NATIONAL
STATISTICAL OFFICE

REFORM STRATEGY 2021

Structural reform of the National Statistical Office

Contact and Find Us

Postal Address:
National Statistical Office
PO Box 337, WAIGANI.
National Capital District
Papua New Guinea

Physical Location:
Kumul Avenue
Near NBC Transmitters Station
Waigani

Phone: (675) 301 1200
Fax: 675) 325 1869 / (675) 323 7040

Email: info@nso.gov.pg
Website: www.nso.gov.pg

January 2022
Port Moresby
Papua New Guinea

For I know the plans I have for you, declares the LORD, plans for welfare and not evil, to give you a future and a hope".
Jeremiah 29:11

This is a concise Reform Strategy to Guide the Reformation of the National Statistical Office to serve its clients better in the 21st Century

TABLE OF CONTENTS

ACRONYMS 6
MINISTER'S FORWORD 8
INTRODUCTION BY THE ACTING NATIONAL STATISTICIAN 10

1.0 STRATEGIC OBJECTIVES AND GOALS OF NATIONAL STATISTICAL OFFICE 12
1.1 Objective of the Reform 12
1.2 Vision Statement 12
1.3 Mission Statement 12
1.4 Organizational Values and Guiding Principles 12
1.5 United Nations Fundamental Principles of Official Statistics 12
Figure 1: Statistical Capability Framework 13

2.0 IMPORTANCE OF OFFICIAL STATISTICS 13

3.0 THE NATIONAL STATISTICAL OFFICE 14
3.1 Overarching Policies and Plans 15
3.2 PNG Strategy for the Development of Statistics, 2018-2027 15

4.0 NATIONAL POLICIES AND PLANS RELEVANT TO THE NATIONAL STATISTICAL OFFICE 15
Figure 2: Strategic Themes for Reform and Improved Performance 16
5.1 Government Decisions and Policies for NSO Reform 17

5.0 CHALLENGES AFFECTING PERFORMANCE OF THE NSO THAT DEMAND REFORM 17
Figure 3: Strengthening Governance Systems and Processes 18
5.2 Main Reasons for NSO's Underperformance 19
Figure 4: Transforming and Progressing into the Future 19

6.0 THE ROLES AND KEY RESULT AREAS OF THE REFORMED AND REVITALIZED NSO 20
6.1 Drivers for the Reform and Revitalization of NSO 20
Table 1: Reform Focus and Action Areas Matrix 20
6.2 Strategic Actions for Reform and Revitalization 21
6.3 Institutional Harmonization between NSO on Socio-economic Data 22

7.0 EXPANDED STATISTICAL AREAS NSO

WILL PURSUE **24**
Table 2: Core statistics and key statistical agencies in the NSS *24*
Pillar 1: Institutional Safe-guards **29**
Table 3: Dimensions and Indicators for Institutional Safeguards *29*

8.0 STRATEGIC PILLARS TO PURSUE UNDER THE REFORM STRATEGY **29**
Pillar 2: Natural Capital **32**
Table 4: Dimensions and Indicators for Natural Capital *32*
Pillar 3: Economic and Business Capital **36**
Table 5: Dimensions and Indicators for Economic and Business Capital *36*
Pillar 4: Enabling Infrastructure Capital **37**
Table 6: Dimensions and Indicators for Enabling Infrastructure Capital *38*
Pillar 5: Human Capital **39**
Table 7: Dimensions and Indicators for Human Capital *39*
Pillar 6: Social Capital **40**
Table 8: Dimensions and indicators for social capital *41*
Pillar 7: Administrative and Governance **43**
Table 9: Dimensions and Indicators for Administrative and Governance *44*
Pillar 8: National Security and Rule of Law periphery **46**
Table 10: Dimensions and indicators for national security and rule of law *46*
Figure 5: NSO Current Organizational Structure *49*

9.0 PROPOSED ORGANIZATIONAL STRUCTURE **49**
Figure 6: Proposed NSO Organizational Structure *50*

ACRONYMS

CPI	Consumer Price Index
DHS	Demographic Health Survey
DNPM	Department of National Planning & Monitoring
HIES	Household Income Expenditure Survey
IGIS	Integrated Government Information System
MTDP III	Medium Term Development Plan III
NID	National Identification
NPHC	National Population & Housing Census
NSO	National Statistical Office
NSS	National Statistical System
PNCIR	PNG Civil & Identity Registry
PNGSDS	PNG Strategy for the Development of Statistics
SBA	Survey of Business Activities
SCS	Statistical Coordination Structure
SDGs	Sustainable Development Goals
TWG	Technical Working Group

MINISTER'S FORWORD

The reform and revitalization of the National Statistical System (NSS) of PNG is my key agenda as the Minister responsible for these functions. I strongly believe as the Minister for National Planning and Monitoring that development planning and monitoring requires readily available statistical information that is reliable and accurate for important and informed decision-making, development planning and development progress, and performance accountability.

Statistical information on the nations' socio-economic development, international trade and relations, and institutional governance and administration are key to this function. My vision for the National Statistical Office to come up with a simple but implementable and comprehensive strategy to reform and revitalize the organization that encapsulates the best statistical organizational principles and business operation model is captured in this NSO Reform Strategy, 2021.

Over the past years NSO's performance, as an important organization and the mandated coordinating agency of the NSS, has been below the expected level due to many reasons of which some of them are being highlighted herein to address as part of the Reform process. The tardiness and rigidity of the NSO as I now realize are among other institutional problems due to administrative and budgetary constraints, apart from lack of demand for data and statistics by political leaders for informed decision-making, government and statutory organizations for policy and administrative requirements, and technical capacity as development partners' lack of support for reforms. These key constraints have to be addressed or improved by every stakeholder in the NSS if we have to improve the quality and utility of our statistics for all intended purposes in our growing economy.

As all countries in the world (both developed and developing countries) effective, efficient and reliable statistical system is very essential for both policy decision-making and for tracking socio-economic development progress in order to appropriately inform development status of the country at the global scale. Effective statistical systems help Government to improve their policies, and to be transparent and accountable about the delivery of development results.

My aim as Minister responsible is to reform the NSS by aligning the functions of the NSO to the goals and objectives articulated in the PNG Strategy for the Development of Statistics, 2018-2027. The Reform will ensure that our NSS is restructured so that it best serves the purpose of generating and disseminating credible and reliable statistics to meet the growing demand both from the public and private sectors for their own purposes like business planning for the private sector, and development and service delivery planning for the public sector. My desire is also to ensure that a fully integrated NSS managed by a fully reformed and vibrant NSO run by highly qualified technical personal to produce timely, accurate and quality data and statistical information for the Government and the many stakeholders out there.

There is an increasing demand by the Government for the NSO to produce quality and timely data reliably for the following strategic reasons:

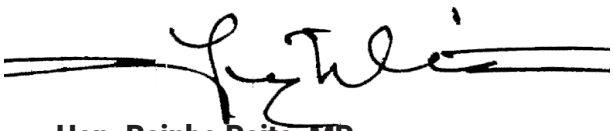
1. It wants to be better informed on the development status based on baseline statistical information so as to promote evidence-based policy decision and policy making. It will then monitor the results of its decision by comparing the statistical information post implementation.

2. It wants to be better informed and guided for budgetary and resource allocation decision-making to target resources in areas most needed to achieve better development results.

3. It wants to promote good Governance and be held accountable on its performance with statistical information.

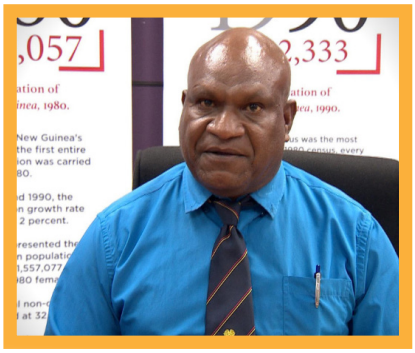
4. As a nation we have the obligation to Report on targets for the Post 2015 Agenda on Sustainable Development Goals so that all our efforts, including our invaluable development partners, are reported with accurate and quality data.

On this note, I commend the Acting National Statistician Mr. John A. Igitoi and his Management Team for putting together this very critical Reform Strategy. I now recommend this Blue Print document for the NSO Management to pursue it in reforming and modernizing the organization. I also request every stakeholder within our NSS and our development partners to support its implementation.



Hon. Rainbo Paita, MP
Minister for National Planning and Monitoring

INTRODUCTION BY THE ACTING NATIONAL STATISTICIAN



As an important organization tasked with producing quality and reliable statistical information for the Government and other stake-holders, we are always challenged with improving our performance. Over the past years we have not performed according to expectations. We have now seen the need for us to reform the organization in terms of the way we do our business by undertaking the following:

- Modernization of the legislation that establishes and mandates the organization for official statistics;
- Improving statistical leadership;
- Improving productivity in terms of quality, reliability and timeliness of statistical products;
- Improving business processes and systems; and
- Improving accessibility to the statistical products by all those need them.

This Reform Strategy, 2021 will guide us as an organization to achieving the above key reform objectives as articulated herein in details. It also highlights the key mandates of NSO and the basis for the reforms to better its performance.

The Strategy provides the main objectives for the reform and clearly expands on time-bound main actionable items which NSO must pursue vigorously till 2027. The precursor to the entire reform of the NSO and the NSS will be the institutional harmonization between NSO, the core statistical agencies (PNGCIR, EC, BPNG, IRC, Customs, Treasury, etc.), and the Integrated Government Information System (IGIS) and Network that will promote e-government.

Because of the structural changes taking place in our growing economy, combined with the requirements for the Government to report on a myriad of development results to be accountable and our obligation to report on the Post 2015 Agenda on Sustainable Development, NSO has to expand its scope to cover many statistical areas to collect and publish statistical information from its own domain and from State Agencies. The way NSO will realize this is by categorizing the scope of data collection for specific indicators under eight (8) main pillars.

We will be fully committed to ensuring that the intent of the reform objectives and expected outcomes contained in this blue-print document are fully pursued. In this regard, NSO will require continued support from everyone including the Government, our development partners and our key stakeholders.

