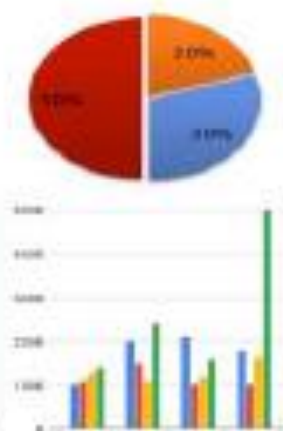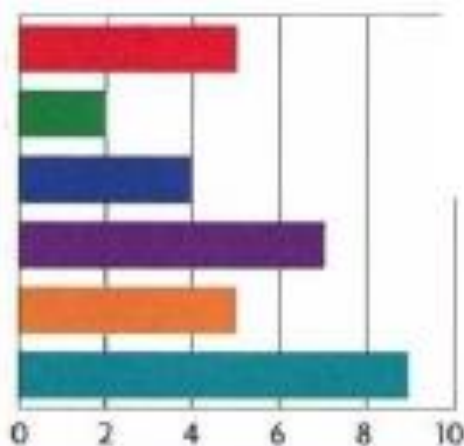# NATIONAL STRATEGY FOR THE DEVELOPMENT OF STATISTICS

NSDS 2021-30

Pakistan Bureau of Statistics

Ministry of Planning Development and Special Initiatives

Plot # 21, Mauve Area G-9/1 Islamabad, Pakistan

NATIONAL STRATEGY FOR THE DEVELOPMENT OF STATISTICS
(NSDS 2021-30)
PAKISTAN

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Pakistan Bureau of Statistics
Ministry of Planning, Development and Special Initiatives
Statistics House, Mauve Area, G-9/1, Islamabad
Pakistan

www.pbs.gov.pk

TABLE OF CONTENTS

TEAM OF PLANNING, AND FINALIZATION OF NSDS

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Message by Minister

It gives me immense pleasure to present National Strategy for the Development of Statistics (NSDS) in Pakistan which will be implemented during next ten years from 2021 to 2030. The NSDS is an action plan for development of National Statistical System (NSS) comprised of statistical organizations working at Federal and Provincial levels for provision of data regarding various aspects of the economy. The NSS is producing statistics for the country in line with best global practices by adopting national and international standards. Pakistan Bureau of Statistics (PBS) partnered across major Federal and Provincial statistical organizations, departments, sections, and statistical cells to explore the main organs comprising NSS of Pakistan for preparation of strategy for the development of statistics in the country. The NSDS provides a road map for generation of reliable statistics required to support the evidence based decision making according to the needs of Sustainable Development Goals (SDGs) agenda 2030, aiming at "leaving no one behind". Data is the basic requirement to search out those whom are behind, to prepare plans for their development and to compare the progress of plans with the past situation to gauge the actual achievements. However, authenticity of the data is desired to meet the 2030 agenda which could not be fulfilled without innovation and improvement in the present statistical system and conventional procedures of data collection, processing, quality assurance, and data dissemination.

As part of the innovation, this strategic paper would lay the foundation to improve the quality of publicly available data as well as access to the demand oriented micro data by bridging the gaps for cutting edge areas through digitalization of processes at Pakistan Bureau of Statistics and other parts of NSS. As a result, the NSS as whole will also be equipped with modern techniques in the field of data collection, processing and dissemination to keep up the system with pace of high quality data demands by the stakeholders particularly for lacking behind domains and areas for interventions and to monitor the impact of such programmes and techniques on the service delivery to the community at large.

Pakistan has envisaged NSDS as a strategic framework for the coming ten years 2021-30 consisting of 23 strategies along with viable implementation plan for overall improvement of NSS and data collection exercises throughout the country. I am confident that by adopting the strategies devised in the present NSDS, the PBS and other counterparts of the NSS will become more dynamic, vibrant and stand prominent among regional countries. I would like to congratulate "The Design Team for NSDS" for their tireless efforts to review, coordinate and prepare this useful document for the benefit of the National Statistical System of Pakistan.

ASAD UMAR
Minister for Planning Development
and Special Initiatives

Message by Deputy Chairman Planning Commission
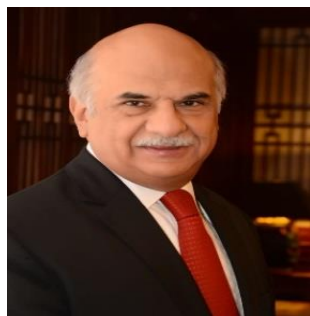
The National Strategy for the Development of Statistics (NSDS) approach has been agreed as a new yardstick for strengthening the statistical capacity in response to evolving user needs and priorities. The present NSDS offer a vision for where the National Statistical System (NSS) of Pakistan ought to be in coming ten years and will set milestones for getting there. The NSDS presents a comprehensive and integrated framework for continual assessment of evolving user needs and priorities for official statistics and for building the capacity needed to meet these priorities in a more synchronized, synergistic and proficient manner.

With the growing focus on the Sustainable Development Goals (SDGs) and on managing for the development results, policy makers in developing countries and the international development community have become increasingly aware of the importance of statistics in enlightening development interventions and measuring achievements. This document is the result of guidance on strategy design and implementation, consistent with the role of PARIS21, it advocates the design of a National Strategy for the Development of Statistics (NSDS) in Pakistan in order to have nationally owned and produced data for, inter alia, national poverty reduction strategies and all SDG indicators. As signatory of the SDG agenda, Pakistan also has to achieve the SDG goals till 2030 which cannot be possible without reliable, coherent, and authentic data. Strengthening the organs of NSS is the basic requirement for provision of desired data to meet the targets of 2030 agenda. The in hand NSDS document provides guidelines with clear implementation plan for all the strategies devised for the development of NSS in the country.

