.

A Tourism Expenditure Survey (TES) was first carried out by the Statistics Section in 1997 and repeated by the section in 2001 and 2002. For 2002, questionnaires were distributed to 11,560 foreign tourists, of whom 1582 responded. Average daily expenditure per tourist was estimated at $217 in 2001 and $166 in 2002; the sharp decline was puzzling, unless it is perhaps related to seasonal variations in resort prices. MMA recently conducted a similar survey to provide data for the balance of payments estimates. Although a TES is not an enterprise survey, it is mentioned here because of its importance as source data for both national accounts and the balance of payments.

3.1.6 Data Dissemination

The predecessor of the current SD began to issue a <u>Statistical Yearbook of Maldives</u> in 1980, with a publication of some 120 half-size pages. By 1990, this had increased to about 190 A4 pages and further to 375 pages by 2001 (including extensive historical data for that year) declining to 188 in 2008, as more detailed island level tables were only included in the CD. A pocket size version of the publication Statistical Pocketbook of Maldives and a wall chart Maldives: Key Indicators also comes as a package with the Statistical Yearbook and it is also published on the website. A wallet-sized monthly statistical bulletin called Maldives at a Glance includes some monthly data and some annual data, a monthly, quarterly and annual data sheet called "Key Economic Indicators", while a quarterly <u>Development Outlook</u> presents a more comprehensive set of key monthly indicators.

Less than half the data in the <u>Statistical Yearbook of Maldives</u> is prepared by the SD, including national accounts, prices, and census data. Other yearbook data is prepared by other agencies – principally data for health, education, employment, law and order, fisheries and agriculture, tourism, transport and communication, electricity and water, public finance, money and banking, and trade data collected by customs and provided to the SD for inclusion in the Yearbook.

In addition, comprehensive reports have usually been published for household surveys and censuses, presenting tabular results, analysis, and a description of methods.

It is anticipated that a comprehensive report will be issued for the ongoing Economic Survey.

The SD of the MoNP does not have its own web page as yet and participates in the DoNP webpage, www.planning.gov.mv. The division intends to re-establish its own page if and when it becomes a separate department or an independent bureau. The existing DoNP webpage does provide access to reports on analysis of the 2006 census and the two VPA's.

3.2. Statistical Activities outside the DoNP

As mentioned earlier, ten agencies outside the DoNP currently have a statistical unit (as of June 2009). Table 5 presents information about the statistical units in those agencies.

TABLE 5: CONSPECTUS OF STATISTICAL UNITS OUTSIDE THE DoNP, June 2009

Agency Name	Name of Unit	Statistical unit lodged where?	stats Yrbook?	Staff
Min. of Finance & Treasury	Statistical Unit	Economic Policy Planning Section	None	2
Maldives Monetary Authority	Statistics Section	Monetary Policy & Research Division	Has	5
Min. of Human Resource, Youth & Sports	Statistics & Labour Market Information Unit	Strategic Planning Section	None	3
Min. of Health	Statistics Section	Decision Support Division	Has	11
Min. of Education	Statistical Unit	Planning Section	Has	3
Min. of Fisheries & Agriculture	Statistical Unit	Economic Research & Statistics Services	Has*	13
Min. of Tourism, Arts & Culture	Statistical Section	Planning Division	Has	3
Min. of Home Affairs	IT, Media & Statistics Unit	Planning & Projects Section	None	1
Judicial Services Commission	Statistical Unit	Statistics Performance & Policy Planning	Has	1
Maldives Customs Service	Statistical Section	Information Systems Division	Has,soft	6
TOTAL				46

3.2.1 MMA

Another important statistical agency is the central bank, the Maldives Monetary Authority, which is both a producer of statistics and a key user. The MMA was established in 1981 and began collecting an annual monetary survey in 1985; this became a monthly survey in 1995.

Results of the monetary survey were published in annual and quarterly reports until the appearance of Monthly Statistics in July 2006. The monthly report presents monetary data as well as real sector data from other agencies. The MMA also publishes a Quarterly Economic Bulletin and an Annual Report, with statistical appendixes, as well as a Monthly Economic Review.

The MMA prepares the standard statistical products for a central bank – the balance of payments as well as the monetary survey. The Monetary Policy and Research Division (MPRD, previously the Economic Statistics and Research Division) was recently reorganized to include a Statistics Section with five staff members, two of whom work on the balance of payments, while another two work on monetary and financial statistics and the fifth member works on the real sector. Four of the section staffers have bachelor's degrees, while the fifth has considerable practical experience.

Data for the monthly monetary survey is collected by the Bank Supervision Section of another division and is compiled by the MPRD. An annual balance of payments is prepared by the statistics section on the basis of data for commodities trade from Customs and a variety of data sources for trade in services and for other payments. This is carried out in the framework of the fifth revision of the IMF manual (BPM5). The MMA is working on an upgrade to its balance of payments table based on advice provided by a recent IMF mission, particularly in regard to improved data for foreign direct investment (FDI) and exports and imports of services. The MMA also carried out a pilot Business Survey in April 2009 to collect business tendency data using a mailout and hopes to begin a regular Business Survey in the future but is concerned about the low response rate to the pilot survey. It has plans to work on a Flow of Funds table, but has so far been unable to start due to limited data, including data from the balance of payments account and from national accounts.

In addition, the MMA compiled a partial Financial Survey during 2009 but has not yet published the results. A full Financial Survey is not yet feasible due to lack of data from insurance companies and further IMF technical assistance will be sought to help with broadening survey coverage. At the same time, the MMA is also implemented a new call report form in September 2009, to collect balance sheet and prudential regulation information from all commercial banks and other financial institutions, which allowed MMA to compile the monetary and financial statistics in line with the IMF Monetary and Financial Statistics Manual (MFSM 2000) starting in November 2009.

Previously the monetary survey was based on call report forms consistent with the IMF's 1984 "Guide to Money and Banking Statistics in the International Financial Statistics".

The MMA lacks a central database. Except for exchange rate data (of Rufiyaa per foreign currency unit) all data are in MS-Excel files saved in an array of folders. As this system is inefficient with very limited scope for analysis, the MMA initiated a project in 2005 (with technical assistance from the Commonwealth Fund for Technical Assistance) to design, develop and set up a secure scalable database management system that is suitable to collect, sort, and store economic data that the MPRD requires to accomplish its mandate. The very first component developed was the exchange rate, which is currently being used. The database is still in the development stage and was expected to be completed by the end of 2009, with analytical tools based on Online Analytical Processing (OLAP) technology.

The annual report for 2006 was published in 2007. The 2007 report was released on the website in early 2009 after being held up by a procedural issue within the MMA, although the text of the economic report was ready for publication much earlier. The 2008 report was released in August 2009 on the website, www.mma.gov.mv.

- Enhanced national accounts data,
- Enhanced data on the imports and exports of services,
- Data on direct foreign investment and foreign debt,
- More frequent data on the labor force situation (unemployment or employment), if possible on an annual basis, and
- More comprehensive price indexes including a published PPI as well as price indexes for imports and exports.