John Aseavu Igitoi
Acting National Statistician

1.0 STRATEGIC OBJECTIVES AND GOALS OF NATIONAL STATISTICAL OFFICE

1.1 Objective of the Reform

To reposition NSO to perform better to meet the Government's expectation of producing quality and timely statistical information for decision-making and to monitor the social and economic developments of Papua New Guinea.

1.2 Vision Statement

Become a competitive, transparent and accountable producer of vital official statistics necessary to inform policy decision-making and evidence-based development planning, and performance accountability.

1.3 Mission Statement

Coordinate, produce, manage and sequence various sets of official statistics conforming to good statistical practices and international standards, and make them accessible to all recipients for all intended purposes.

1.4 Organizational Values and Guiding Principles

We commit ourselves to endeavour as a mandated statistical agency to promote and stand for these Values and Guiding Principles as collective beliefs and etiquettes:

1. Integrity with honesty, accountability and transparency in the NSO's operations.
2. Professionalism for quality, diligence, prudence, effectiveness and efficiency in work outcomes.
3. Respect for diversity without prejudice for position, gender, religion, ethnicity or ability.
4. Collegiality, partnership, and teamwork for consensus and quality official statistics outcomes.
5. Commitment and responsibility for the smooth functioning of the Organization.

1.5 United Nations Fundamental Principles of Official Statistics

1. Data should be readily available.
2. Agreed methods for data collection, processing, storage and presentation.
3. Adoption of accepted standards on sources, methods, and procedures.
4. Open dialogue about statistics/data.
5. Use quality sources: consider quality, timeliness, costs, respondent burden.
6. Maintain confidentiality and use for statistical purposes only.
7. Statistical legislation is public.
8. Coordination between statistical agencies to achieve consistency and efficiency.
9. Agreed statistical concepts, classifications and methods.
10. Cooperation in statistics contributes to the improvement of systems of official statistics in all countries.

2.0 IMPORTANCE OF OFFICIAL STATISTICS

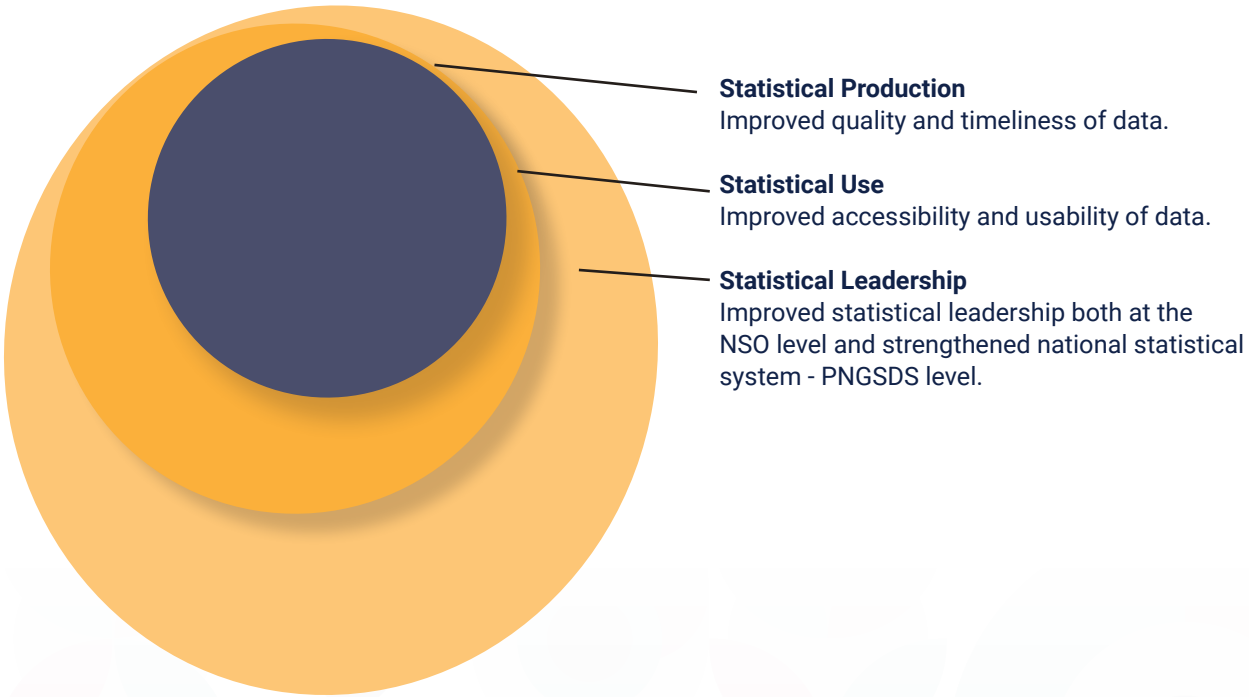
Official Statistics are defined as those statistics produced by government departments and agencies including statistics collected through surveys and censuses such as the National Population and Housing Censuses and other administrative systems that conforms to good statistical practices and international standards.

It provides an indispensable element in the information system of a democratic society, serving the government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by NSO to honor citizens' entitlement to public information.

Statistics are fundamental for good governance as good governments use them for policy decision-making and planning for the delivery of public services in all sectors of the society. Production and accessibility to high quality statistical information by government, researchers and the community contributes to PNG's development and its democracy.

There are three main dimensions to building statistical capability. The Framework ensures a balance of statistical production, statistical application and institutional leadership and governance.

Figure 1: Statistical Capability Framework



3.0 THE NATIONAL STATISTICAL OFFICE

The Statistical Services Act, 1980 has established the National Statistical Office and mandated it to execute the following functions:

1. Collection of data and the compilation, analysis and dissemination of statistics and related information produced from that data concerning the activities and condition of the people and the physical and social systems in which they live;
2. Coordinating other State agencies to collect data, compiling, analyzing, and disseminating statistical information in standardized and approved forms;
3. Co-ordinate statistical collections to avoid duplication by the State agencies;
4. Providing advice and assistance to State agencies who produce statistical information from management and operational data;
5. Advising the Public Services Commission on the establishment and staffing requirements of statistical units in state agencies;
6. Providing assistance in the recruitment, training and development of the staff of statistical units in state agencies;
7. Generally promoting and developing integrated social and economic statistics for the State; and
8. Liaising with statistical organizations in other countries and with international organizations in relation to statistical matters.

In terms of NSO's extended or delegated functions at the sub-national levels, Section 106 of the Organic Law on Provincial Governments and Local-level Governments establishes the planning and data system as a delegated function of the Department responsible for planning matters and that the NSO is mandated to coordinate, produce and disseminate official statistics.

4.0 NATIONAL POLICIES AND PLANS RELEVANT TO THE NATIONAL STATISTICAL OFFICE

4.1 Overarching Policies and Plans

Overarching policies and plans require alignment of our organizational policies and plans to the priorities encapsulated in them. They include:

(i) Vision 2050,
(ii) PNG Strategic Development Plan 2010-2030,
(iii) National Strategy for Responsible Sustainable Development (2017),
(iv) National Population Policy 2015-2024, (v) Sustainable Development Goals, and
(v) Medium-Term Development Plan III 2018-2022.

These policies and plans have established sectoral and agency-level performance targets. The Vision 2050 has established both quantitative and qualitative development targets in the key sectors such as health and education. The Vision is that the achievements in these areas would ultimately improve PNG's Human Development Index ranking to 50 out of 148 member countries of the United Nations by 2050. The tangible benefit of this improvement and ranking is that the citizens are 'smart, wise, fair, healthy and happy'.

The strategies to achieve these high-level development outcomes have been defined and articulated in the PNG Development Strategic Plan 2010-2030, National Strategy for Responsible Sustainable Development (2017), and the MTDP III. These strategies are further detailed in the national sector plans such as PNG Nutrition Policy 2016-2026, and Water, Sanitation and Hygiene Policy 2015-2030.

The MTDP III, was formulated around the theme 'Secure Our Future through Inclusive Sustainable Economic Growth'. This theme is expected to be achieved through eight key result areas that are accompanied with several key outcomes with clear, specific, achievable and measurable performance targets. The performance of the MTDP III is expected to be monitored, evaluated and reported on through a Monitoring and Evaluation Framework prescribed in the Plan. Among other objectives, the performance measure should assist in (i) assessing the effectiveness and results of national policies, plans, strategies, programmes, and projects; and (ii) build a system to collate and analyze data to inform future evidence-based planning and decision-making.

Given the requirement for performance measurement, official statistics becomes an essential requirement to achieve this requirement. Thus, we have a very critical role to play in the monitoring and measuring of performance independent of the affected sectors and agencies through collection, analysis and production of official statistics. For example, key result area (KRA) 1 in the MTDP III is for Increased Revenue and Wealth Creation which has seven (7) outcomes that can be easily measured through various sets of statistics under NSO's Economic Statistics Division.

4.2 PNG Strategy for the Development of Statistics, 2018-2027

The PNGSDS guides the management and coordination of statistics in the NSS. The strategy recognizes the importance of a reliable statistical system for the country that will integrate and manage all valuable statistics for evidence-based decision-making to guide development. It addresses challenges with disintegrated, uncoordinated and poorly managed statistics that the country has faced over the past years. It also provides an overarching statistical framework to ensure a system and process for a comprehensive, effective and sustainable collection, compilation and application of statistics in the country.

The PNGSDS has recommended key strategic themes with their own set of programmes, sub-programmes and activities. They are:

(i) Ad Hoc Committee, and (vi) National Data Collection Centre
(ii) Strengthening the coordination of the NSS,
(iii) Developing human resource capacity of the NSS,
(iv) Strengthening the quality of the NSS products, and
(v) Dissemination, accessibility and utilization of statistical information.