It is the responsibility of the statistical organizations and offices to do their best efforts for implementation of the devised strategies for the development and benefits of the statistical system of Pakistan. I am sure that by adopting the NSDS, the organizations can grow and improve their statistical practices in the country for provision of timely, reliable, independent, and authentic statistics to meet the targets of 2030 agenda. It depends upon the organizations working in the NSS that how could they become successful for the implementation of the devised strategies.

At last but not the least, I must appreciate the endeavours of PBS team "The Design Team for the NSDS" that they make it possible to devise the NSDS for country along with implementation plan so that all the statistical organizations could implement their relevant strategies and parts according to their own environment and circumstances.

MUHAMMAD JEHANZEB KHAN
Deputy Chairman Planning Commission

FOREWORD

The National Statistical System (NSS) of Pakistan is producing official statistics for the use of policy makers, planners, researchers, and other national and international stakeholders. The official statistics are used as basis of planning leading to the growth of economy through development of different sectors. Accurate, reliable, timely, and current statistics are required for successful planning. Therefore, the system of statistical data collection is more important than the data itself from its development point of view. Evolution and sustainable upgradation in the present data collection system is the target of National Strategy for the Development of Statistics (NSDS) in Pakistan.

The in hand document of NSDS has been prepared by the Pakistan Bureau of Statistics (PBS) being national statistical office (NSO) of the country. It is an initiative towards production of relevant and up-to-date official statistics about required data items of various sectors of economy at the right time. It will not only provide accurate statistics to monitor the progress but government will also use statistics for economic management, improving living conditions and standards, poverty reduction and ultimately narrowing down the gap between rich and poor in the country. Therefore, it is imperative to create awareness about the importance and critical usage of data among our planners and policy makers to determine the right directions for development plans.

The present National Statistical System (NSS) of Pakistan is comprised of different federal and provincial statistical organizations, statistical cells, and wings etc. which are producing ocean of data every year. The actual challenge before NSS is the release of timely, accurate and demand oriented data for which the NSDS has been initiated. This document is comprised of analytical review of existing parts of NSS to determine the weaknesses and opportunities for improvement of the statistical system. The data gaps has been identified particularly for SDGs and strategy has been devised to further search out the new and need based data series to be included in addition to routine data collection exercises. PBS is playing the role of centralized guidance for development of different data collection exercises by the organizations and can provide technical support and lead for development of new data series, automated and quarterly national accounts, price management statistics etc. The NSDS also offers an opportunity to establish a Centralized Data Bank with the support of all statistical counterparts to provide a facility of one-stop-shop to the data users which is a collective and archaic demand of various stakeholders. Other useful strategies for the improvement and strengthening of current NSS have been envisaged which hopefully will improve the level and speed of data collection in the country.

The NSDS is a major step towards improvement of statistics in the country but the actual challenge is the implementation of various useful strategies. Detailed implementation plan for every strategy has been devised which can be implemented by the statistical organizations with the support of Federal and Provincial governments, international donor agencies, and development partners. All members of the NSS must make sure for successful implementation of the strategies.

At last but not the least, I must hold in high regard the cooperation and input provided by the stakeholders for development of NSDS. This type of important document could not be prepared without devotion and hard work. I encourage and appreciate the endeavors of PBS Design Team for drafting and finalizing the NSDS.

MATHAR NIAZ RANA
Chief Statistician / Secretary

PREFACE

The current National Strategy for the Development of Statistics (NSDS) has been prepared to strengthen the National Statistical System (NSS) in Pakistan. The NSDS has been devised through consultation approach to get input from all data collection, producing, and supplying organizations, data users, researchers, and other stakeholders. All the Federal Ministries and Divisions, various Federal as well as Provincial departments, cells, and wings were involved during consultative process for the development of NSDS. The consultation process was practiced twice, once at the time of initial draft where all the Ministries, Divisions, departments, and stakeholders were invited in writing to provide their useful input, secondly when the initial draft of NSDS was uploaded on the PBS website and all visitors were asked to comment on the draft strategy. The draft document of NSDS has been prepared by the Design Team of Pakistan Bureau of Statistics (PBS) in the light of comments and input of stakeholders.

The current situation and SWOT analyses of present statistical system provided ground realities for the development of various strategies to be adopted by the concerned data collection partners of NSS. Paradigm shift from traditional paper based data collection to android based data collection and supervision, preparation of master sampling frame to be used throughout the country, introduction of demand driven data collection exercises particularly for SDGs in addition to routine practices, create responsive NSS for emergency and disaster situations in the country, expansion in the scope and efficiency of national accounts, establishment of centralized data bank, introduction of big data and cloud computing, career planning and capacity building of statistical practitioners are the major considerations in the present NSDS.

The NSDS is a strategic framework for the development of presently in vogue statistical practices in the country. It will serve as guideline for those statistical organizations which are still at the initial stage of their development. It gives an idea for collective improvement in the system and to take organizations together through harmonization and communication strategy. Need for international concepts and procedures, has also been discussed to produce statistics for national and international comparisons. The NSDS also addresses the issue of establishment of regional bureaus and crop reporting service in Gilgit Baltistan and Azad Jammu & Kashmir. Consultation with universities to provide them exposure about practical applications of statistical theory and get their support for latest statistical techniques has also been emphasized. Use of Facebook, tweet, and social media etc. to enhance the statistical literacy has been emphasized. International cooperation has specially been discussed to seek the donors, if needed for the development of statistics in the country. Detailed implementation plan has also been chalked out so that all the statistical organizations should implement their relevant strategies according to their environment and ground realities.

I must acknowledge the dedication and continue struggle of the Design Team of PBS to prepare this document for the betterment of statistics in the country. I am also grateful for cooperation and contribution of various Ministries, Divisions, Departments, and statistical organs of NSS, researchers, experts, and stakeholders for their fruitful contribution in the preparation of NSDS. Comments and suggestions for improvement are always welcome for future NSDS.