3.2.2 Ministry of Finance and Treasury

The Ministry of Finance and Treasury (MoFT) releases annual budget data – both planned and realized. The Ministry has released only very limited data about government debt, despite an IMF request for more complete data. Data are kept on spreadsheets. There is no database yet but the Ministry would like to develop one.

The government budget is prepared by the Fiscal Affairs and Economic Policy Division. Within the division, the Economic Affairs and Policy Planning Section (EAPP) handles the Medium Term Expenditure Framework and coordinates the preparation of the economic outlook (for internal use).

This section also evaluates budget proposals from line ministries. The compilation of the national budget is done by the National Budget Formulation and Analysis Section, which collects the budgets from the various sectors and does the classification. A statistical unit under the EAPP is headed by an officer with a degree in statistics, with two staff. The unit handles compilation of budget data into various formats and dissemination within the government, to donors and the general public.

The unit aims to release realized budget data eight months after the close of the fiscal (calendar) year, but this target can slip. The realized budget for 2007 was released In November 2008, together with the 2008 provisional and 2009 estimated budgets. Monthly realization data are received from the field about three months after the close of the month and are circulated internally and to the president. It is anticipated that monthly realization data will be received more promptly once the e-government network goes online. The Ministry this year began to implement program budgeting and efforts are in progress to provide gender disaggregated salary data, with availability anticipated by 2012 (sic).

Although the Maldives does not yet have an extensive system of business taxes, the Department of Inland Revenue (DIR) in the MoFT does collect annual license fees and the tax on bed-nights at resorts and other accommodations. The Department maintains an SQL database of all 4,347 registered companies, each with a Tax Identification Number (TIN).There are also listings for individual establishments of companies with multiple establishments. There is also a database of more than 10,000 shops and restaurants with TIN's.

The addresses for companies are often home addresses. Although registrants must by law update address information when they move, this is not enforced, hence many addresses are either not for the business location or are out of date. Although this data is needed for the business register, DIR assistance would be critical to get data annually; past experience has shown that the statistical authorities cannot hope to do this on their own. It would be difficult for a Statistics Act to deal with this topic in detail, but the act could certainly announce a policy to build a business register with the active cooperation of the NSO, the DIR and the MoED, and could mention the role of data sharing agreements. The act should also specify the obligation of businesses to respond to statistical surveys, and specify penalties for non-compliance.

A draft law has been tabled at the majlis that would introduce a business profits tax in 2010. The law would require all registered enterprises to provide a one-time update of their information, including location addresses. Unfortunately, updated information would not include main activity and employment, critical variables for statistical purposes, and the draft law would prohibit DIR from sharing the data with any other government agencies, including the Statistics Division. There are also plans to introduce a Value Added Tax in 2011.

3.2.3. Ministry of Economic Development

The MoED, previously the MoT, operates over 20 registers including a company register under the Registrar of Companies. The register includes a business name, registration number, name of managing director, telephone numbers, a business address, email, website, authorized capital, shares issued and share value, principal activities, and data for each shareholder. Based on up-to-date payment of license fees at DIR, MoED recognizes some 5500 companies as still active and has begun to enter the data for these into a database with the help of SD staff. The Ministry also issues licenses for shops and restaurants and for many other objects (vehicles, boats) and activities as well.

License payments for companies are due by the end of March. Companies are allowed to pay the fees in April and May, with a late penalty. As of May 31, payment is no longer allowed, DIR provides the list of firms with non-renewed licenses to MoED (830 in 2008) and the licenses are henceforth considered invalid. In recent years, MoT allowed tardy licensees to re-activate, but the declared MoED policy now is to de-activate with no recourse.

All registered companies are obliged to submit financial statements (income and profit, and balance sheet) annually. Until now, the data has never been entered into a database, nor have there been enforcement actions for non-complying companies. Under the new government, the Ministry is beginning to take an interest in the potential usefulness of this data. The Ministry has begun to consider the need for entering the accounts data, as well as the need for enforcement. As mentioned earlier, the data will be extremely useful for national accounts.

The MoED also handles and registers foreign investment in all sectors. The total number of ongoing foreign investment projects is 47, while 19 have not yet started. The MoED does not yet have a statistical unit, one that it certainly needs to have, given the abundance of important data in its hands.

3.2.4. Ministry of Human Resources, Youth and Sports

The Ministry of Human Resources, Youth and Sports (MHRYS), which functions as a ministry of labor, issues quotas for the use of expatriate labor and work permits for specific workers. The quotas are issued on an indefinite basis for companies and on a limited-duration basis for construction and other projects. The work permits are valid for a year and are renewable. The data is entered into an SQL database. According to Ministry data, 80,000 such permits are now in use, but there is concern that the true number of expatriate workers in the Maldives could be more or less than this figure, due to implementation lapses by the Department of Immigration and Emigration (DoIE).

A total of 2917 companies and investment projects has been issued quotas for the use of expatriate labor, but MHRYS is not yet in a position to count the number of companies separately or compare its list of companies with lists from DIR or MoED. The application form for quotas shows the company's registration number with the regis¬trar of companies as well as the employment of Maldivians but neither variable is entered into the MHRYS database. It remains to be explored whether an MHRYS database of companies could be linked with the DIR and MoED registries and whether such a linkage could yield useful data for private-sector employment.

The Ministry is interested in developing and using data about the labor market. Under the new government, the Ministry has begun to focus on a job market function, involving the registration of job seekers and a job bank for vacancies. Job centers have already begun to operate in four provinces, including Male'. If such a system were to be fully and consistently implemented for several years, it would (after a start-up period) begin to yield useful trend indicators for the labor market.

The Ministry was recently interested in conducting a labor force survey (LFS). With funding from the State budget, it carried out a pilot study during 2008 in the islands of B. Eydhafushi (sample 85 households) and Dh. Kudahuvadhoo two (sample 66 households).

A report is being written, so findings are not yet known. For its 2009 budget, the Ministry requested funding for a nationwide survey but this was denied. Subsequently, the Ministry has decided to leave the implementation of any future LFS to the SD, while the Ministry focuses instead on job market data.

The Ministry has a statistical unit, the Statistics and Labor Market Information Unit in the Strategic Planning Section, with three staffers, all with diplomas. There is no statistical yearbook.

3.2.5. Maldives Customs Service

The Maldives Customs Services provides monthly data to the SD on commodity imports and exports, using HS 2007 codes, the new classification system having been implemented during 2008. Transactions are assigned 10-digit HS codes, with a total of 6,000 of the 8,900 HS codes in use by the Maldives. Importers and exporters input the data into a customs declaration for a database using the Asycuda++ system (Automated System for Customs Data) from the United Nations Conference on Trade and Development (UNCTAD), an Oracle database run in DOS. There are 7 Customs offices across the country linked to this system. Data collection is based on the Harmonized Commodity Description and Coding System (the HS) of the World Customs Organization. The Service is planning to upgrade to Asycuda World, a Web-based database. The Service uses Foxpro to query the data in Asycuda. For 2008, data for a total of about 5650 different HS codes for imports and 70 codes for exports was provided to the Statistics Division. In the future, the unit plans to develop a new database in MS SQL.