The NSO coordinates the implementation of the PNGSDS through a NSS Coordination Structure (NSSCS). The NSSCS coordinates and manages the sources of statistical information, quality, reliability and timeliness and pool statistical information into a National Data Collection Centre. Some of the committees under the Structure include:

(i) PNGSDS Steering Committee,
(ii) Technical Statistical Committee,
(iii) Statistical Working Group,
(iv) Ad Hoc Committee, and (vi) National Data Collection Centre.

The PNGSDS has identified five (5) strategic themes that forms the spine of an Action Plan as shown here.

Figure 2: Strategic Themes for Reform and Improved Performance

5.0 CHALLENGES AFFECTING PERFORMANCE OF THE NSO THAT DEMAND REFORM

5.1 Government Decisions and Policies for NSO Reform

The challenge of statistics in its various forms including its availability, reliability, accuracy, relevance and timeliness had been highlighted in various documents by various stakeholders. This challenge continues to affect all manners of statistics utility across all sectors and stakeholders including the National Statistical System.

National Executive Council Decision No. 135/2010 expressed concern about lack of statistics for informed decision-making and evidence-based planning, and directed for the development of a national strategy for developing statistics.

Again, National Executive Council Decision No.162/2014 acknowledged the poor state of statistics and the need to reform the NSO. It directed that the NSO be reformed to address a situation of 'persistent and chronic failure to produce timely and quality economic, social and demographic statistics.

The NSO reaffirmed the dire and increasing need for accurate and reliable data and statistics by government, businesses and general users. It further reflected on the current staff capacity and capability at NSO that affects performance and sustains its core statistical services comparative to the Asia/Pacific region.

The work based on the above NEC Decisions culminated into the formulation of the PNGSDS. The PNGSDS has listed some of the contributing factors that results in this challenge and some of them include: lack of resources for timely collection, analysis and production of statistics, inaccurate and low quality of data, lack of free flow of information and data between agencies, difficulties in accessing data due to confidentiality requirements, and lack of coordination between the NSS agencies.

The MDGs 2nd National Progress Comprehensive Report for 2010 indicated a serious issue with completeness and reliability of data in the country inhibiting measurement of global indicators. Consequently, informed and evidence-based policy decision-making and development planning is impossible at best.

The same report highlighted the on-going issues associated with accurate understanding of various aspects of PNG's population including demographic characteristics such as population size, growth, structure and distribution and demographic processes of fertility, mortality and migration. There is a wide range of estimates (from 2.3% to 3.5% growth rates per year) for population growth rate in PNG.

The report also stated that much information on PNG included in international databases and websites is not based on measurement but imputation and projections and therefore it often does not represent the real situation in PNG.

In reporting on the MDG's progress in 2004 and 2009, the analysis confirmed an unsatisfactory progress due to PNG's 'very incomplete and deficient database'. A dedicated report dealing with the problems of data availability, completeness and accuracy in PNG was produced.

UNICEF in its 2017 Annual Report for PNG has highlighted in relation to identification and treatment of severe acute malnutrition in the country as 'data are lacking on the exact levels of acute malnutrition and stunting but they are likely to be very high'.

Apart from general perspective that NSO fails to produce vital statistical information on time and of quality there are many administrative, operational, and technical challenges that can be identified and explained anecdotally, the following are some of the areas that affects NSO's performance include:

1. Delays in Producing the National Accounts on Time;
2. Delays in Undertaking National Population and Housing Surveys on time and make available analyzed data;
3. Ineffective Business Surveys;
4. Networking efficient data collection systems from subnational Governments lacking;
5. Failure to develop cost effective ways of collecting data, including the conduct of National Surveys;
6. Failure to effectively coordinate statistical systems among State agencies;
7. Failure to develop technical skills based with Statistical Research and Development capabilities; and
8. Failure to establish statistical units within provincial and sectoral agencies as required by the Statistical Services Act 1980.

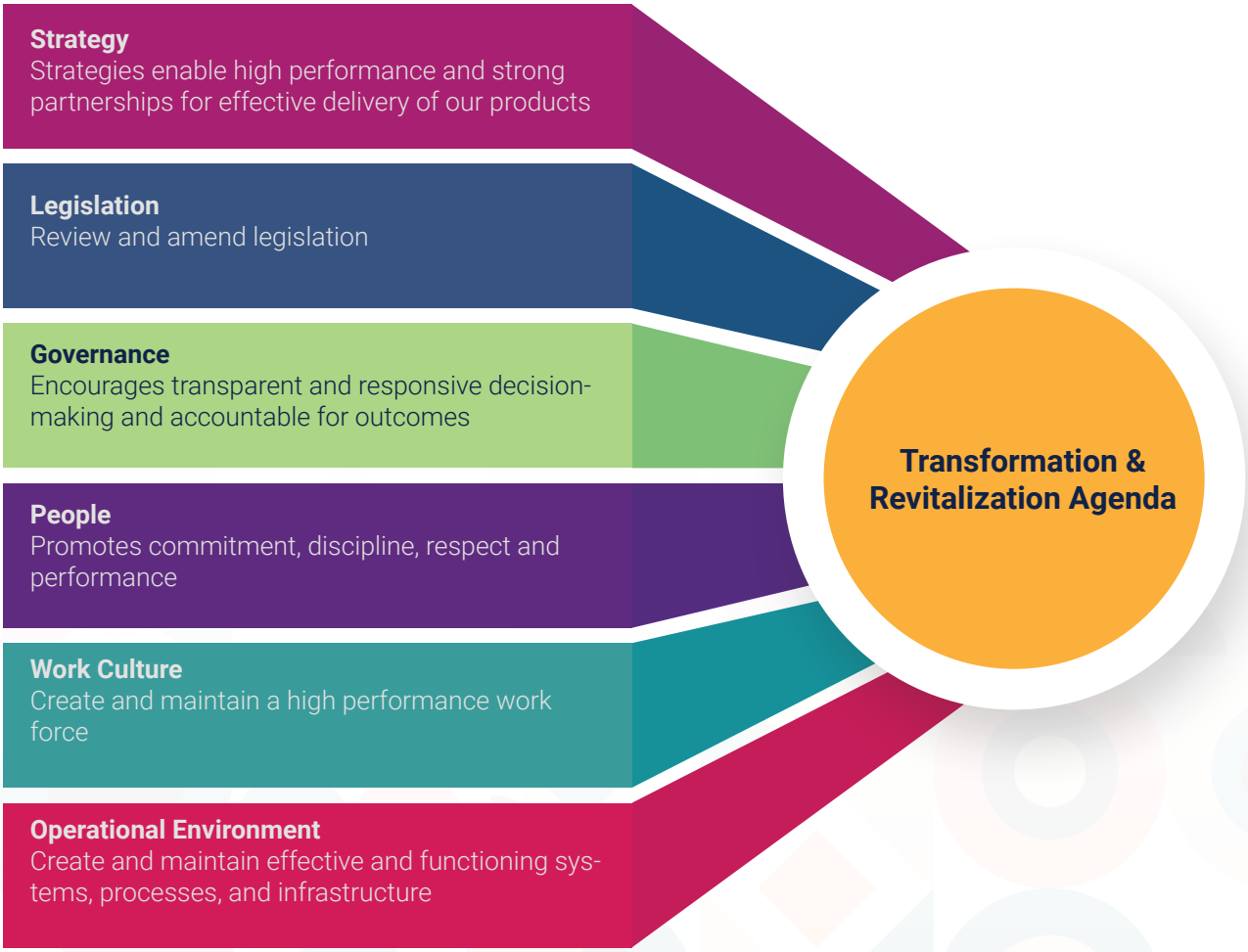
The Government also realized that the NSO has not performed to expectation in providing quality statistics on a timely basis for informed decision-making and evidence-based development planning and directed relevant Government departments responsible for producing and using statistics to improve the situation by developing the National Strategy for the Development of Statistics and directed in NEC Decision No. 135/2010. In 2014, the NEC deliberated on the poor state of statistics and the need to overhaul the NSO. The NEC Decision No.162/2014 directed the Department of National Planning and Monitoring and the Department of Treasury to take charge of reforming the NSO.

Figure 3: Strengthening Governance Systems and Processes

5.2 Main Reasons for NSO's Underperformance

1. Lack of sufficient funding from the National Government and Development Partners;
2. Failure to maintain and train skilled personnel due to funding constraints;
3. Lack of demand placed on the products from NSO by both the Government and private;
4. The Government has no keen interest and demand on what NSO should produce for policy decisions and monitoring of development progress;
5. Systemic weaknesses within the administrative structure;
6. Lack of vision and drive from Government and NSO Administration to develop the statistical system;
7. Failure to adopt skills set and technology in the development of the statistical system
8. Lack of fully coordinating the statistical collection, compilation, and dissemination among State agencies by NSO;
9. Statistical Services Act 1980 has not empowered NSO enough to demand and collect timely data and information from businesses and other State agencies;
10. Penalties for non-compliance on providing periodic data from businesses, banks, and other organizations have not been enforced or too lenient; and
11. Research and Development as an organization had been lacking resulting in NSO not being innovative and evolving as an organization.

Figure 4: Transforming and Progressing into the Future



6.0 THE ROLES AND KEY RESULT AREAS OF THE REFORMED AND REVITALIZED NSO

6.1 Drivers for the Reform and Revitalization of NSO

The key drivers that necessitate the reformation and revitalization of NSO include:

1. The demand for vital timely and accurate Data and Statistics is now growing among the key following clients.
2. Government – For Evidence-based Policy Decision, Planning, and Monitoring the progress of Economic and Social Development.
3. Development Partners and Global development advocacy agencies such as the United Nation to monitor SDGs 2030, Human Development Indexing, World Bank Classification on Income Level, and many others.
4. Private sector investors who want to use data and statistics to aide investment decisions in the Minerals, Agriculture, Forestry, Energy, Fisheries, Manufacturing, and Tourism Industries.
5. Researchers and academic institutions the world over who require timely and accurate both time-series and cross sectional analyzed /unanalyzed data.

As recommended by the IMF-ABS Mission and consistent with the recommendations in the PNGSDS and the MTDP III, NSO endeavors to undertake the reforms in the key functional areas of the organization for achieving the expected quality and timely statistical outcomes. Key areas for reform are grouped into three areas with certain action items adopted from the PNGSDS.