Muhammad Sarwar Gondal
Member, PBS

EXECUTIVE SUMMARY

Pakistan Bureau of Statistics (PBS) initially prepared a draft of National Strategy for the Development of Statistics (NSDS) after its emergence with enactment of General Statistics (Reorganization) Act 2011 which was placed on the website of PBS. Presently through Prime Minister's directive, PBS has been provided an opportunity to review the previous draft of NSDS as many changes have been taken place since then. The NSDS is a road map to create a welfare state by using reliable data and technology for evidence based decision making to eradicate poverty through economic growth and sustainable development. The national and international planners and policy makers are well aware about the importance of statistics required for designing, monitoring and evaluation of development projects. They support to strengthen the statistical system through devising strategies in the NSDS to provide required and focused statistics.

The NSDS for the period from 2021 to 2030 has been prepared to provide a framework for the development of National Statistical System (NSS) of Pakistan. Main purpose of NSDS is to strengthen the current statistical practices in the country. Present statistical system of Pakistan has been analyzed and examined regarding efficiencies and deficiencies. The current main data collection exercises of all the counterparts of the NSS are highlighted to observe the space for improvement. Situation analysis also highlighted the SDGs covered by PBS and digital transformation and data dissemination by the PBS. Working of provincial BOS and CRS along with other statistical cells and wings are also elaborated. Data gap analysis has been uncovered to search out the new data demands particularly with reference to SDGs. The SWOT analysis of the NSS highlighted the strengths, weaknesses, opportunities for improvement, and threats to the development plans of the current statistical system. This document covers all the statistical organizations presently working as part of NSS which are actively producing official statistics in Pakistan.

The in hand document of NSDS provides strategic framework for the betterment of statistical system of the country. However, mission and vision statements of only PBS are given as national statistical office (NSO). Goals and targets for the national statistical system are fixed and to achieve these targets, different strategies have been devised. These strategies include timely and rapid data collection, master sampling frame, demand driven data collection particularly with reference to SDGs, responsive NSS for emergency situation, efficient system of national accounts,

roles of Governing and Users Councils, improvement in harmonization and communication, standardized data series, and provision of user friendly data. The central data bank has also been proposed using the concept of one-stop-shop under the title "Statistics Pakistan" to provide all types of data under one umbrella. Safety of the data bank from misuse and security of information available on the website from cybercrimes has also been emphasized.

Establishment of data dissemination and media cells for data marketing, searching big data to produce official statistics and cloud computing for data storage and analysis, increasing statistical literacy using social media, capacity building of practitioners and proposal for Centre of Excellence for statistics, coordination with universities and initiation of internship programmes, statistical conferences and seminars at Federal as well Provincial levels, and revision of strategies whenever is required for the benefit of NSS, have also been proposed in this document. The detailed implementation plan for all the strategies has been devised so that organizations being part of national statistical system can easily implement their relevant strategies. The international cooperation has also been emphasized so that statistical agencies could search out the international technical support and financial donations from international partners for implementation of new strategies for which they don't have the capacity, if required. The implementation plan has been divided into two phases' i.e. short term (2021-25) and long term (2026-30) for execution in the country.

ACRONYMS

BOS	Bureau of Statistics
CAPI	Computer Assisted Personal Interviewing
CCI	Council of Common Interests
CPI	Consumer Price Index
CRS	Crop Reporting Service
DPC	Data Processing Centre
EPZA	Export Processing Zones Authority
FAO	Food and Agriculture Organization of the United Nations
GDDS	General Data Dissemination System
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GIS	Geographic Information System
GNI	Gross National Income
GPS	Global Positioning System
HEC	Higher Education Commission
HIES	Household Integrated Economic Survey
HRD	Human Resource Development
IBRD	International Bank for Reconstruction and Development
ICP	International Comparison Programme
ICR	Intelligent Character Recognition
ISIC	International Standard Industrial Classification
ISOSS	Islamic Countries Society of Statistical Sciences
JICA	Japan International Cooperation Agency
LFS	Labour Force Survey
LSM	Large Scale Manufacturing
MAPS	Marrakech Action Plan for Statistics
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
NFC	National Finance Commission
NPO	National Productivity Organization
NSDS	National Strategy for the Development of Statistics
NSO	National Statistical Office
NSS	National Statistical System

OECD	Organization for Economic Cooperation and Development
PARIS21	The Partnership in Statistics for Development in the 21st Century
PD & SI	Planning, Development and Special Initiatives
PMDU	Prime Minister's Delivery Unit
PPARC	Pakistan Public Administration Research Centre
PRSP	Poverty Reduction Strategy Paper
PSDP	Public Sector Development Programme
PSIC	Pakistan Standard Industrial Classification
PSLM	Pakistan Social & Living Standards Measurement
PSU	Primary Sampling Unit
PTA	Pakistan Telecommunication Authority
QIM	Quantum Index of Manufacturing
SBP	State Bank of Pakistan
SDDS	Special Data Dissemination Standards
SDGs	Sustainable Development Goals
SIAP	Statistical Institute for Asia and the Pacific
SME	Small and Medium Enterprises
SMEDA	Small and Medium Enterprises Development Authority
SNA	System of National Accounts
SPI	Sensitive Price Indicator
SSU	Secondary Sampling Unit
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TUSDC	Technology Upgradation and Skill Development Company
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Fund for Population Activities, United Nations Population Fund
UNICEF	United Nations International Children Emergency Fund
UNSD	United Nations Statistics Division
URAF	Updation of Rural Area Frame
WCA	World Census of Agriculture
WPI	Wholesale Price Index