In using monthly reports from the Service, the main problem encountered by the SD has to do with the calculation of unit price indexes. When import and export data is reported in sufficient detail, using consistent quantity measures (e.g., in kg or units), the quotient of value and quantity can be taken as an average price. If the measure of average price refers to a sufficiently homogenous commodity (i.e., without too much variation in quality), changes in it can provide a meaningful unit price index for the commodity. For many commodities, however, the SD has found the average price measure to be unstable, reflecting inconsistent measures of quantity at customs. In some cases, more than one unit is used – for plastic bags, e.g., kilograms and numbers of bags may be used.

As it happens, Customs also has an interest in shifting to more consistent measurement of quantity, as this will be useful for checking the plausibility of the price on the import declaration. The SD has not made a practice of bringing these discrepancies to the attention of Customs, but it plans to do so soon as a way of encouraging Customs to shift to more standardized quantity measures. This is an example of how improved inter-agency coordination can yield better statistics.

A statistical unit at the Services is staffed by six persons, the unit head with a master's degree, one staffer with a diploma in statistics, and three with diplomas in IT. Two staff members have 10 or more years of experience. The unit provides data to the Statistics Division and other government agencies at no cost, as well as to importers on a fee basis. A yearbook is prepared, mainly for internal use, and is available to government agencies in soft copy, on request. The Service will soon begin public dissemination of the yearbook through its website.

3.2.6. Ministry of Home Affairs

Under the previous government, the Atolls Ministry (a kind of Ministry of Interior) collected quarterly data for each island from each of 20 atolls. This included:
- Registered population,
- Land utilization,
- Number of persons working outside the island, by type of economic activity,
- Fish catch by type of fish,
- Numbers of pupils and teachers by type of school,
- Number of students studying outside the island,
- Number of health clinics, posts and personnel,
- Electricity generation,
- Sea transport facilities, by type and usage,
- Land transport facilities, by type of vehicle,
- Number of communication devices (including TV, radio, telephone, satellite dish, fax, computer),
- Data on water, toilets and sewage, and
- Data on jetties, seawalls, and clubs.

This data was entered into Excel spreadsheets, not a database, and was published in a factsheet posted on the Ministry website. Under the new government, the former Atolls Ministry has been combined with the Ministry of Home Affairs (MoHA) and many of its staff have been transferred to provinces under the decentralized set-up. Meanwhile, data collection has not yet resumed. Instead, there is ongoing discussion about MoHA assigning a statistical officer to each province or atoll. SD is cooperating to prepare terms of reference for such officers. In addition, SD hopes that such officers could assist the collection of data for CPI and other SD surveys, as well as data for the various sectoral ministries. With SD help, MoHA will implement a new template for integrated collection of key indicators at the island level; these data will be validated and aggregated by atoll and province.

Until recently, three staffers worked in a MoHA statistical unit, two with advanced diplomas. The unit provided annual data to the Statistics Division. Early in 2009, however, the three staffers were transferred to other tasks. The unit was subsequently reactivated and is now staffed by a single officer with an advanced diploma.

A National Population Register is operated by the Department of National Registration (DNR) in MoHA. In addition to issuing identity cards to citizens, the register provides data for total population by age and sex. Registration is considered quite complete. The population total from the register differed by only 500 persons from the 2006 census[19]. Unfortunately, the register cannot be used to estimate population by localities, because many Maldivians who have moved to Male' or other places continue to be registered at their previous residence. For example, the current registered population for Male' is only about 56,000, whereas the resident population is over 100,000. DNR staff has proposed a new regulation, such as in Singapore, requiring residents to register when they move. If this could be enforced, the DNR data would provide a reliable measure of resident population by island. Enforcement might require that some civic privileges in Male', for example, be tied to having either a permanent or temporary registration in Male'. It is unclear whether such a reform would be politically acceptable to a population that is attached to the current system.

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[19] Oddly, however, the difference was much larger (about 2000) when the data sources were compared by sex. Such discrepancies (due perhaps to offsetting errors) would need to be reconciled before the register could be used to prepare authoritative esti¬mates of population by island.

The linkage between various registers is not yet seamless in the Maldives. In particular, there is no automatic procedure for copying births and deaths noted in the Vital Registration System (described in the next sub-section) to the National Population Register. The VRS team provides the reports one-by-one on hard copy to the DNR, which processes them manually. Manual processing is problematic for deaths; the identity card number on the death report form is unfortunately often left blank, so that DNR staff are sometimes puzzled how to link the death report to the NPR. It is anticipated that the establishment of the Online Birth and Death Registration System under the e-Government network of Maldives will alleviate this problem and provide means for more timely information sharing.

3.2.7. Ministry of Health and Family (MoHF)

The Ministry of Health and Family (MoHF) has long collected statistics on births and deaths, child health, and morbidity. In recent years, MoHF has begun collecting data for individuals for uploading to three databases:

- Data on births and deaths since 1999 have been maintained electronically uploaded in the VRS database (in MS Access). This database is an outgrowth of a VRS based on a 1992 law. Since 2001, a triplicate recording and report-ing system has been used for recording birth and death information. Birth and Death Forms are collected from all islands and entered to the VRS data-base. From the database, the Ministry can calculate fertility measures such as crude birth rate, age-specific birth rate, and mortality measures such as crude death rates, infant mortality and maternal mortality. In practice, however, updating is delayed by up to three months or more in some cases, due to the time it takes to receive the reports from the islands and the lack of facilities for online updating from the islands. Birth rates, mortality rates and other re-lated statistics generated from the database are published annually. Although the VRS is believed to be quite complete since the implementation of the triplicate reporting system in 2001, a credible study is needed to assess its completeness. An Online Birth and Death Registration Application under the E-Government Services has been developed and is currently being tested. This online system is expected to be implemented in 2010, which will allow real-time update of birth and death information.

- Individual data on child health from pregnancy to age five is stored in an internet-based database called the Online Nutrition and Child Health Surveillance System (ONCHSS), operated by the MoHF and the Center for Community Health and Disease Control (CCHDC). Implementation of ONCHSS has begun but is now operational in only about a third of the planned implementation sites. The online system is supposed to make the data available for tracking and updating from any health facility. ONCHSS includes modules for antenatal care, delivery, postnatal care, family planning, child registration, child immunization, and child growth monitoring and development milestones. The records are updated from facilities, based on a family health card showing data for each pregnancy and child. Private clinics are not yet included in the system, however, and about half of islands are not yet connected. Inasmuch as the system is new and not yet functional in every island, statistics from the observations on family health cards are still aggregated and reported manually by health officers.
- Meanwhile, the MoHF is working on developing a system of nationwide health accounts, which eventually will lead to the creation of an extensive database on citizen healthcare.