Table 1: Reform Focus and Action Areas Matrix

Main Focus Areas	Action Areas	Examples of Action Items
Executive and Organizational Management	(i) Establish a Coordination Framework	Formalize NSS coordination structure
	(ii) Develop Human Resource Capacity	Statistical Training, ICT training
	(iii) Review Statistical Services Act, 1980	Review for amendments to legislation
	(iv) Implement Organization Reform.	Operationalize approved structure
Strengthen NSS Products	(i) Timely and quality production of timely economic and financial statistics.	Timely and accurate production of National Accounts (GDP –actuals)
	(ii) Timely and quality production of Social Statistics	Health, Education and Law and Justice statistics
	(iii) Timely and quality production of Demographic and Population Statistics	Population growth, distribution and movement statistics
	(iv) Production of other Statistics for Transport and Utilities.	Transport and utilities accessibility statistics
Disseminate, Access and Utilize Statistics	(i) Disseminate final statistics products to end users and the NSS members.	Subscribe to IMF General Data Dissemination System and Special Data Dissemination Standards.

	(ii) Improve access to statistical products.	Publication of National Summary Data Sheet annually.
	(iii) Improve ICT capacity for efficiently and timely dissemination and accessibility.	Establish capacity to disseminate statistics widely through ICT.
	(iv) Establish provincial and regional capacity for dissemination and accessibility.	Establish and fund appropriate provincial and regional NSO offices.

6.2 Strategic Actions for Reform and Revitalization

Figure 5: Expected Outcomes of the Proposed Reform and Revitalization of NSO

The NSO will undertake the following actions in its endeavor to reform revitalize the organization:

Action 1: Implement the PNG Strategy for Statistical Development (PNGSDS 2027) with Development partners' assistance.

Action 2: Complete the 2020 Population and Housing Census by 2021, working closely with Common Roll update and NID for biometric election by 2022.

Action 3: Restructure the NSO Administratively to undertake expanded statistical collections responsibilities as outlined and as required by the PNGSDS 2027.

Action 4: Legislative amendments to the Statistical Services Act 1980 and other enabling legislations to make NSO more relevant and effective.

Action 5: Sign new Memorandum of Understandings (MOUs) with Customs, Internal Revenue Commission, Bank of PNG, and others to share more disaggregated data from their systems to produce the National Accounts, Trade and Income Statistics, and others as required.

Action 6: As required under PNGSDS 2027 sign MOUs with Key Statistical Producing State Agencies such as Education, Health, Department of Community Development and Civil Registry, PNG Electoral Commission, Police Department, Department of Agriculture, and others for collaborations and quality generation and production of data.

Action 7: Expand and equip Training and Development Division under the New Administrative Structure with appropriate skillset and technology to provide training and support to key data generating State Agencies, Provinces, and District.

Action 8: Undertake thorough assessments on State Agencies, Provinces, and Districts on administrative, capacity, and staff requirement for establishing Statistical Divisions within the organizational structures and recommend to the Public Service Commission.

Action 9: Seek accreditations to Global and Regional Statistical bodies and collaborations with Statistical Offices of neighboring countries.

6.3 Institutional Harmonization between NSO on Socio-economic Data

NSO will take the lead in coordinating the harmonization of the Socio-economic Information Databases generated from National Population Census and other socio-economic surveys with other data bases within the NSS.

The objectives are to:

1. Develop a system of generating data that are compatible for uses more systematically and cost effectively,
2. The ability of the system to use the generated population information databases to collect more disaggregated data on access to financial services and banking, economic activities, health activities, education activities, travels and migration, death and birth, among many others,
3. Able to use the Population Information Database to compare, analyze and establish the frame for important events such as the National General Elections (NGE) and registration of the population.

The harmonization exercises should focus on the following key activities:

1) National Electronic Identification System (NID)

- Establish clear legislation and enabling policy to pursue Civil Registration and NID up-scaling of the current ongoing efforts through more engaged approach with

provincial and District Governments.

- Explore efficient and convenient technological infrastructure and systems to roll out NID.
- Complete NID Project or biometric system by or before end of 2021.

2) **The Common Roll**

- Reform the Common Roll system to be more cost-effective and in sync with population data and NID.
- Establish Oversight Committee for Electoral Commission – Amend Law to effect this.
- Involve provincial and local level government's commission officers for common rolls updates to save cost.

3) **The Integrated Government Information System and Network to Promote e-Government:**

- Revive and revitalize the IGIS Project.
- Connect all Government departments, Provincial, and District Governments with information and communication technology.
- Infrastructure requirements, technical capabilities, and investment needs must be assessed and actions taken appropriately

7.0 EXPANDED STATISTICAL AREAS NSO WILL PURSUE

ities due to constraints identified to undertake new challenges given the change in scope and scale of the economic and business structure and the many statistical demands placed on it by its many clients. NSO will now expand its scope to cover many statistical areas to collect and publish
statistical information from its own domain and from state agencies.

NSO basically collects and produces statistics from limited and periodic National Census and various surveys as special projects. Most of the statistics are produced by other state agencies in the NSS using their administrative data and other surveys. NSO will ensure to conduct quality checks for statistical methodology, scope and coverage as quality control measures for compliance to UN Principles of Official Statistics and Data Quality Assessment Framework.

NSO's current statistical collection by type and sources as outlined under the PNGSDS 2018-2027 are listed in the table below.

Table 2: Core statistics and key statistical agencies in the NSS

Statistics/ Indicators	Data Source/Activity		Agency Responsible
	Administrative	Survey/Census	
Economic sector			
National Accounts (GDP)	Trade statistics, Banking & Finance data, Government Finance Statistics, (GFS), tax data/ statistics	Census of Business Activities (CBA), Business Liaison, Survey (BLS), Consumer Price Survey (CPS)	NSO/Bank of PNG (BPNG)/ Internal Revenue Commission, (IRC)/PNG Customs/ DoT/Dept. of Finance (DoF)
Quarterly and annual inflation rates		CPS for Consumer Price Index (CPI)	NSO
Employment & unemployment data		National Population & Housing Census (NPHC), BPNG, Employment Survey, Dept. of Higher Education, Research, Science & Technology Graduate Destination Survey (GDS), CBA	NSO/BPNG/Labour & Industrial Relations/ Department of Higher Education/Research, Science & Technology (DHERST)
	Tax returns, duty tax		PNG Customs/IRC
Household income and wage rates (rural versus urban)	Minimum wages determination	Household Income & Expenditure Survey (HIES)	NSO/Minimum Wages Board
Agricultural productivity (meat, coffee, cocoa, oil palm, copra)	Commodity Board Annual Report	National Agriculture Survey (NAS), CBA	Commodity Boards/ DAL/ NSO
Fisheries exports (Tuna, prawn)	Trade statistics	CBA	National Fisheries Authority/NSO
Timber (value of total exports)	Trade statistics	CBA	National Forest Authority/

Customs/NSO			
Value of crude oil production and exports, LNG revenue	Trade statistics	CBA	Dept. of Petroleum & Energy/ PNG Customs/IRC/NSO
Imports and Exports (volume, revenue)	Trade statistics	CBA	PNG Customs/IRC/ NSO
Satellite accounts - statistics on environment, tourism, climate change	Administrative statistics from TPA, Environment & Conservation and Office of Climate Change	CBA	Tourism Promotion Authority (TPA)/ Conservation & Environment Protection Authority (CEPA)/ NSO/ Climate Change Development Authority (CCDA)
Ease of doing business		Financial Capability Survey	Institute of National Affairs (INA)/ BPNG/ World Bank/IPA
Social sector			
Poverty		HIES	NSO
Human Development Index	Education statistics, Health statistics, Trade statistics, Poverty statistics	School Census, Demographic & Health Survey (DHS), HIES, NPHC, CBA, BLS	NSO/BPNG/PNG Customs/DoT/DoE, Department of Health
Population growth rate, Urban/rural population		NPHC	NSO
Internal migration and urbanization (rural to urban)	Office of Urbanization statistics	NPHC	NSO/Office of Urbanization
Land access	Lands & Physical Planning Annual Report		Department of Lands & Physical Planning (DLPP)
Health			
Infant mortality rates (up to 12 months, under five), maternal mortality rates, life expectancy, fertility rate, morbidity rate	Health Annual Report, National Health Information System (NHIS)	NPHC, DHS	NSO/DoH
Crude birth rate	Vital statistics, Health Annual Report, NHIS	NPHC, DHS	NSO/DoH/Civil Registry Office (CRO)
Supervised deliveries, Ante-natal care, immunization overage	Health Annual Report, NHIS	DHS	NSO/DoH
Education			

Net admission rate	Education Annual Report	School Census	DoE
Net enrollment rate, gross enrollment rate, completion rate (Grade 8), Sex enrollment ratios (grade aggregated, age aggregated)	Education Annual Report	School Census, NPHC	DoE/NSO
Retention rate, average class size, teacher to pupil ratios	Education Annual Report	School Census	DoE
Literacy rates - Youth & adult	Education Annual Report	HIES, NPHC, DHS	NSO/DoE
Higher Education			
Enrollment, Graduates (tertiary education), capacity of various institutions & growth in capacity	DHERST Annual Report	GDS, NPHC	DHERST/NSO
Skilled workforce.	DHERST Annual Report, DHERST, Labour Report, Labour Annual Report	NPHC, Labour Force Survey (LFS)	NSO/Department of Labour & Industrial Relations/DHERST
Transport			
Percentage of national roads in good condition	Transport Annual Report, Works Annual Report		National Roads Authority/ Department of Transport/DoW
No. of wharves, jetties, ports	Ports Annual Report		PNG Ports
Airstrips, Airports	National Airports Annual Report		National Airports Corporation/ Dept. of Transport
Safety compliance (Air-ports, Wharves)	CASA Annual Report NMSA Annual Report		Civil Aviation Safety Authority/ National Maritime Safety Au-thority
Utilities			
Proportion of population having access to safe water (piped water)	Annual Report	DHS, HIES	Water PNG/Eda Ranu/ NSO
Improved sanitation	Annual Report	DHS, HIES	Water PNG/Eda Ranu/ NSO
Postal services	Annual Report	HIES	Post PNG/NSO
Household with access to electricity	Annual Report	HIES	PNG Power/NSO
Gender			

Gender development index	Health Annual Report	HIES, NPHC, CBA, BLS	NSO, BPNG/PNG/DoH/ Customs/DoT/DoF/ DoE/
Female to male enrollment (in schools)	Education Annual Report	School Census, NPHC, HIES	DoE/NSO
Females in tertiary Institution	DHERST Annual Report	DHERST Annual Survey, NPHC	DHERST/NSO
HIV			
Prevalence	Health Surveillance data, NHIS	Behavioral Surveys, DHS	DoH/NACS/NRI/NSO
% of PLHIV on ART	Health Surveillance data, NHIS	Behavioral Surveys, DHS	DoH/NACS/NRI/NSO

The following are the Expanded Statistical Areas of Coverage by NSO:

1) **National Census**
   - National Population and Housing Census
   - National Economic Census (New)

2) **National Accounts**
   - Extended Areas of Measures of National Income Accounting to include Gross Domestic Products (GDP), Gross Domestic Expenditure (GDE), and Gross National Income (GNI).