CHAPTER-1

1.1 Introduction

National Strategy for the Development of Statistics (NSDS) is a core policy and programme towards monitoring, evaluation and upgradation of the National Statistical System (NSS) of Pakistan. "The National Statistical System (NSS) is a group of statistical organizations and units within a country that jointly collect, process and disseminate official statistics on behalf of national government" (Younis, 2016). According to the United Nations UN (2003), the NSS is existed on a continuum which is standing at the one end on a single National Statistical Office (NSO) e.g. Australia, Canada and Mexico having centralized statistical system. At the other end, the continuum depends upon many statistical organizations e.g. United States of America (USA) having decentralized statistical system. Pakistan has blend of both the centralized and decentralized statistical systems constituting its NSS (Younis, 2016). The NSS of Pakistan consists of Pakistan Bureau of Statistics (PBS), Provincial Bureaus of Statistics (BOS), Provincial Crop Reporting Services (CRS), and statistical cells, sections, wings of different Ministries / Divisions / Departments working at federal as well as provincial levels which are producing, compiling, publishing, disseminating and maintaining the official statistics in one or the other way. Being National Statistical Office (NSO), PBS has been authorized for preparation of an overall integrated plan for the development and improvement of statistics in Pakistan. PBS also has the responsibility for formulation of policy regarding general statistics for Pakistan and implementation thereof.

Pakistan Bureau of Statistics (PBS) initially started work on preparation of NSDS since its emergence with enactment of General Statistics (Reorganization) Act 2011. The preliminary draft of NSDS at that time was prepared and placed on the website of PBS. The PM directive under 24th initiative of the "Ehsaas" programme "National Strategy for the Development of Statistics" provides PBS a wonderful opportunity to meticulously review the previous draft of NSDS as many changes have been taken place since then. The NSDS is a road map to create a welfare state by using data and technology for evidence based decision making to eradicate poverty through economic growth and sustainable development. It is considered important to provide accurate, reliable, timely, transparent, and quality statistics for evidence based decision making ultimately targeting the welfare of population in the country. The NSDS for Pakistan will ensure the availability of reliable and timely

statistics free from political and undue external influence. The government and policy makers would have easy access to the accurate and need based data available for designing and evaluation of their policies on the basis of performance through economic development and poverty reduction in the masses at large.

The data produced by NSS provide basis of planning for development projects in various sectors of the economy which ultimately lead to the benefits of the society through grass root level improvements. Strengthening of NSS by implementing various useful strategies is considered imperative to generate relevant and precise information at the right time. The NSDS is a national policy framework to improve the trust and credibility of statistical services in the country and aims at effective coordination of NSS to meet the national and international obligations of data requirements to be used for planning, monitoring and evaluation. There is need to prepare an implementable NSDS for some determined time frame so that statistical system could be upgraded in real terms of quantity as well as quality for the benefits of the populace in the country. The present NSDS is an endeavour for the development of statistical system of the country for a period of ten years from 2021 to 2030 according to the scope determined for the purpose.

1.2 Scope of the NSDS

The strategic framework proposed for the development of NSS cannot be a wish list rather to be realistic so that it could be executed without hurdles by all the organs of statistical system. The scope of the NSDS will remain to improve the present statistical system of Pakistan and to devise a road map for the development of official statistics in the country. The focus is to improve the efficiency of data collection organizations which are directly or indirectly collecting, producing, compiling, and disseminating statistics to be used for planning and development in the country for ultimate benefits of the population. In addition, organizations involved in maintenance of official records regarding different areas viz population, agriculture, livestock, education, health, banking, import and export, taxes, finance, socio economic conditions etc., research organizations, individuals, and data users are also covered and involved in the development of the NSDS. The national strategy also takes care of training facilities and capacity building of statistical personnel working in the NSS in order to enhance their professional skills and promote research culture. The career planning for the employees working in the NSS is the utmost need of the day to strengthen the statistics producing

system and the NSDS takes care of this important issue. In the light of scope, main objectives of NSDS can be stated.

1.3 Objectives

The overall objective of the NSDS is to strengthen the quality and availability of statistics through upgradation of NSS in Pakistan to provide accurate, reliable, and timely data for evidence based decision making to support the planners and policy experts. In particular, the objectives of NSDS can be stated as:

i)   To strengthen the present statistical practices in vogue in the country to generate quality, reliable, transparent, and timely data by adopting scientific and international best practices and guidelines to meet the national and international data requirements.

ii)   To examine the current tools and practices used by data collection organizations regarding their methodologies and procedures to produce comprehensive and coherent statistics and to propose improvements thereof.

iii)   Improve coordination and promote synergy between data producers and users to narrow down the gap between data supply and demand along with removal of duplications to save the resources.

iv)   To enhance the capacity building of statistical practitioners working in the NSS through creating and strengthening atmosphere for professional training, analytical work, and research. and

v)   Ensure the long term sustainability of NSS by continuous improvements in the future data collection exercises.

To meet the above objectives of the strategy, all the key stakeholders were approached to contribute for preparation of this document. The methodology adopted to draft an effective and applicable NSDS for Pakistan is briefly explained here.