A common difficulty in obtaining reliable health data is that field staff that is assigned to prepare statistical reports and input data to databases may give insufficient attention to those tasks, because they are also tasked with other jobs such as reporting on budget and other activities. Health Statistics training needs to be given to the staff in the atolls who are actually involved with collecting the health statistics so that quality of data can be maintained and more standardized data collection procedures can be applied throughout the country.

Morbidity data is collected by a disease surveillance system; facilities report at least weekly if not daily for WHO-recommended notifiable illnesses. The data is reported to disease surveillance unit of the CCHDC.

In addition, the Ministry has long collected household survey data for health. Previously, two main surveys provided a range of indicators for maternal and child health and relevant health services: the Multiple Indicator Cluster Survey (MICS) in 1996 and 2001, sponsored by UNICEF, and the Reproductive Health Survey (RHS) in 1999 and 2004, sponsored by UNFPA. For the RHS, the 2004 survey was taken on the same islands as the 1999 survey, to facilitate comparison.

More recently a national survey was carried out in 2007 to assess the adequacy of micronutrients among children and women. The National Micronutrient Survey 2007, sponsored by UNICEF, included biological assessments of blood and urine samples of children and women. Participants were recruited from a total of 2520 randomly selected households. Laboratory analysis was carried out the biochemical laboratories at Aga Khan University in Pakistan. At present, the Ministry has completed the field work of a Demographic and Health Survey (DHS), sponsored by UNICEF. For the DHS, 7560 households were visited, and interviews taken with 3300 married men, 8600 married women, and 6600 youths. Interviews were also taken for 4300 children under five. The cost of the DHS is $1.37 million, with more than half of the funding provided by UNFPA and UNICEF. Technical assistance is being provided by Macro International. The DHS covers topics that were separately covered by MICS and RHS and additionally covers some other health related areas including disability, HIV and health expenditures.

A statistical yearbook called The <u>Maldives Health Statistics</u> is published by the MoHF. A yearbook for 2007 was published in 2007 (sic) and work is underway to publish the Maldives Health Statistics 2009. The one for 2007 included the following kinds of tables:
- Data on natality, including average birth weight, health facility, mode of delivery, attendance by type of professional, and the number of births by age of mother.
- Data on mortality including infant, child and maternal mortality. Also the leading causes of death.
- Data on morbidity, including tuberculosis, leprosy, diarrhea, Human Immunodeficiency Virus (HIV) status, sexually transmitted infections, dengue and thalassaemia. There is also data on vaccine coverage.
- Human resources and health care finance.
- Miscellaneous data on contraceptive user rates by place, drug abuse cases, and percentage of underweight children from household surveys.

In addition, the Ministry provides data to the SD on a yearly and request basis. Some data is posted on the MoHF website.

MOHF also maintains data on gender. In the context of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the ministry is giving priority to those indicators that are easy to measure and are required by CEDAW.

In particular:
- Violence against women
- Feminization of poverty
- Health issues, including HIV/AIDS

The ministry collects statistics on family and child abuse along with a very recently conducted survey on Gender Based Violence. These data are available for all remote islands. A biennial bulletin on gender statistics has been published since 2001, and there was a gender Ministry (Ministry of Gender, Family Development and Social Security) during 2003-08. In November 2008, this ministry was dissolved and its work taken under the MoHF. The gender effort focuses on child protection, drug rehabilitation and social protection, and provides child and family centers in all 20 atolls. Efforts are currently under way to collect time series data for 15 gender indicators for the SAARC Gender Info Base, a South Asian repository of qualitative and quantitative data and information on gender-related issues and women empowerment.

The Decision Support Division (DSD) (formerly a Health Information and Research Section) comprises a Research Section, as well as a Statistical Section with 11 active staff, of whom five have worked on health statistics for 8-15 years. The section head has an MSc along with BSc in Health Information Management while one other staff member has a BSc in Health Information Management, another has an advanced diploma in Applied Statistics, and another has a diploma in IT Software Engineering.

The ministry has prepared a "Health Master Plan" for 2006-15 in support of knowledge-based decision making at all levels. The staff are concerned about weakness in data analysis and the need to organize the data in a data warehouse that facilitates easier access. Staff also note the need for data on health care in private clinics and outside the country as well as for developing health statistics standards

In conducting household surveys, the MoHF does coordinate with the SD, as required by the Statistical Regulation, but the coordination should be strengthened in the future. In a country as small as the Maldives, it would be preferable if field operations for all nationwide household surveys were managed by a single agency, except where special circumstances require management by a different agency. Otherwise, it would become necessary for the Government to develop skills in sampling and field operations in two or even more (if the MHRYS were also to conduct surveys) agencies – a less efficient approach than if these skills are developed in a single agency.

One possible model for consideration is the decades-old collaborative work of the US Bureau of Census and Bureau of Labor Statistics (BLS) on the so-called "Current Population Survey", a monthly labor force survey. The Bureau of Census handles the operational side of the work, while BLS, which is the main client for the survey, is deeply involved in questionnaire design and analysis of results. Another interesting example is that from India, where the National Sample Survey Organization (NSSO) carries out surveys on various topics. More specifically, the NSSO surveys are usually multi-subject enquiries covering two or more topics in a single integrated sample survey for, e.g. conducting together a Household Consumption Expenditure Survey (HCES) and a Labor Force Survey (LFS). This is done by using the same enumerators in the same primary sample units but using an updated frame of households to select separate samples of households for canvassing questionnaires of HCES and for LFS, thereby both economizing on travel costs and limiting respondent burden.

3.2.8. Ministry of Education

The Ministry of Education collects data on primary and secondary schools, but not on tertiary education, because higher education was until recently in another ministry. For this reason, it calls its yearbook Schools Statistics rather than Education Statistics. The most recent yearbook, for 2007, has been published on the Ministry's website (http://www.moe.gov.mv/new/) but not yet in hard copy. The yearbook contains data for enrollment, teachers and schools, but nothing about school finances.

Annual schools data are collected on a snapshot basis for 1 March. Staff are perplexed how to show separate costs for primary and secondary education, because most schools include both primary and secondary grades, due to small school size. The size distribution of schools in turn reflects the large number of schools outside Male', where there are 319 schools as against only 22 in Male'. Of those outside Male', only 27 have 500 or more pupils, while 292 have fewer than 500 pupils, mostly fewer than 250. This, in turn, reflects the widespread dispersion of population; of the 196 inhabited islands in 2006, only 63 had a population of 1,000 or more persons.

A database for storing and analyzing the schools data, Educational MIS (EMIS), was built in 2004 in MS Access and now contains annual data from 2005 forward. Before that the schools data was collected on hard copy from 1984.