3) **International Accounts**
   - Balance on Goods and Services
   - Balance on Current and Capital Accounts
   - Net Foreign Debt by Origin
   - Exports and Imports by Designation and Sources

4) **Consumption and Investment**
   - Consumption pattern by income category and by sector employed category
   - Household Investment Pattern
   - Business investment and expenditure patter
   - Retail turnover at current prices
   - Actual new capital expenditure, in volume terms
   - Inventories held by private businesses, in volume terms
   - Total new motor vehicle sales

5) **Production**
   - Income from sales of goods and services by manufacturers, in volume terms
   - Dwelling unit approvals
   - Building approvals
   - Total dwelling units commenced
   - Building work done - Chain volume measures
   - Engineering construction work done - Chain volume measures

6) **Prices**
   Extend surveys on Consumer Price Index (CPI) to include the following measure of price: Measuring inflation of consumer goods and services, wages, living costs, producer prices, international trade and residential properties

(i) ***Wage Price Index***

To undertake periodic surveys on wage growth by service sectors such as Electricity, Gas, Agriculture services, Water and Waste Services, Health Care and social assistance industries

(ii) ***Selected Living Cost Indexes***

- Accommodation costs by categories
- Energy Costs by industry and household categories
- Cost of accessing services prices

(iii) ***Producer Price Indexes***

- Prices on Final demand (excluding exports)
- Intermediate Demand
- Preliminary Demand

(iv) ***International Trade Price Indexes***

- Import Price Index
- Export Price Index

(v) ***Residential Property Price Indexes***

7) **Labour Force and Demography**

Undertake periodic Surveys on Labour Force and Demographic Health Surveys.

- Employed persons
- Participation rate
- Unemployment rate
- Employment to population ratio
- Job vacancies
- Estimated resident population
- Short-term overseas visitor arrivals

8) **Incomes and Expenditure**

- Undertake Household Income and Expenditure Survey
- Pick up General pattern of Income and Expenditure from NID Service access database
- Company gross operating profits (in current price terms) – from Economic Census
- Average weekly ordinary time earnings, full-time adults

9) **National Agriculture Survey**

Long outstanding survey which must be properly designed and carried out periodically

10) **Lending to Households and Businesses**

- Housing finance for owner occupation, dwellings financed
- Lending to households
- Lending to businesses
- Small and Medium Enterprises Lending and Financing gaps
- Lending for educational purposes

8.0 STRATEGIC PILLARS TO PURSUE UNDER THE REFORM STRATEGY

Under this Reform Strategy, the NSO will actively pursue the collection, compilation and production of quality, reliable and timely data from its own mandated data generation processes and systems and from NSS it coordinates through partnerships arrangements. NSO will be expanding its scope in data collection for official publications under each of the core Economic, Governance and administration, and Social Pillars to effectively monitor the economic and social development and to aide Government on evidenced-based policy and planning decision. In doing so, it will be able to generate statistics and develop statistical methods to produce the Data Requirement to monitor the 305 plus localized SDGs 2030 for PNG to progressively monitor how it fares in pursuing the UN sanctioned SDGs.

Pillar 1: Institutional Safe-guards

Statistical development to measure performance under this Pillar is crucial to avoid instances where International Organizations used unsubstantiated and unofficial data to rank PNG. NSO must fully take charge of these data for official statistical publication.

Table 3: Dimensions and Indicators for Institutional Safeguards

Dimension	Indicators
1. Justice and the rule of law	1) Effectiveness measures of Implementation of anticorruption legislation
	2) Number of people who report paying a bribe
	3) Measure of bribery and corruption
	4) General Rates of Crime
	5) Number of Arrests, Prosecution, and Imprisonment
	6) Rule of Law Index rating or criminal justice score
	7) No of judicial sector personnel per 100,000 or distance from basic legal service providers
	8) Average time to resolve disputes

	9) % of people reporting confidence in accessing effective legal aid service
	10) Perception in the independence of and confidence in the judiciary
	11) Number of men, women and businesses with recognized proof of their rights to land and other assets
	12) Rates of presentence detention
	13) Measures of Universal access to complaint mechanisms (e.g., ombudsman) Effectiveness measures of Implementation of anticorruption legislation
	14) Number of people who report paying a bribe
	15) Measure of bribery and corruption
	16) General Rates of Crime
	17) Number of Arrests, Prosecution, and Imprisonment
	18) Rule of Law Index rating or criminal justice score
	19) No of judicial sector personnel per 100,000 or distance from basic legal service providers
	20) Average time to resolve disputes
	21) % of people reporting confidence in accessing effective legal aid service
	22) Perception in the independence of and confidence in the judiciary
	23) Number of men, women and businesses with recognized proof of their rights to land and other assets
	24) of presentence detention
	25) Measures of Universal access to complaint mechanisms (e.g., ombudsman)
2. State and stability of democratic institutions	1) Characteristics of political authority
	2) Level of institutional and political stability
	3) Competitiveness of political participation
	4) Constraints on executive power
	5) Process of executive recruitment
3. Civilian control and accountability	1) Judicial and parliamentary oversight
	2) institutions and accountability mechanisms
	3) State of civil society and public access to information
	4) Role of state monopoly on violence in politics
	5) Rule of law
	6) Institutional integrity
	7) Existence of anti-corruption mechanisms
	8) Perceived corruption levels
4. Openness, transparency and access to information	1) Measures of Right to information legislation in place.
	2) National Open Data Policy in place
	3) Score on Open Budget Index

	4) Adoption of a global open data standard/Chart
	5) Measures of Skills and literacy of citizens
	6) Measures of public participation and commitment to open government
	7) Open Budget Index score
	8) Measures of Freedom of Information Act
	9) Existence of legislation on corporate reporting that requires companies to report on social and environmental impacts
5. State capacity and institutional effectiveness	1) Reduction in the gap between proposed and executed budgets (aggregate spending and to particular functions/areas)
	2) Population figures used as a basis for political representation and budget allocation are updated annually on the basis of best available information – under-pinned by regular periodic population census'
	3) Increased use of e-governance at national and local levels
	4) Increased satisfaction with government performance (possibly by sector/area)
	5) Increase in levels of domestic resource mobilization
	6) Increase in tax levels as a proportion of GDP
6. Freedom of expression, association and participation	1) Improvements in Freedom of Assembly and Freedom of Association Index
	2) number of journalists intimidated and suppressed
	3) Indicators of freedom of speech and press, freedom of political choice
	4) Rule of Law index score on participation
	5) Existence of national and local oversight bodies
	6) Number of people who report participation
	7) Proportion of public who believe they can receive timely services without paying a bribe
	8) % voter turn- out in national and local elections
	9) % of voting age population registered to vote
	10) % of seats held by women in parliaments or national assemblies
	11) public participation in political processes and civic engagement at all levels
7. Equity and inclusion	1) Measures of discrimination and inequalities in public service delivery, the rule of law, access to justice, and participation in political and economic life on the basis of gender, ethnicity, religion, disability, national origin, social or other status
	2) Data disaggregated by region, gender, age, ethnicity and other key markers
	3) Budget process allows for resources to be allocated on the basis of need (e.g., to address inequalities by region, ethnicity, gender and so on)
	4) Measures of child mortality, school attendance, learning outcomes and so on.

Pillar 2: Natural Capital

The Strategic Assets we have under this Pillars need accurate and timely data to develop and monitor its stocks and flows to maximize the economic returns and increased wealth creation for Papua New Guineans:

Table 4: Dimensions and Indicators for Natural Capital

Dimension	Indicators
STRATEGIC ASSET 1: LAND DEVELOPMENT	1) Land areas in the formal market including customary land
	2) Total land alienated before independence (by Colonial administration)
	3) Total land alienated by state after independence
	4) Number of registered ILGs in the country
	5) Number of registered urban settlements
	6) Total land areas that are under urban development
	7) Total Land areas that have major agricultural plantations & cattle farms.
	8) Land areas that are covered by mining and petroleum exploration licenses.
	9) Land area that is covered by forest
STRATEGIC ASSET 2: a) Agriculture	1) Proportion (%) population in coffee farming
	2) Proportion (%) population in cocoa farming
	3) Proportion (%) population in coconut farming
	4) Proportion (%) population in Palm Oil production
	5) Proportion (%) population in rice farming
	6) Proportion (%) population in spices farming
	7) (%) population engage in rubber
	8) Proportion (%) employed in tea.
	9) Total coffee exports ('000 tons)
	10) Total Receipts from coffee (K'million)
	11) Total cocoa exports ('000 tons)
	12) Total Receipts from Cocoa (K'millions)
	13) Total copra exports ('000 tons)
	14) Total coconuts products exports ('000 tons/litres)
	15) Total receipts from coconut products (K'million)
	16) Total exports of Palm Oil ('000 tons)
	17) Total receipts from Palm Oil (K'million)
	18) Total exports of rice ('000 tons)
	19) receipts from rice (K'million)
	20) Total exports of spices
	21) Total receipts from spices (K'million)
	22) Urban and peri-urban gardening.
	23) Proportion (%) of Population engaged in animal farming.