1.4 Methodology Adopted

The Pakistan Bureau of Statistics (PBS), being National Statistical Office (NSO) of Pakistan, prepared present NSDS for the next ten years. First of all a "Design Team for NSDS" was constituted at PBS to provide a road map for the development of statistics in the country and to draft strategy for the purpose. After deliberations and discussions of Design Team, all the Federal Ministries, Divisions,

Departments, Provincial Bureaus of Statistics (BOS), Crop Reporting Services (CRS), and other key stakeholders were requested to provide their input for NSDS. Every data collecting and processing organization, data maintaining unit, data providing section, report generating and publishing wing, research organization or individual and statistics departments of various universities, State Bank of Pakistan, Zarai Traqiati Bank Ltd., and others were invited to contribute for the development of NSDS. In addition, the Partnership in Statistics for Development in the 21st Century (PARIS21) provided guidelines for preparation of NSDS for developing countries to improve their statistical capacity to provide the reliable basis of planning and these guidelines have also been followed for preparation of in hand document. The NSDS guidelines by PARIS21 are the outcome of the Marrakech Action Plan for Statistics (MAPS) 2004 which was a key input to the Paris Declaration principles on development and planning for statistical system and recommendation for preparation of NSDS. The MAPS focused on continuous developed of NSS in the countries which ultimately lead to the sustainable improvement of international statistical system. In the light of international guidelines and input from stakeholders, the initial draft of current NSDS was composed. The initial draft was uploaded on the website of PBS and comments of data users and stakeholders were invited for its improvement. After receiving and incorporating the comments, the final draft of NSDS has been prepared for use of data collection organs of NSS for the improvement of current data collection practices in Pakistan.

Official statistics produced by NSS of any country cannot be separately discussed without administrative atmosphere and infrastructure of the modern economy as different countries have their own culture, preferences and financial issues. Under diversified prevailing conditions and ground realities in different countries in the world, it would become difficult to make international comparisons for monitoring and evaluation of local as well as international achievements. To make and improve the global comparison of development indicators and their evaluation for the benefits of humanity, the United Nations (UN), the World Bank (WB), International Monetary Fund (IMF), Food and Agriculture Organization (FAO) of the UN, and a few other international organizations and bodies tried their best for homogeneity of concepts, definitions, methods, scope, periodicity, and classifications of official statistics. The UN Fundamental Principles of Official Statistics are the base line for any statistical organization involved in data collection activities, like relevance, impartiality and equal access, professional standards and ethics, accountability and transparency, prevention of

misuse of statistics, confidentiality, legislation, national coordination, use of international standards, international cooperation etc. UN (2003) Handbook of Statistical Organization, UN (2017) Principles and Recommendations for Population and Housing Censuses, FAO World Census of Agriculture Programmes (WCA), System of National Accounts (SNA, 2009) are some of other efforts in this regard. The World Bank (2013) International Comparison Programme (ICP) is considered as the world's largest statistical initiative under the UN Statistical Commission to calculate and compare the purchasing power parities (PPPs), based on price statistics, for common basket of goods and services for each participating country particularly for measurement of Gross Domestic Product (GDP). The IMF (2013) General Data Dissemination System (GDDS) provided internationally agreed framework for evaluation of financial and social sector data which has been adopted by number of countries. For development agenda till 2030 consisting seventeen Sustainable Development Goals (SDGs), the international communities are trying in depth mapping for data availability for development plans to gauge the progress towards SDGs according to international standards for global comparisons.

It is imperative to take care of international standards, concepts and definitions while all the organizations being part of NSS are planning for any data collection activity to produce official statistics. The NSDS is an effort to harmonize the statistical practices in the country according to best international practices to facilitate the global data demands for analysis and comparison. The strategy also brings and interlinks the national statistical data bank at one page to avoid overlapping and to assess the data gaps in a simple, trustworthy, up to date and sophisticated manner, and to fulfill the demand of data users. It is a way to provide all types of data under one umbrella named "Statistics Pakistan" through developing a dashboard at Federal level and developing linkages with all data collection organizations in the country to introduce the concept of one-stop-shop. This strategy will fulfill the everlasting demand of data producers and users having all types of collected, compiled and published data in the country at one source rather to find it out from different sources. The NSDS is also an effort to convince the data collection agencies to adopt rapid data collection methods rather to practice the traditional data collection ways for timeliness and accuracy of produced data. The Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis of present NSS provides guidelines to pave the way forward to strengthen the statistical system of the country for independent, reliable and coherent data production.

To produce independent and transparent data, the Federal statistical system of Pakistan has already been revamped by establishing Pakistan Bureau of Statistics (PBS) through merger of Agricultural Census Organization (ACO), Population Census Organization (PCO), Federal Bureau of Statistics (FBS), Training Wing of FBS, and Technical Wing of Statistics Division with enactment of **General Statistics (Reorganization) Act 2011**. This Act was promulgated in December, 2011 providing functional autonomy to the PBS. The Government of Pakistan has taken decision to develop its Federal statistical system to achieve the socio economic objectives. Pakistan's development partners in particular have shown interest to support in statistical development plans. Apart from envisaging a policy for development, the NSDS is also a framework to seek donors support for implementation plan, if required. This document of NSDS has been developed taking into consideration the multidimensional aspects of NSS and has been distributed into different parts.

After introduction part, this document has been divided into various chapters. Chapter 2 is the situation analysis of National Statistical System of Pakistan, chapter 3 is the data gap analysis, while SWOT analysis has been highlighted in chapter 4. Afterwards, chapter 5 is the strategic framework for 2021-30 highlighting different strategies for the development of NSS. However, implementation plan for these strategies for the development of NSS has been elaborated in chapter 6.