Data uploading to EMIS works fairly well. Data entry forms are sent to schools on CD, with a validation routine based on the previous year's data. The schools then send forms for upload to the database through an FTP transfer or save to a floppy, which they send for uploading to the database at headquarters. A third option is hard copy, particularly for pre-schools. The Ministry intends to use the new WAN to facilitate data transfer. But schools take a long time to fill out the form, and feel burdened by the need to prepare a special report for the Ministry. For example, in March 2009 many schools had still not reported for school year 2008 (1 March). It would be much more effective if the schools used a management system for their own administrative needs that could also export data to a file for the Ministry, including payroll and school attendance. A similar approach in Nepal has achieved considerable success. The Ministry is seeking an international contractor to build such a system, and plans to pilot it in 20 schools.

Unfortunately, the entire team of programmers who developed the EMIS database has since left the Ministry to work elsewhere. The multi-year database cannot be queried, due to an unknown defect, and serves only to store the data, which is copied to Excel or other applications for analysis. An IT expert from the UNESCO statistics office in Bangkok recently visited the Ministry to give advice on how to repair and enhance the database.

A statistics unit is lodged in the Planning Section, with three staffers, all trainees, so the capacity of the unit is still very limited.

3.2.9. Ministry of Fisheries and Agriculture

Fish constitutes the largest export commodity in the Maldives, although it is a distant second to tourism if exports of services are also considered. The Ministry of Fisheries and Agriculture has a Statistics Unit, which happens to be the largest statistical unit outside DoNP. It is lodged in the Economic Research and Statistics Services and comprises 13 staff, in a fisheries unit (8 staff) and agriculture unit (4 staff). The section head and one other staffer have an advanced diploma in applied statistics while one staffer has a diploma in business management. Three staffers have eight or nine years of experience.

Fisheries data has been collected continuously since 1959 and this was extended step by step to cover the smallest boats.

The FIRE (fisheries records) system has been developed since 1988 using a mixture of manual and computer (dBase 111) processing, under Fisheries Law No.5/1987. The system was later developed into one called FIREPLUS. In 2004 the database was upgraded to MS Access with an SQL database.

The fisheries unit prepares the following reports based on data input to the database:

- Monthly fish catch by island and atoll, based on daily and monthly reports by fishing boat to island officers.
- Daily and monthly fish purchase by companies.
- Daily fish prices in the Male' market.

There are concerns about over-reporting and under-reporting of data in the data collection system in the Maldives. Traditionally the Maldivian fishery has been a tuna fishery and the fisheries data collection system was primarily developed to record catches of tuna[20]. As a result, there are various inconsistencies in the reef fish data collection and researchers have posed questions over the reliability of the reef fish catch statistics.

The MoFA has some doubts about the reliability of the daily reports to island officers, because captains are believed to be motivated to over-report in order to satisfy licensing rules that require a minimum catch and a minimum number of trips. Under-reporting due to negligence by the island officer is also a risk. Anderson suggested that for the period of 1970-1984, over and under-reporting may to some extent have cancelled out, with the possibility of a ±15% error margin[21]. Parry and Rasheed reviewed the accuracy of 1994 skipjack and yellowfin tuna catches and suggested that 5% under-estimation is present in skipjack catches and 15% in yellowfin catches[22].

The national accounts staff note that monthly data for fish catch include no adjustment for nonreporting islands, although an adjustment procedure has been recommended.

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[20] Anderson, R. C. and Hafiz, "Status of tuna research and data collection in the Maldives", Colombo, Indo-Pacific Tuna Programme, 1996.
[21] Anderson, R. C. (1986) Republic of Maldives tuna catch and effort data. Colombo, IPTP.
[22] Parry, G. & Rasheed, H. (1995) Fisheries Statistics System. Unpublished internal document, Third Fisheries Pro¬ject, Fisheries Economics and Statistics Program, EPCS Economic Paper No. 4, Ministry of Fisheries, Agriculture and Marine Resources.

The MoFA is now piloting a logbook system on each boat for reporting catch at the time of catch such as that in use elsewhere; as it happens, the European Union will require that fish imports be documented with such logbooks starting in 2010. The Ministry would also like to collect socio-economic data for some 14,000 fishermen who work on 1285 fishing vessels.

Most large-scale agricultural production is concentrated on four islands in the south; but much produce is grown in backyards near Male' and may be sold directly to resorts. Agricultural data collected by island officers is limited to estimates of fallen coconuts on inhabited and uninhabited islands. Otherwise, collection of agricultural data is limited to: sales of major crops in Male' markets, in kilograms and rufiyaa, broken down by atoll of origin. The difficulty of collecting data for agricultural production is due to the murky legal situation for land ownership. The law does not yet recognize Individual ownership of land, and island officers apportion use of cultivable land to growers each growing season. The MoFA has asked the UN Food and Agriculture Organization (FAO) to study the problem and recommend ways to collect better statistics. Meanwhile, the government is drafting an agriculture law that would cover land allocation and ownership; such a law would facilitate collection of agriculture statistics.

The Ministry website (http://fishagri.org/?a=stats) shows a limited amount of fishing data for recent months. Otherwise, the site shows monthly data for 2006 and a yearbook for 2005. Detailed fishing data for 2007 was included in the 2008 Statistical Yearbook of Maldives, as was data for agricultural produce traded in Male' during 2007.

3.2.10. Ministry of Tourism, Arts & Culture

Tourism is the largest industry in the Maldives, accounting directly for 27.4 percent of GDP, and for a larger share if inputs of locally-produced goods and services, particularly food and transportation services, are also considered. Tourism is also the largest earner of foreign exchange. There are 94 resorts on uninhabited islands, a number of hotels and guest houses in Male and other islands, and over 100 safari vessels. There were over 23,400 beds in operation in December 2008. The Ministry of Tourism, Arts and Culture (MoTAC) collects weekly data on tourist bed-nights, for which a tax must be paid to the DIR.

During 2008, there were over 683,000 tourist arrivals with a total of about 5.45 million tourist bed-nights. The data collection is pursuant to successive laws on tourism from 1979, 1983 and 1999. The Ministry obtains monthly data on tourist arrivals from the DoIE.

The MoTAC keeps a register of all tourist accommodation establishments and collects the bed-nights data directly from them. The resorts have not yet been classified by class but the possibility has been studied. Such classification would be useful, in view of the variety in levels of service and the accelerated growth of upmarket resorts in recent years, with the result that a quantum measure of bed-nights is not a very reliable indicator for changes in the real value added in tourism.

The statistics section for the MoTAC, lodged in the Planning Division, provides data monthly to the SD on monthly tourist occupancy of resorts and tourist arrivals. The information in aggregate form is shared with industry, airport companies, and other agencies of government. Establishment data on bed nights and occupancy is provided to the Department of Inland Revenue for tax purposes. A Tourism Yearbook is published annually, and the most recent such book available on the web at this time is for 2007. The unit is staffed by three persons, one with a diploma in IT. There is no database; the monthly data on occupancy and bed nights data are stored in a separate Excel file for each month. The unit is interested in creating a database and uploading legacy data to it.