	24) Total volume of fresh meats produced locally (tons).
	25) Proportion (%) of Population engaged in food crops farming.
	26) Funding to NARI
	27) Total exports from rubber ('000 tons)
	28) Total receipts from rubber (K'million)
	29) Total exports from tea ('000 tons)
	30) Total receipts from tea (K'million)
	31) GDP contribution by Agriculture
	32) Total formal employment in Agriculture
	33) Total receipts in from Agriculture
	34) Livestock
	35) Total Imports of live animals
	36) Total imports of fresh meat ('000 tons)
	37) Total imports of fresh meat (K'million)
	38) Total imports from animal products (dairies) ('000 tons)
	39) Total imports of animal products (diaries) (K'million)
	40) Number of cattle farms in the country
	41) Number of Abattoirs
	42) Total output ('000 tons)
	43) Formal Employment in the sector
	44) Contribution to GDP
	45) Total Receipts (K'million)
	46) Food Security
	47) Acres of land used for commercial food production (hectares).
	48) Average volume of sweet potatoes produced.
	49) Average volume of English potatoes produced.
	50) Average volume of rice production (metric tons).
	51) Volume of fresh fruits produced locally (tons).
	52) Volume of vegetables produced locally (tons).
	53) Total land areas used for Horticulture fruit trees
	54) Total arable land area in PNG suitable for agriculture
b) Agriculture and Rural Development	1) Share of organically produced farming products.
	2) Tons of yield per tons of fertilizer for wheat, rice, sorghum.
	3) Tons of yield from irrigation versus dryland agriculture for wheat, rice and sorghum.
	4) Level of implementation of code of conduct on the distribution and use of pesticides.
	5) Percent of post-harvest losses of plant and animal products.
	6) Disease resistance of animals: annual veterinary cost.
	7) Number of people working in agriculture per farm owner.
	8) Percent fertile soil not used for agriculture.

	9) Share of marginal land in total land cropped for national food supply.
	10) Area affected by degradation, i.e., water logging, salinization, erosion.
	11) Share of rural area (as compared to urbanized area) in population, total income and public revenues.
	12) Number of teachers, doctors and nurses per 10,000 inhabitants in rural and urban areas.
	13) Percentage of national budget for development plans of a) industrial, b) rural sites.
STRATEGIC ASSET 3: a) Forestry & Bio-diversity	1)Total forested area (hectares)
	2) Proportion (%) land with afforestation
	3) Proportion (%) land under reforestation plantations
	4) Total round logs exports annually (metric tons)
	5) Proportion (%) total forest harvest is processed onshore.
	6) Total land areas taken handed over for SABL projects (%)
	7) Formal Employment in the sector
	8) Contribution to GDP (%)
	9) Total Receipts (K'million)
b) Environment Management	1)Eco-system fragmentation by infrastructure development.
	2) Total ground water abstraction as share of ground water generation.
	3) Share of rivers and streams with drinking water quality.
	4) Share of households, agriculture and industry in water consumption.
	5) Distance travelled per capita by mode of transport per gender.
	6) Number of road vehicles.
	7) Share of waste and hazardous waste in i) non-organized disposal, ii) organized disposal, recovered and recycled, iv) traded internationally.
	8) Percentage of territory covered by public/private waste management systems.
	9) Total material requirement.
STRATEGIC ASSETS 4: MARINE RESOURCES (FISHERES)	1)Estimated tuna stock – proportion (%) of world's Tuna
	2) Total annual tuna export (metric tons)
	3) Tuna License fees annually
	4) Total receipts from Tuna (K'million)
	5) Total receipts from other marine products (K'million)
	6) Processed fisheries exports volume (tons)
	7) Receipts from processed fisheries exports (K'million)
	8) Proportion (%) of population engaged in fishing farming
	9) Total exports of organic tilapia (volume – metric tons)

	10) Total exports of barramundi (volume – metric tons)
	11) Total receipts from aquaculture (K'million)
	12) Total employment by the sector
	13) Fisheries Contribution to GDP (%)
STRATEGIC ASSETS 5: MINERALS AND ENERGY RESOURCES a) Mining	1) No. of Mining Operations
	2) No. of Mining Exploration Licenses
	3) Exploration Expenditure (K'million)
	4) Volume of Gold Exports
	5) Volume of Copper Exports
	6) Volume of Nickel Exports
	7) Volume of Silver Exports
	8) Mineral Exports Receipts (K'million)
	9) Government Revenue from Minerals (K'million)
	10) Mining Contribution to GDP (%)
	11) Total Employment in Mining
b) Petroleum	1)No. of Petroleum Licenses
	2) Petroleum Licenses Expenses
	3) Volume of Crude Oil Production (Barrels)
	4) Oil Reserves
	5) Refinery Production
	6) Refinery Sales volume
	7) Petroleum Exports Receipts (K'million)
	8) Government Revenue from Petroleum Exports
	9) No. of LNG Projects
	10) Volume of LNG shipped
	11) LNG Exports Receipts (K'million)
	12) Government Revenue from LNG (K'million)
	13) Energy generated from LNG (MW)
	14) Contribution of Petroleum to GDP
	15) Contribution of LNG to GDP
	16) National Employment from Petroleum
	17) National Employment from LNG
STRATEGIC ASSET 6: FOREIGN RELATIONS AND TRADE a) Foreign Policy	1) Performance of Exports
	2) Number of countries with diplomatic relations to mobilize more support to growth and security of PNG and Pacific Island Region.
	3) Number of regional/international meetings which PNG chairs.
	4) Candidates to compete in the Regional and International Organizations seats (e.g.: Non-Permanent Seat of the UN Security Council)
b) Immigration	1) Proportion of foreigners entering PNG for business purposes
	2) Proportion of persons (Papua New Guineans) leaving PNG for business and employment purposes
	3) Turn-around timeframe for processing PNG Passports
	4) Turnaround time of processing visas

	5) Proportion of foreign nationals removed from PNG who breached visa conditions and other PNG laws
c) Foreign Direct Investment	1) FDI Inflows in million
	2) FDI stock reached in USD.
	3) FDI attractions by key sectors.
d) Replacing Skills-Gap	1) Number of Non-Citizen Technical workers with work permit by Industries
	2) Number of Technical Skills Jobs Manager
	3) Number of Machinery Mechanics
	4) Number of Technical Trade Coordinators
e) Research & Development	1) No. of Policy Research Institutions
	2) No. of Science Research Institutions
	3) No. of Technical Research and Development Institutions
	4) Total Public investment in Research and Disease.
	5) Number of innovation/manufacturing as a result of Research, Science and Technology Development.
	6) Number of Intellectual Property Registration

Pillar 3: Economic and Business Capital

The Economic and Business capital provides the engine for growth and development in a modern economy. As such the Government need accurate and timely data to make economic decisions and to provide relevant conducive policy environment and regulations for business and commerce to sprout and develop to provide a robust source of employment, wealth creation, capital and financial deepening, and broaden Government solid revenue base:

Table 5: Dimensions and Indicators for Economic and Business Capital

Dimension	Indicators
1. Government Finance	1)Taxes
	2) Taxes on Income, Profits and Capital Gains
	3) Payable by corporations and other enterprises
	4) Other taxes on income, profits and capital gains
	5) Taxes on Goods and Services
	6) General Taxes on Goods and services
	7) Value Added Tax
	8) Excise
	9) Excise Duty
	10) Import Excise
	11) Taxes on exports
	12) OTHER REVENUE
	13) Dividends

	14) Mining Petroleum and Gas Dividends
	15) Dividends from Statutory Authorities
	16) Government Expenditure
	17) Operational
	18) Capital
	19) Public Debt Stock
	20) External Debts
	21) Domestic Debts
2. State owned Enterprises	1)SOE portfolio profitability
	2) Portfolio's ROA and ROE
	3) Government debts in SOEs
	4) Government equity shares in SOEs
	5) Dividend payments from SOEs to Government
3. Small and Medium Enterprises	1) No. of Registered MSMEs
	2) No. of MSMEs owned by indigenous nationals
	3) No. of foreign owned MSMEs
	4) Women engaged in MSMEs
	5) MSMEs having access to financial credits
	6) Employment in MSME sector
	7) MSME contribution to GDP
	8) SME Employment
	9) Per capita income from SME
	10) Citizen control over the formal economy
4. Manufacturing	1) Value of manufacturing production (K'million)
	2) Value of manufacturing exports (K'million)
	3) Manufacturing – Foreign equity (K'million)
	4) Employment in manufacturing
	5) Contribution to GDP (%)
5. Tourism	1) Total Tourist Arrival
	2) Holiday by Air
	3) Holiday by Cruise Ships
	4) Business Travel
	5) Total Tourism Receipts into the national economy.
6. External Accounts	1) Trade Balance
	2) Services Balance
	3) Capital Account Balance

Pillar 4: Enabling Infrastructure Capital

The Transportation infrastructure and the modalities are critical enablers that allow business, economic, and social services to be more dynamic. The Government for Planning and Budgeting purposes need to know the number of roads, jetties, and airports in good conditions and when and where to build new or maintain existing transport assets. Having readily available data on transport enablers is a critical requirement for running a modern economy.