CHAPTER-2

2.1 Situation Analysis

2.1.1 National Statistical System of Pakistan

The National Statistical System (NSS) being producer of official statistics has been elaborated in the introduction chapter. There are main components of NSS comprising of Pakistan Bureau of Statistics (PBS) at Federal level, Provincial Bureaus of Statistics (BOS), and Provincial Crop Reporting Services (CRS). The collection of official statistics is not only confined to the statistical organizations but other Ministries, Divisions, Regulatory Bodies, of Federal as well as Provincial Governments are also producing data on various subjects and areas through their Statistical Cells and Wings. These include State Bank of Pakistan, Zarai Taraqiati Bank, Oil and Gas Regulatory Authority (OGRA), Electric Supply Companies, Health and Education Departments etc. The Statistical Cell of Pakistan Public Administration Research Centre (PPARC) in Establishment Division is conducting decennial census of Federal Government Civil Servants and also publishing annual statistical bulletins for employees of Federal Government and for employees of autonomous bodies. Economic Adviser's Wing of Finance Division publishes annual "Pakistan Economic Survey" having statistical facts regarding every field of the economy. Economic Wing of Ministry of National Food Security and Research also publishes "Agricultural Statistics of Pakistan" on annual basis showing data about every aspect of agriculture. In addition, multilateral organizations like United Nations, World Bank, Asian Development Bank, some NGOs, and private sector enterprises are also producers of statistics which are termed as non-official statistics. However, official statistics are only produced by various government organizations, cells, and wings being parts of the NSS in the country. These are analyzed regarding their working and main activities to find out the gaps for improvement.

2.2 Pakistan Bureau of Statistics (PBS)

PBS is the National Statistical Office (NSO) of Pakistan with mandate to collect and provide authentic and reliable data for evidence based policy formulation at the Federal level and is working as an attached department of Ministry of Planning, Development and Special Initiatives. The PBS came into force in December, 2011 with promulgation of **General Statistics (Reorganization) Act, 2011** after merger of former Agricultural Census Organization (ACO), former Population Census Organization (PCO), former Federal Bureau of Statistics (FBS), Training Wing of FBS, and defunct Technical Wing of Statistics Division. According to the Rules of Business 1973, as amended up to

19th August, 2019, the Ministry of Planning, Development and Special Initiatives is responsible to do the following business at Federal level for implementation through Pakistan Bureau of Statistics in the country.

a) Preparation of an overall integrated plan for development and improvement of statistics in Pakistan and to estimate the budgetary requirements thereof.

b) Preparation of annual programmes in accordance with agreed priorities and to assign responsibilities for the execution of their component items.

c) Examination and clearance of budgetary proposals for annual programmes for statistical improvements and developments.

d) Formulation of policy regarding General Statistics for Pakistan and implementation thereof by suitably adapting the statistical system of Pakistan to conform with the policy.

e) Coordination with the Provincial and Federal Governments, Semiautonomous bodies and international organizations on statistical matters bearing directly or indirectly on such subjects as trade, industry, prices, expenditure, input-output accounts, flow of funds, balance of payments, etc.

f) Evaluation and introduction of standard concepts, definition and classification pertaining to national statistics series.

g) Preparation and implementation of in-service and foreign training programmes in the fields of statistics. Evaluation of efficiency computerized methods for statistical estimation.

h) Clearance of statistical projects undertaken by different organizations on a contract basis.

i) Preparation, printing and release of publications on national statistics.

j) Undertaking of national census and surveys.

k) Administration of: i) The Industrial Statistics Act, 1942 (XIX of 1942). ii) General Statistics (Reorganization) Act, 2011 (XIV of 2011).

l) Agricultural Census, Population Census, National Quinquennial Livestock Census.

m) Collection, maintenance and analyses of demographic, population and vital health statistics.

n) Compilation of labour, manpower and employment statistics for national and international consumption.

o) Periodic assessment, review and analysis of manpower resources and requirements with reference to the employment situation in the country.

In order to do the above businesses assigned to the PBS, following data collection exercises are being done by PBS throughout the country for provision of data for evidence based policy making. PBS collects data from primary as well as secondary sources. Primary sources include direct data collection exercises from the respondents through censuses and surveys, while secondary sources include other Federal and Provincial organizations maintaining or collecting data and PBS get those data for compilation to produce and release National Statistics.

2.3 Primary Sources

Primary sources include those data collection assignments for which information is collected directly from the respondents for any economic, social, agricultural, or financial inquiry. Main primary sources of PBS are mentioned here.

Censuses

     i)   Population and Housing Census

     ii)   Mouza Census

     iii)   Agricultural Census

     iv)   Livestock Census

     v)   Agricultural Machinery Census

     vi)   Economic Census

     vii)   Census of Manufacturing Industries (CMI)

Surveys

     i)   Pakistan Demographic Survey (PDS)

     ii)   Pakistan Social and Living Standards Measurement (PSLM) Survey

     iii)   Household Integrated Economic Survey (HIES)

     iv)   Labour Force Survey (LFS)

     v)   Milk Production Survey

Surveys for Rebasing of National Accounts

     i)   Family Budget Survey

     ii)   Rent Survey

     iii)   Survey on Small and Households Manufacturing Industries (SHMI)

     iv)   Wholesale and Retail Trade Survey

     v)   Construction Survey

     vi)   Survey on Non-Governmental Organizations

Price Statistics

        i)   Consumer Price Index (CPI)

        ii)   Sensitive Price Indicator (SPI)

        iii)   Wholesale Price Index (WPI)

        iv)   International Comparison Programme (ICP)

In addition to above, PBS also conducted a few adhoc and one time surveys according to the demand of that time in the past.

2.4 Secondary Sources

Secondary sources include those data collection exercises for which information is not directly collected from the respondents but is ascertained or received from some other sources or organizations that have already collected, processed or produced the required statistics. Main activities of PBS are mentioned here for which data are collected from secondary sources.