Previous expenditure surveys for inbound tourists have been conducted by the SD and, more recently, by the MMA. The MoTAC also conducted surveys of expenditures and other questions on perceptions of quality and services for inbound tourists in 2004 which is publicly available and in 2008 for which the analysis for the report is in process. Surveys planned by MOTAC are approved by SD annually. There have been discussions about inter-agency cooperation for such surveys in future.

3.2.11. Ministry of Housing, Transport and Environment

The Ministry of Housing, Transport and Environment (MoHTE) was formed under the new government by combining parts of four former ministries (Housing, Construction and Public Works, Transport and Communications, and Environment). The ministry lacks a statistical unit but has begun to consider its need for one.

It plans to complete all preparations for a statistical unit and to establish one in 2011. The ministry is aware of its data needs, particularly for construction costs and environmental quality. Moreover, MoHTE is mandated to provide data for these areas:

- Housing and shelter,
- Affordability of housing in relationship to household income, and
- Land and density of population.

The housing authorities have for some time felt the need for an index of construction costs, as a tool for use in negotiating and escalating construction contracts. Under the former government, starting in mid-2007, the MoPND began to discuss with the former Ministry of Construction and Public Works (MCPW) the need for an index of the cost of building materials, for use in deflating the imports of such materials in the national accounts. In early 2008, the SD prepared a concept paper for the index and calculated weights from imports of construction material. Meanwhile, the Ministry prepared a list of 40 construction materials that would need to be in the basket of goods to be tracked, discussed this with the Maldives Association of Construction Industry, and made efforts to collect data from a sample of firms starting in mid-2008. The result was disappointing due to non-response, item non-response, late response, and lack of uniformity in the units of measurement. This initiative was discussed at a seminar in September 2008, and was discussed as well with a Sri Lankan firm that sent an expert to provide advice and develop an MOU with the former MCPW. But then the government changed and the work was put aside for the time being, even though the index will provide an important tool for the goal of bringing housing costs to affordable levels, one of the goals in the government manifesto. Given the urgent need for such an index for national accounts compilation, DoNP is now singlehandedly taking forward this work, with an initial index expected to be compiled by January 2010.

Maldives has not yet begun to collect environmental data at all, except for data that was previously collected by the former Atolls Ministry on the presence/absence of erosion problems by island. There is a need to collect data in a more systematic and precise way, particularly as regards coastal erosion, flooding, solid waste and the impacts of sand mining.

The discussion of MDG indicators (see below) shows that the major gap is for environmental indicators; indicators proposed by the United Nations are largely lacking in the Maldives.

During the early part of the plan period, an inter-agency dialog is needed to clarify which agencies will prepare which indicator. Due to the complete lack of statistical experience at the MoHTE, the SD may need to take the lead in solving this problem.

3.2.12. Judicial Services Commission and the Police Service

A statistics unit in the Judicial Services Commission (JSC), formerly the Ministry of Justice, comprises one staffer with an advanced diploma, down from four when it was still in the Ministry. The unit prepares monthly data on court cases and persons sentenced by type of case, type of court, and age of persons sentenced. This data is published in a statistical yearbook in Dhivehi, and, in summary form, in the *Statistical Yearbook of Maldives*.

A Bureau of Criminal Records of the Maldives Police Service compiles data on reported crimes, but there is no separate statistics unit. The bureau has computerized records of incidents reported and persons arrested since 1992. Presently, police stations throughout the country can enter data into a national database of incidents. The Service presents annual data for 2007 and 2008 for cases and arrests on its website (http://www.police. gov.mv/), on charts with text in Dhivehi. These data were not previously shown in the *Statistical Yearbook of Maldives* but will be included in future editions.

In a meeting of the subcommittee on social and demographic data on 3 May, the representatives of the police emphasized the need for a victims' database. The police are already developing a gender-based violence database. There is a need to develop a clear assessment of what is and is not available for crime statistics, and to identify priority needs. For this reason, the police needs a small statistics unit, which could develop some basic analytic skills and focus better on the statistical needs and problems. A priority task is to prepare graphical presentations of crime data for dissemination to the public.

3.3. MDG data

The DoNP is charged with monitoring progress towards achieving Millennium Development Goal (MDG) targets, so it is also the agency that oversees the availability of data for the system of targets.

The worldwide MDGs include eight broad goals with 21 specific targets (previously 18) for tracking implementation. For its national MDG program, the Maldives has selected 13 of these targets, for most of which indicators have been identified, as discussed in the MDGs Maldives Country Report 2007, published in October 2007 by the MoPND[23]. The availability of MDG indicators, documented in annex 5, is fairly comprehensive. There is no need for the Maldives to track all 21 targets; it is normal for countries to be selective in identifying priority targets.

More specifically, there is ample data for the following targets:

1. For reducing the poverty rate, there has been ample data from the VPA and HIES. Moreover, hardly any households have expenditures of less than a dollar a day per capita.
2. For reducing malnutrition, there is ample data on stunting of child growth from various household surveys. The 2007 report says that "one out of four children are [sic] malnourished".
3. For ensuring universal primary education for boys and girls, there is ample data showing 100 percent enrollment by 2002.
4. For eliminating gender disparity in education, there is ample data for all levels.
5. For reducing child mortality by two-thirds, there is ample data from direct and indirect methods. Although the methods disagree about the level of child mortality, both show sharp reductions in recent years.
6. For reducing maternal mortality by three quarters, there is ample data from direct and indirect methods, as well as ample individual data from the ONCHSS for the type of professional assistance rendered at birth.
7. For halting and reversing the spread of HIV/AIDS, there is data on contraceptive prevalence from household surveys. So far, the spread of HIV/AIDS is very low.
8. For halting and reversing the incidence of malaria and other major diseases, there is data on tuberculosis (TB) prevalence. Malaria has been eradicated.
9. For integrating the principles of sustainable development into the country's policies and programs and reversing the loss of environmental resources, there is data on the share of the population using solid fuels, an older indicator that is no longer recommended for MDGs.

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[23] "Millennium Development Goals: Maldives Country Report 2007", published by MoPND., October 2007. This was the second such report for the Maldives; the first was published in 2005.

10. For reducing the proportion of people without sustainable access to safe drinking water and basic sanitation, there is household survey data showing a sharp improvement in the use of rainwater for drinking and cooking. For the 2006 census, the data is by island. The data also show that a large percentage of the population does not yet have access to improved sanitation.

11. For improvement in the lives of slum dwellers, there is a lack of indicators. There are no slum dwellers, but the tsunami did result in a deterioration of housing conditions. Also crowding in Male' has become a problem as the population grows.

12. For addressing the special needs of small island developing states, there is data on increasing receipt of overseas development aid, although the relevance of the indicator is questionable inasmuch as increased dependence on aid cannot be considered unequivocal progress for the recipient, although it may be considered so for the donor.