Table 6: Dimensions and Indicators for Enabling Infrastructure Capital

Dimension	Indicators
1. Road Transport	1) Total Length of National Roads and Bridge (km)
	2) Proportion of National Roads sealed (%)
	3) Proportion of national roads in good (trafficable) condition (%)
	4) Estimated length of provincial and district roads km
	5) % of urban roads in good condition (National & Provincial/ Urban Council)
	6) Total km of new roads upgraded to national roads status in a year (km)
	7) Estimated number of bridges on national roads
	8) Proportion of bridges on national roads in good condition (%)
	9) Estimated number of bridges on provincial and district roads
	10) Proportion of bridges on provincial and district roads in good condition (%)
	11) Total number of bridgeless rivers used by motorist in one year
	12) Number of missing link roads constructed
	13) Safe transport services – total registered PMV and taxis
	14) Total number of registered PMV drivers
	15) Number of road transport accidents
	16) Number of Casualties of road transport accidents
2. Marine Transport	1) Number of operational national ports
	2) Number of declared ports handling international cargoes
	3) Import, Export and Total international cargo tonnage and TEUs through the declared ports
	4) International Ports turn-around time
	5) Annual cargo throughput/volumes (tons)
	6) Number of small wharves and jetties
	7) Proportion of small wharves & jetties in good condition
	8) Number of licensed small water crafts operating in the country
3. Air Transport	1) Number of airports upgraded and maintained for higher seating capacity aircrafts
	2) Annual number of passengers using air transports
	3) Annual cargo throughput/volumes (tons)
	4) Number of national airports to comply with international air standards (airport certified) on an ongoing basis
	5) Total number of rural airstrips in the country
	6) Total number of rural airstrips rehabilitated to basic safety standards
	7) Number of airstrips closed
	8) Number of registered airlines serving the rural airstrips
	9) Total number of registered national pilots
	10) Number of Air transport accidents
	11) Number of reported casualties of air transport accidents

Pillar 5: Human Capital

Quality population that has certain level of education and skills at all strata of the population and their ability to become important agents of development by being educated, skilled, employed, and or involve in productive activities are key features of a modern economy that must be measured and accounted for planning and policy decision making purposes.

Table 7: Dimensions and Indicators for Human Capital

Dimension	Indicators
1. Lower Education Services	1)No. of trained teachers in elementary education (Prep to Grade 2).
	2) No. of trained teachers in primary education (Grade 3-8)
	3) No. of trained teachers in secondary education (grade 9-12)
	4) No. of trained teachers in Technical Vocational Training Institutes (TVET)
	5) No. of Secondary School (Gr 11-12)
	6) No. of High Schools (Gr7-10)
	7) No. Primary School (Gr 3-6)
	8) No. of Elementary Schools
	9) Gross Enrolment in Primary Education
	10) Attrition rate in primary education
	11) Attrition rate in Secondary Education
2. Technical Education Services	1) No. of Registered Teacher's Colleges
	2) Number of new Elementary and Primary School Teachers graduates
	3) Number of new Secondary School Teachers graduates
	4) Health Workers Training
	5) No. of Registered Nursing Colleges
	6) Number of new Community Health Workers graduates per year.
	7) Number of new nurse graduates per year
	8) Number of new specialist Medical Doctors graduates
	9) Number of Registered Business Colleges
	10) Number of graduates with business qualification from recognized business colleges.
	11) Number of National Technical Colleges
	12) Number of certified TVET trainers
	13) Number of new technical graduates with technical trade skills
	14) Poly Technical Institutions
	15) Number of technical trades graduates
	16) No of female enrolled in TVET Schools
	17) No. of male enrolled in TVET schools
3. Higher Education Services	1)No. of Registered Universities
	2) Number of University graduates with first degrees in environment and mineral science fields

	3) Number of University graduates with first degree in Agriculture, forestry and fisheries
	4) Number of University graduates with first degree in food science and chemistry.
	5) Number of University graduates with first degree in computer science
	6) Number of University graduates with first degree in mining and petroleum engineering
	7) Number of University graduates with first degree in mechanical and electrical engineering
	8) Number of University graduates with first degree in civil and construction engineering
	9) Number of University graduates with first degree in building, architecture and properties
	10) Number of University graduates with first degree in Business fields
	11) Number of University graduates with first degree in field of Law and Justice
	12) Number of University graduates with first degree in Humanities and Education
	13) Number of University graduates with first degree in Social Science, economic and public policy
	14) Number of University graduates with first degree in Medicine and Pharmacy
	15) Number of University graduates with first degrees in Arts and Music

Pillar 6: Social Capital

The Social capital is an important asset that a nation has. More or so quality population that has certain level of education and skills, in healthy states, living in conducive environment, managing what they have sustainably at all strata of the population are important characteristics that Government must know. People in the society need to develop their ability to become important agents of development by being educated, skilled, employed, and or involve in productive activities in a modern economy.

Table 8: Dimensions and indicators for social capital

Dimension	Indicators
1. Primary Health Care	1) Number of Aid Posts
	2) Number of rural health centers
	3) Number of medical doctors in the districts
	4) Number of trained nurses
	5) Number of trained midwives
	6) Number of trained community health workers.
	7) Number of trained health extension officers
	8) No. of rural health facilities with access to affordable modern medicines & vaccines whole year.
	9) Incidence of suicide mortality rate per year
	10) Proportion (%) of births attended by health personnel.
	11) Maternal mortality rate (%) per 100,000 births
	12) Infant mortality rate (%) per 1,000 live births
	13) Number of reported deaths due to road traffic accidents
	14) Number of reported deaths due to water traffic accidents
	15) Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
	16) Number of deaths for children under 5 years of age
	17) Number of mothers dying from child birth complications
	18) Number of births attended by trained health personnel
	19) Number of pregnant women who receive at least one ANC visit
2. Specialist Health Care	1) Number of specialized hospitals
	2) Number of trained medical doctors
	3) TB prevalence rate per year per 100,000 population
	4) TB Death rate per year per 100,000 population
	5) Incidence of reported malaria patients per 1000 population per year
	6) Incidence of reported Hepatitis B per 1000 population per year.
	7) Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease per year
3. Preventative Health	1) Total funds allocated to nutrition programs
	2) Households having access to clean and safe drinking water
	3) Number of Elementary /Primary schools with Health education programs
	4) Number of Secondary/Tertiary Schools with health education programs
	5) Total mosquito bed nets issues
	6) Total number of condoms/contraceptives distributed

4. AIDS/HIV	1) Number of new HIV infections per 1,000 (uninfected) population by sex and region
	2) Proportion (%) of population with advanced HIV infection with access to antiretroviral drugs
	3) Prevalence rate (%) of HIV/AIDS by sex
	4) Orphan children due to AIDS
	5) % of HIV positive pregnant women on ART (PPTCT)
	6) Degree of Stigma and discrimination as identified by PHA's stigma index
	7) Proportion (%) of condom use by sex at last high-risk sex
	8) Proportion (%) of persons by sex who knows about HIV/AIDS
	9) Prevalence rate (%) of HIV/AIDS among pregnant women aged 15-2
	10) Proportion of population (%) by sex in need of ARV drugs who receive those drugs
5. Vulnerability and Disadvantage Group	1)Recorded disabled persons
	2) Number of legislations and policies protecting the vulnerable and disadvantaged
	3) % of population aware of people with disabilities and their needs
	4) % increase in service providers for the vulnerable
	5) Proportion of government funding to social protection
6. Climate Change	1) Number of meteorological stations
	2) Tide Monitoring Stations
	3) Multi-temporal remote sensing satellite coverage
	4) CO2 emission per unit of value added
	5) Evidence that PNG has communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other).
	6) Evidence that PNG has communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions
	7) Evidence that PNG has received specialized support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities

7. Natural Disasters Preparedness	1) Existence of early warning systems for volcanic eruptions, earth quakes, tidal waves/tsunamis, cyclones, weather patterns, fire from both natural and man made
	2) Timely and prompt response with adequate resources to natural and man-made disasters
	3) Regulate and enforce existing environmental laws which prevent foreseen natural disasters
	4) Develop disaster management projects and programs in all provincial administrations
	5) Establish disaster management offices in all provinces and districts
	6) Institutionalize research and development on disaster management within existing research institutions
	7) DRM Legislation improvement and implementation
	8) Provinces and Districts with DRM Institutional capacity
8. Water, Sanitation, and Hygiene (WASH) Services	1) Proportion (%) of rural population using an improved drinking water source
	2) Proportion (%) of rural population using improved sanitation facilities
	3) Proportion (%) of urban population using an improved drinking water source
	4) Proportion (%) of urban population using improved sanitation facilities
	5) Proportion (%) of health and education institutions with access to safe water and sanitation services

Pillar 7: Administrative and Governance

One of the important features of a modern economy is effective Administration and Good Governance. Without which there will be systemic failures, bottlenecks in administrative and systemic d9livery of processes and goods and services. Without the measures of certain standard benchmarks, effectiveness, sign posts of good governance in terms of checks and balances that keep nepotism, ineffectiveness, corruptions, and leakages at bay, effective administration and good governance will be elusive terms.

Table 9: Dimensions and Indicators for Administrative and Governance

Dimension	Indicators
1. Decentralization and accountability	1) Share of local authorities in total public expenditure.
	2) Number of elected members of parliament/council per 100,000 citizens
	3) Percentage of population involved in locally managed credit systems.
	4) Locally managed credit systems as share of national volume of commercial loans.
	5) Share of municipalities which implement local Agenda 21.
	6) Share of population which takes part in local Agenda 21 processes.
2. Public policies and civil society empowerment	1) Percentage of GDP spent on environment and development policies.
	2) Share of development plans including EIA, social and economic acceptability assessments.
	3) Percentage of environment and development expertise in government consultancy, plus gender shares thereof.
	4) Ratio of full time paid / voluntary sustainability and development experts in a) government, b) business, c) academia, d) NGOs to total staff by gender - Financial support for NGOs as percentage of total subsidies. - Number of people involved in work of NGOs
	5) Number of court cases on claims of violating sustainability legislation per billion dollars GDP.
	6) Share of NGO initiated cases.
	7) Share of national/regional development plans under legal scrutiny due to NGO initiatives.
	8) Share of NGOs entitled to file suit.
3. Education and Research	1) Percentage of research expenditure for sustainability incl. share of gender sensitive R+D
	2) Percentage of interdisciplinary policy relevant research in total R+D budget,
	3) Percentage of public/private partnership of expenditure of sustainability related R+D.
	4) Share of private funding in research for sustainability.
	5) Percentage of sustainability related education in schools and adult education; or time budget spent in grade 5-8 on environmental" syndromes".
	6) Percentage of teachers taking part in training for sustainability education p.a.
	7) share of adult population taking part in adult education programmes (full and part -time).
	8) Share of university professors researching in the field of traditional methods of knowledge as related to share of indigenous people in the total population.
	9) Average number of languages spoken per person.