National Accounts

        i)   Gross Domestic Product (GDP) Production Approach

        ii)   Gross Domestic Product (GDP) Expenditure Approach

        iii)   Net Factor Income from Abroad and Gross National Income (GNI)

        iv)   National Health Accounts

Other Statistics

        i)   Population Welfare Statistics

        ii)   Federal Health Facilities

        iii)   Quantum Index of Manufacturing Industries (QIM)

        iv)   Foreign Trade Statistics

        v)   Social Statistics

        vi)   Business Register

PBS has country wide set up to conduct the above data collection enquiries. The PBS headquarter is located in Federal Capital Islamabad and has provincial offices at provincial capitals. It has network of thirty four regional and field offices throughout the country to manage the data collection activities. PBS has Agricultural Census Wing at Lahore, Population Census Wing, Training Wing and Data Processing Centre (DPC) in Islamabad, having two additional components of DPC at

Lahore and Karachi. PBS has professional experts with academic backgrounds in Statistics, Economics, Mathematics, Geography, Computer Science, Demography, Agricultural Economics, and Animal Husbandry. The overall direction, management, control, and superintendence of the PBS are to vest in the Governing Council. The National Users Council guides PBS to provide technical advice for efficient data collection and release, to fill the data gaps and remove duplication in data collection exercises etc. The Chief Statistician is the Chief Executive of PBS supported by five functional Members. In addition, senior technical officers of PBS are working as Deputy Director Generals, Census Commissioners, Agricultural Census Commissioner, Additional Agricultural Census Commissioner, Vice Principal (Training Wing), Director General (Planning, Evaluation & Research), and the Director General (Administration). They are assisted by the officers working in basic scales 19, 18, and 17. Technical staffs are Statistical Assistants, Data Processing Assistants, Draftsmen, Geographical Assistants, and ministerial staff for administrative work. Total strength of PBS is given in the Facts Sheet at Annex-I. The organigram of PBS depicts the positions of senior hierarchy.

Organigram of PBS
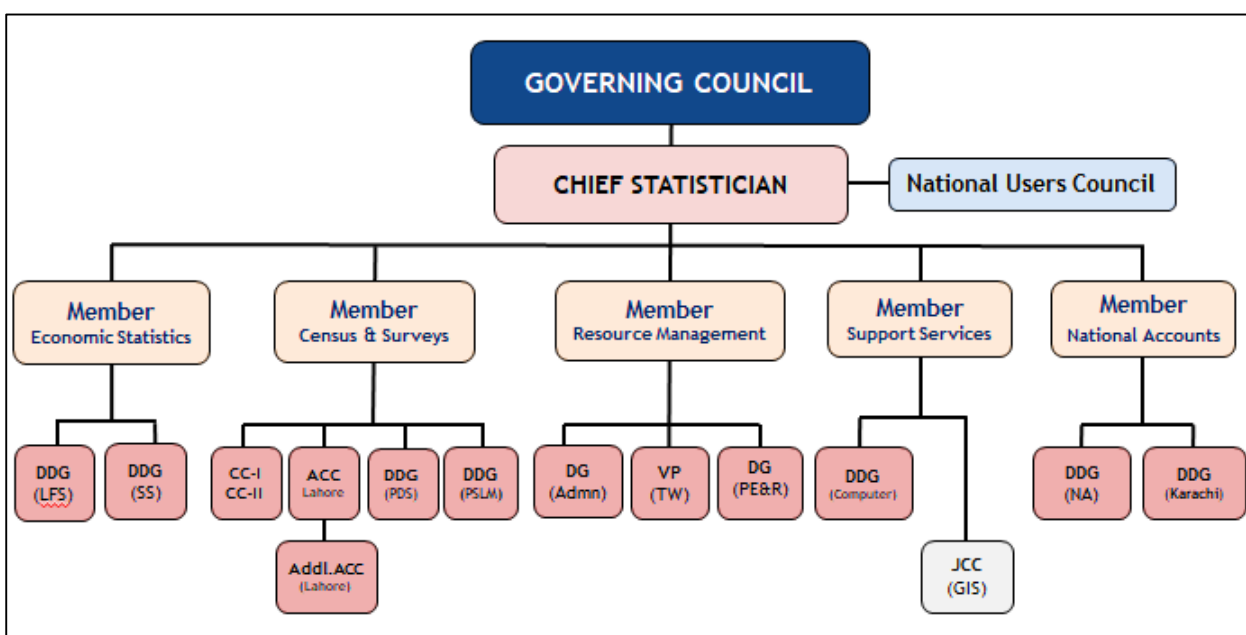
PBS has been conducting number of gigantic data collection exercises throughout the country at national level. Let us examine the main data collection exercises of PBS.

2.5 Population and Housing Census

The Population Census Wing (defunct Population Census Organization) of PBS has been regularly conducting decennial Population and Housing Census since 1951. The enumeration force and supervisory staff were borrowed from provincial and regional governments while planning, preparation and technical guidance along with overall supervision were the responsibility of PBS. The censuses were conducted in 1951, 1961, 1972, 1981, 1998 and 2017. The latest i.e. 6th Population and Housing Census was conducted in two phases from 15th March 2017 to 24th May, 2017 as approved by CCI in its meeting held on 16th Dec, 2016. The census was conducted according to the UN (2017) principles and recommendations for population and housing censuses. The guidelines provided by UNFPA (2015) for round of population & housing censuses 2015-24, were adopted with the cooperation of UNFPA. Besides giving broad based socio-economic data and updating the frames for drawing all kinds of samples, the census provides basis for political representation in the national and provincial legislatures, distribution of funds to provinces by the National Finance Commission (NFC) and determining quota of provinces to all civilian posts in the Federal government. The geographical coverage includes Federal capital, all districts of four provinces including Gilgit Baltistan and Azad Jammu & Kashmir. For complete coverage of population, PBS divided the whole country into 168,943 enumeration blocks, consisting of 200 to 250 houses on the average in one block. The census was conducted in each block having separate map with well-defined boundaries for better coverage. Topics covered in the census include demographic, social, economic, education, geographic, disability, housing characteristics, and foreign residency. For early tabulation, modern Intelligent Character Recognition (ICR) system was installed and used under the assistance from donor agency UNFPA along with machine readable forms.