13. For dealing comprehensively with developing countries' debt, there is data on debt outstanding and the debt-service ratio. The report mentions that the Commonwealth Vulnerability Index for 1997 placed Maldives in the highly vulnerable economies group due to its heavy dependence on exports of tourist services and fish.

In sum, the data appears to be fairly adequate for monitoring the first ten targets, less so for the last three. For the first ten targets, however, an important caveat is that the data from household surveys and censuses is not available annually. Moreover, some survey data may only be available at the national or provincial level, not at the island level. The challenge for the Maldives is to find cost-effective ways to improve data frequency and availability at the sub-national level without imposing an excessive cost burden on the country. Furthermore, a wide range of recommended environmental indicators is not available for the Maldives, as can be seen for indicators 7.1 to 7.7 in annex 5.

The five international targets linked to goal eight ("Develop a Global Partnership for Development") are addressed more to donor countries than to developing countries. Such targets as "Deal comprehensively with developing countries' debt" and "Develop further an open, rule-based, predictable, non-discriminatory trading and financial system" serve as guidelines for how donor countries can best assist developing ones, not for how developing countries can help themselves.

Indicator 8.13, "Proportion of population with access to affordable, essential drugs on a sustainable basis" is not available at this time, but the concept includes so many qualifiers that it is difficult to imagine how a feasible measure can be designed.

4.0. Outcomes

The five international targets linked to goal eight ("Develop a Global Partnership for Development") are addressed more to donor countries than to developing countries. Such targets as "Deal comprehensively with developing countries' debt" and "Develop further an open, rule-based, predictable, non-discriminatory trading and financial system" serve as guidelines for how donor countries can best assist developing ones, not for how developing countries can help themselves. Indicator 8.13, "Proportion of population with access to affordable, essential drugs on a sustainable basis" is not available at this time, but the concept includes so many qualifiers that it is difficult to imagine how a feasible measure can be designed.

This assessment does not intend to go to the specific and measurable results in the RBM context; it merely emphasizes that statistical results are not the end of a process that entails considerable staff time and significant amounts of public or donor money.

				Impacts
			Outcomes	The long-term socio-economic results to which projects contribute.
		Outputs	Specific, measurable, institutional or community-level results that will be produced by the end date of the project.	Impacts usually happen beyond the life of the project at a national or international level and consist in changes in the living conditions of populations. They are attributed, in part, to the achievement of outcomes. Impact-level results are the changes necessary to achieve the project **goal.**
	Activities	The short-term consequences of completed activities.	
Inputs(resources)	The actions required to produce results.		Outcomes are the logical results of project outputs. They should be sustained after project funding has ended. Outcomes are the changes necessary to achieve the project purpose.	
The direct or indirect human, organizational or material resources required to implement and carry out the planned activities of the program or project.		Outputs are the "sub-results" or key achievements required to produce project outcomes.		

The vision has been documented in the DoNP mandate:

> To ensure that the National Statistical System is based on a decentralized system that produces timely and reliable statistical information with the use of modern information and communication technology. To strengthen the Statistical System of the Maldives in line with developed international statistical systems.

The vision has been documented in the DoNP mandate:

> To facilitate the collection, analysis and the production of high quality statistics for the purpose of national development planning and assist the use of statistics within a harmonized system. Also to ensure that the statistical information is useful, timely, relevant and reliable to carry out socio-economic research to guide formulation of policy and business decisions by the public and the private sector.

One way to discern outcomes would be to check on quantitative results – how many indicators were or were not provided, and with what frequency; this, however, does not seem very fruitful as it would say nothing about the usefulness of the indicators. Another way is to check whether the processes meet the FPOS adopted by the United Nations Statistical Commission. Among the principles are relevance, impartiality, professional independence, accountability, transparency, cost-effectiveness, and confidentiality[24].

The first principle of official statistics, on relevance, reads: 'Official statistics provide an indispensable element in the information system of a 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 honor citizens' entitlement to public information.'

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[24] Africa, Tomas. "Some Issues and Challenges in Adhering to the Fundamental Principles of Official Statistics". Seminar on Production of Official Statistics – How to Secure Professional Independence, Integrity and Credibility of the National Statistical System, 15 October 2007. Vientiane, Lao PDR.

As regards the qualitative outcomes, we will discuss four aspects:

1. As regards relevance, the data provided by the NSS do meet many of the standard recommendations of international agencies. Three exceptions should be mentioned.
   •The limitation of the national accounts to a single table (production account in constant prices), due to the paucity of available business data, hampers the use of the data for macro-economic analysis;
   •The lack of data for expatriate workers, who constitute a quarter of the resident population and an even larger percentage of the labor force, hampers the use of the data to analyze social and economic issues; and
   •The lack of environmental data, which is particularly important for the Maldives, given the extent to which its future is threatened by global warming.
2. As regards impartiality and professional independence, there has been considerable progress but steps are needed to reassure the public of such impartiality. The creation of an independent agency would be an important step in this direction.
3. As regards transparency, much needs to be done to prepare and publish extensive metadata, including information about data quality. As statistical systems develop, transparency issues tend to come to the fore, and this process has not yet gone very far in the Maldives. Fortunately, staff have begun to pay more attention to such issues.
4. As regards confidentiality, the SD has been consistent in protecting the security of survey data, particularly for that stored on its servers. Not much public attention has been paid so far to the confidentiality issue, due perhaps to the paucity of business data in the hands of SD. The issue may become more sensitive in the event that SD is able to collect a wider range of business data.

5.0. SWOT Analysis

The aim of any SWOT analysis is to identify the key internal and external factors that are important to achieving the objective. SWOT analysis groups key pieces of information into two main categories:

- Internal factors – the strengths and weaknesses internal to the organization, and
- External factors – the opportunities and threats presented by the external environment.

These are presented in bullet form, as follows:

Strengths:
- experienced senior staff with good skills,
- experience of organization and fieldwork of censuses and surveys,
- young office with enthusiastic staff,
- fluency in English,
- resource planning, coordination, and
- good supply of computers and basic IT skills.

Weaknesses:
- dependent on donor support for funding and documentation,
- dependence on technical assistance for designing the sample surveys, censuses and analysis,
- inadequate quality control of data collection process,
- legal framework for statistics not sufficiently strong,
- lack of basic statistical skills among the new staff,
- limited access by statistical agency to key administrative data sources,
- lack of a business tax system, leading to lack of administrative data,
- weak cross-agency coordination mechanisms, and
- small population limits resources for statistics.