4. Gender related	1) Similar constitutional and legal rights as men in the area of electoral rights, inheritance, contractual relations, divorce and choice of profession as percentage of limitations referring to these rights (ordinal indicator).
	2) Share of measures to secure baby food
	3) Quality in drinking water investments
	4) Share of water infrastructure plans based on day-to-day water use analysis.
	5) Share of data collection work based on problem definitions developed from the everyday life experience of women, in particular in agricultural, water management and health care research and planning
	6) Relation of average incomes in production and reproduction work.
	7) Share of women earning more than their partners divided by the share of men doing so.
	8) Gender sensitive control mechanisms in legislation and implementation.
	9) Share of gender specific data collection and interpretation as a share of total data collection with reference to population groups Share of gender sensitive research in the research budget per discipline.
	10) Percentage of female experts in expert data bases.
	11) Share of women in the two top levels of the 10 biggest companies, in public administration, national NGOs and interest groups, in parliament and government, amongst professors.
	12) Share of these institutions which have 50% or more women in their two top level positions.
	13) Participants and budget share of top-level training courses specifically dedicated to women.
	14) Average frequency and expenditure for effectivity assessment of plans to reduce gender hierarchies in main organizations.
	15) Share of staff in charge of analyzing conditions of and progress in reducing gender hierarchies.
	16) Share of men in top positions (see above) with demonstrated qualifications in reproductive and care work (e.g., having taken educational time off). Share of official information publications specifically dedicated to gender issues.
	17) Share of research expenditure for these linkages in economics, political sciences, environmental sciences and sociology, and in the national research budget.
	18) Frequency of budget lines including these linkages as a purpose or criterion for eligibility in total institutions support funding of the ministries for research, economics, environment, development
5. Human rights	1)Violations of Human Rights Charta (incl. social rights)
	2) Government ratification of 8 international conventions related to fundamental human rights.

	3) Number of people/percentage of population living in absolute and relative poverty.
	4) Sufficient shelter and nutrition (percent of population).

Pillar 8: National Security and Rule of Law periphery

Having institutions and systems in the country to protect its citizens from threats of lawlessness and crimes as well as having the safeguards to deal with threats from offshore is a requirement of a modern economy. There must be certain indicators and measures the Government will require to know for important policy decisions, planning, making legislations, and implementing them.

Table 10: Dimensions and indicators for national security and rule of law

Dimension	Indicators
1. Violent Conflict and Militarization	1) Foreign policy and military crises
	2) Involvement in internal and external violent conflicts
	3) Military expenditure
	4) Proliferation of arms
	5) Weapons systems in use
	6) Level of structural and cultural violence
2. Vulnerability Indicators	1) Share of imported food in national food consumption
	2) Periphery/accessibility: distance to main trading partners.
	3) Export concentration: share of main products.
	4) Convergence of export destination: share of recipients.
	5) Dependence upon import energy: share of total consumption.
	6) External finance/capital: share of total investment.
3. Indicator on disaster preparedness	1) share of population trained in First Aid,
	2) trained helpers in disaster protection (above 1% of the population),
	3) expenditures for disaster prevention (share of GDP).
	4) Frequency of risk assessments and contingency plans in business.
4. Peace	1)Share of defense spending in national budget.
	2) Share of armament in total industrial exports.
	3) Share of armament in total industrial production.
	4) Peace research expenditure.
	5) Time share of conflict management and de-escalation training in the total education of police and armed forces.
1. Major Reported Crime rate	1)Willful murder/manslaughter per 100,000 population
	2) Major Reported Crime rate
	3) (Hold up robbery per 100,000 population)
	4) Major Reported Crime rate
	5) (Rape per 100,000 population)

	6) Number of Village Courts
2. Court Systems Efficiency	1)District Court case clearance rate
	2) No. of backlogs of cases in the National and Supreme Courts
	3) No. of backlogs of cases in the district courts
	4) Number of village court magistrates in the country
	5) Number of District Court Magistrates
	6) Number of National /Supreme Court Judges
3. Police Reports	1) No of police reports on suicide death per year
	2) No of police report on deaths due to road traffic accidents in the country
	3) No of police reports on deaths due to water traffic accidents in the country
	4) No of reports of victims of intentional homicide per year in the country
	5) Number of reported tribal conflict related male deaths in the country per year
	6) Number of tribal conflicts related female deaths in the country per year
	7) Number of tribal conflict related children (aged 0-18) deaths in the country per year
	8) Number of reported male deaths related to domestic violence per year in the country
	9) Number of reported female deaths related to domestic violence per year in the country
	10) Incidence of non-deaths domestic violence reported in the country per year
	11) Number of willful murder /manslaughters reported in the country per year
	12) Number of organized robberies reported in the country per year
	13) Number of drugs related arrest (growing, consumption & trading) reported in the country per year
	14) Number of arrests related to theft of public funds and public resources reported in the country per year
	15) Number of reported cases of human trafficking in the country per year
	16) Number of police brutality cases reported per year
4. Police Capacity	1)Number of police stations in the country
	2) Number of trained police personals stationed in the country
	3) Number of trained police personnel who are female
	4) Number of police married barracks house
	5) Number of police single quarters barracks accommodation
	6) Number of police officers suspended from duty per year in the country
5. Correctional Services	1) Total Number of Prison in the country
	2) Total number of trained CS personnel

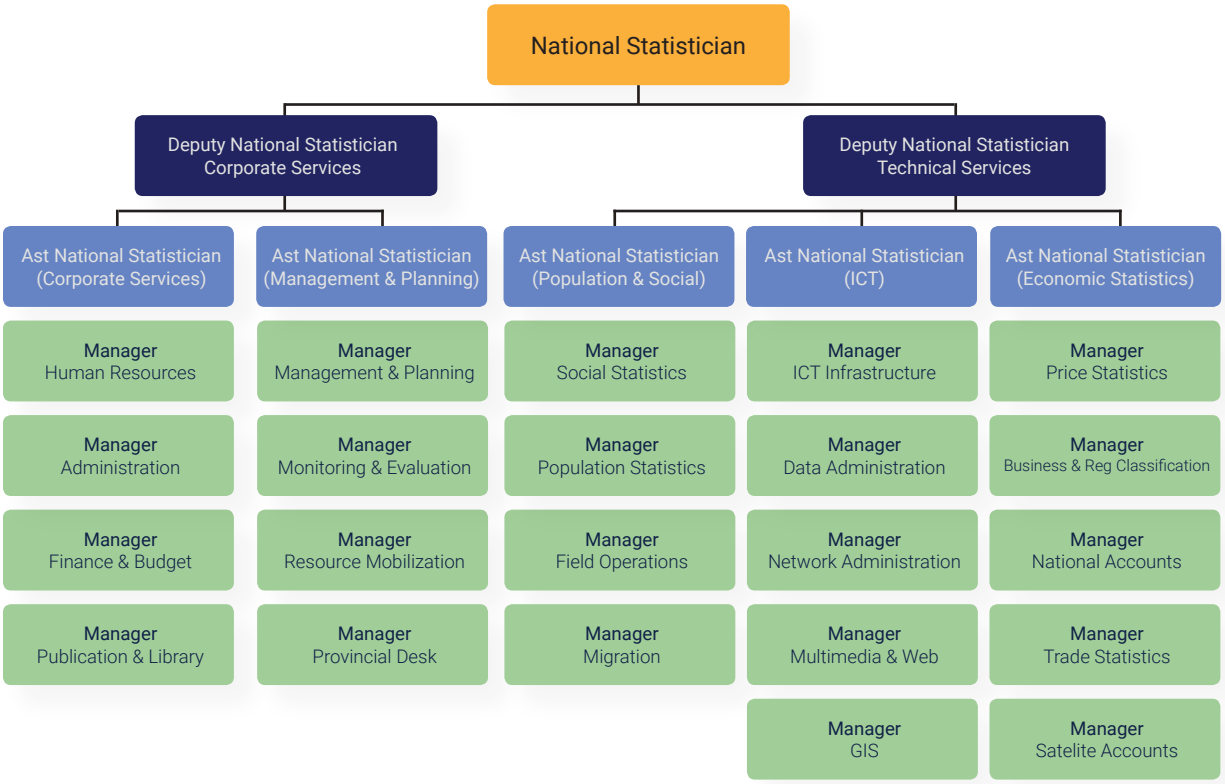
	3) Total number of new inmates entering prison per year
	4) No. of prisoners released on parole annually
	5) Number of escapes annually
	6) Total female inmates per year
	7) Total funding support for the rehabilitation programmes within the prison.
	8) Number of Inmates trained with technical skills
	9) Number of inmates attaining higher education qualification while in prison

9.0 PROPOSED ORGANIZATIONAL STRUCTURE

The proposed reform is expected to affect the current organizational structure of the NSO. Therefore, a new organization structure will ensure that it ultimately achieves the necessary capacity to be able to function at the required and expected level to meet the growing demand for quality statistics on a reliable and timely basis.

The current organizational structure as shown in Figure 5 is constraint and limited in several key areas as demanded in the PNG Strategy for the Development of Statistics 2018-2027.

Figure 5: NSO Current Organizational Structure



In order to perform its expanded function better and effectively NSO need to reorganize itself with the following organizational structure.

Figure 6: Proposed NSO Organizational Structure (next page...)

Figure 6: Proposed NSO Organizational Structure

A publication by
National Statistical Office
Become smarter and strategic with statistics