Opportunities:
- government's better appreciation for need for statistics,
- growing support for a Statistics Act,
- rising education levels among cohorts that provide recruits for statistical work,
- the government's firm intention to initiate a business tax system appears likely to lead to an administrative infrastructure that can provide better data to
- the statistical agency, and
- the creation of a WAN connecting government offices across Maldives provides many opportunities for collecting timely and accurate statistics
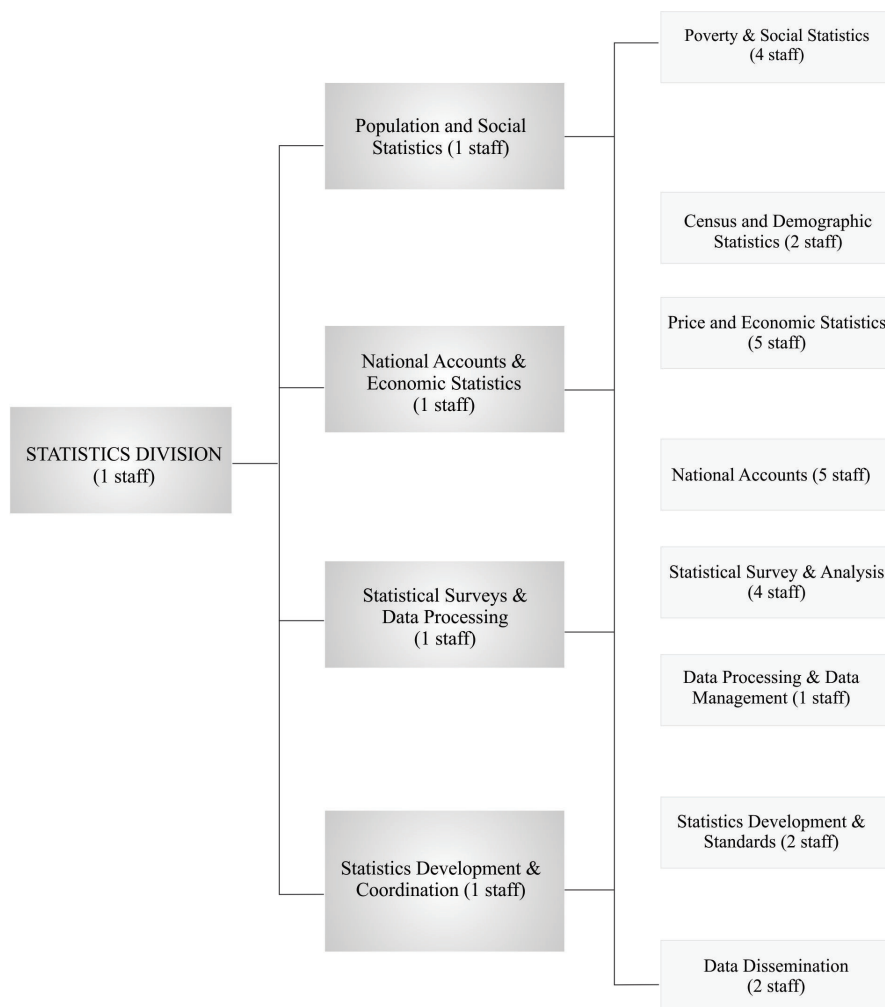
Strengths:

- chronic staff attrition at the SD, averaging 4 staff (13 percent) per year,
- a thriving private sector has created job opportunities that lures staff away from the SD, and
- in a 'low funding' scenario, the SD does not have resources to support even a minimum work plan.

6.0. Annex

ANNEX 1: ATTENDANCE AT NSDS WORKSHOP, 22 JUNE 2009

#	NAME	Office	POST
1	Mr. Ibrahim Hussain Zaki	Presidents Office	Special Envoy to the president
2	Mr. Ahmed Asad	Ministry of Finance & Treasury	Deputy Minister
3	Mr. Ahmed Inaz	Ministry of Economic Development	Deputy Minister
4	Dr. Ibrahim Didi	Ministry of Fisheries & Agriculture	Minister
5	Dr. Abdulla Naseer	Ministry of Fisheries & Agriculture	Permanent Secretary
6	Mr. Mahid Mohamed Shareef	Ministry of Human Resource, Youth & Sports	Permanent Secretary
7	Mr. Ahmed Ifthikhar	Ministry of Economic Development	Registrar of Companies
8	Ms. Asma Shafeeu	Department of Inland Revenue	Assistant Auditor
9	Mr. Ibrahim Naseem	UNICEF	National Officer
10	Ms. Aminath Ali	Ministry of Finance and Treasury	Director General
11	Mr. Fuwad Thowfeek	Elections Commission	Member
12	Ms. Rasheeda Ali	Ministry of Finance and Treasury	Permanent Secretary
13	Dr. Hussain Niyaaz	Ministry of Foreign Affairs	Executive Director
14	Ms. Maimoona Rasheed	Maldives Customs Services	Senior Customs Officer
15	Ms. Hafsath Ali	National Centre for Information Technology	System Analyst
16	Ms. Zuleyha Ibrahim	Ministry of Civil Aviation & Communication	Deputy Director
17	Ms. Raufiyya Abdulla	Ministry of Fisheries & Agriculture	Statistical Officer
18	Mr. Moosa Waheed	Ministry Housing, Transport & Environment	Architectural Technician
19	Mr. Mohamed Siraj	Ministry Housing, Transport & Environment	Architectural Technician
20	Ms. Aminath Sherin	Ministry of Home Affairs	Statistical Officer
21	Ms. Mariyam Rashfa	Maldives Monetary Authority	Deputy Manager
22	Ms. Athifa Ibrahim	Ministry of Health & Family	Assistant Director
23	Ms. Maimoona Aboobakuru	Ministry of Health & Family	Director
24	Mr. Jaweed Moosa	Maldives Police Service	Police Corporate
25	Ms. Aishath Shahuda	Department of National Planning	Deputy Executive Director
26	Ms. Mariyam Niyaf	Department of National Planning	Assistant Director General
27	Ms. Fathmath Shafeega	Department of National Planning	Assistant Director General
28	Mr. Idham Fahumy	Department of National Planning	Statistical Officer
29	Ms. Ashiyath Shazna	Department of National Planning	Assistant Director
30	Ms. Fathmath Nihan	Department of National Planning	Senior Computer Programmer
31	Ms. Maharath Ahmed	Department of National Planning	Senior Statistical Officer
32	Ms. Aishath Leeza	Department of National Planning	Senior Statistical Officer
33	Ms. Aishath Laila	Department of National Planning	Senior Statistical Officer
34	Ms. Aishath Hassan	Department of National Planning	Senior Statistical Officer
35	Ms. Loona Abdul Hakeem	Department of National Planning	Senior Statistical Officer

ANNEX 2: ORGANIZATIONAL STRUCTURE OF STATISTICS DIVISION

		Poverty & Social Statistics (4 staff)
	Population and Social Statistics (1 staff)	Census and Demographic Statistics (2 staff)
		Price and Economic Statistics (5 staff)
STATISTICS DIVISION (1 staff)	National Accounts & Economic Statistics (1 staff)	National Accounts (5 staff)
		Statistical Survey & Analysis (4 staff)
	Statistical Surveys & Data Processing (1 staff)	Data Processing & Data Management (1 staff)
		Statistics Development & Standards (2 staff)
	Statistics Development & Coordination (1 staff)	Data Dissemination (2 staff)

Total Active staff as of Jan 2010   30