2.6 Mouza Census

Mouza is a demarcated area having definite boundaries, specific name, and with some chunk(s) of houses showing populated area being used for residential purposes by the farming community. A few of the Mouzas may not have population settlement(s) within the boundaries. Initially, primary objective of the Mouza Census was to prepare, maintain and update the lists of Mouzas in each district being used as sampling frame for agriculture related censuses and surveys conducted in Pakistan. However, with the passage of time scope of the Mouza Census has been expanded by including development indicators and facilities available to the farming community

living in rural areas. Mouza Censuses have been conducted in 1971, 1979, 1983, 1988, 1993, 1998, 2003, 2008, and the last one in 2020.

FAO (2015) advised to prepare frame for agricultural census and to collect community level data in the census along with information about agriculture services, irrigation facilities, veterinary services, credit institution, agriculture produce market, fertilizer dealer, agricultural machinery maintenance facility, community organization / association, availability of electricity, education and health facilities, public transport, telephone, internet and if any facility is not available to the farming community, then travelling time or distance to the nearest available facility. In the light of these recommendations of FAO, Mouza Census 2020 was planned and conducted in Pakistan to update the sampling frame of Mouzas and to collect rural statistics. Mouza Census 2020 also includes information about total and cultivated area of the Mouza and approximate number of livestock, which will be used to calculate the measure of size for selection of Mouzas for the next Agricultural Census.

2.7 Agricultural Census

The Agricultural Censuses are conducted in Pakistan according to the guidelines provided by the Food and Agriculture Organization (FAO) of the United Nations in their published series of World Programme for the Census of Agriculture (WCA) e.g. FAO (2005), FAO (2015), and FAO (2018). These series provided guidelines for rounds of World Census of Agriculture i.e. for WCA (2010) from 2006-2015, and WCA (2020) from 2016-2025 respectively. FAO also publishes main findings of each round of Agricultural Censuses conducted by different countries to observe and analyze the implementation of their recommendations. FAO (2019) published main results of Agricultural Census of Pakistan 2010 along with other countries describing little brief about the methodology adopted by Pakistan. According to the methodology, the reference period for the enumeration is the day of interview for the household (HH) members, land ownership, tenure classification, orchard area, livestock, etc. while reference period is agricultural year for crops, irrigation, use of fertilizer, pesticides, machinery, agricultural labour etc. for the agricultural census of Pakistan. FAO (2015) highlighted that some of the countries conduct their agricultural census on sample basis. Pakistan is also one of them and carries out agricultural census using sample enumeration.

The Agricultural Census Wing (defunct Agricultural Census Organization) of PBS has been conducting agriculture related censuses and surveys since 1960. Decennial Agricultural Censuses were conducted in 1960, 1972, 1980, 1990, 2000, and 2010. Decennial Livestock Censuses were

conducted in 1976, 1986, 1996 and 2006 while decennial Agricultural Machinery Censuses in 1975, 1984, 1994, and 2004. For every census, the planning, preparation, technical guidance, and supervision were provided by the PBS while the services of enumeration force were borrowed from provincial and regional revenue, livestock and agriculture departments for field operations of different censuses. In addition to these censuses, a few of the surveys related to the agriculture were also conducted by this wing in the past. The data processing of retrieved data, report writing and data dissemination were the responsibilities of the wing which were completed with the support of Data Processing Centre (DPC) of PBS. However, after emergence of PBS, the scenario of these censuses has been changed and new decisions have been made for implementation in future. It has been decided by the Governing Council of PBS in its 7th meeting, agenda item IV(c), held on 10th January, 2015 that Agricultural Census will be conducted quinquennially after merging Agricultural, Livestock and Agricultural Machinery Censuses. Therefore, planning for next merged Agricultural Census has been initiated at PBS particularly with respect to sample design, as the merged three censuses have different sample designs. The Mouza Census 2020 is the first step towards next merged Agricultural Census.

2.8 Pakistan Social and Living Standards Measurement Survey (PSLM)

Pakistan Bureau of Statistics has been conducting Pakistan Social and Living Standards Measurement Survey since 2004. It was public sector development project (PSDP) funded by the Government of Pakistan till 2015 and afterwards became regular activity of PBS. It is actually continuation of the project "Pakistan Integrated Household Survey" (PIHS) which was started in July 1994. Later on, it was shifted to Core Welfare Indicator Questionnaire (CWIQ) district level survey w.e.f. 15-02-2003 and then renamed as PSLM project w.e.f 01-07-2004 by including both National / Provincial & District level survey which was continued till 30-06-2015. PSLM project has been designed to collect household data in the alternate years at district level usually known as PSLM district level survey and provincial level survey known as Household Integrated Economic Survey (HIES). After 2015, this survey became regular activity of PBS for monitoring of development plans at provincial and district levels and to provide data for poverty estimation in the country. District level and provincial level PSLM surveys are further elaborated here.

2.8.1 PSLM District Level Survey

PSLM district level survey is the biggest survey of Pakistan covering sampled households throughout the country to collect data on social indicators from all the districts of Pakistan. This survey is used for assessment of social welfare of population in terms of health, education, family planning, employment, household amenities, water supply & sanitation, satisfaction to services & facilities and poverty alleviation etc. The data collected through this survey assists the government in formulating the poverty reduction strategy as well as monitoring development plans at district level through rapid assessment of programme initiated under "Poverty Reduction Strategy Paper (PRSP)" (IMF, 2010) in the overall context of development goals. However, this survey is now one of the major sources of data provider for monitoring of SDGs in the country. This survey provides requisite data for computation of Multi-Dimensional Poverty Index (MPI) at district level and so far time series data for MPI is available for ten years from 2004-05 to 2014-15.

2.8.2 PSLM Provincial Level Survey: Household Integrated Economic Survey (HIES)

The HIES was started in 1963 and continued with some gaps till 1998. After 1998, HIES was merged with Pakistan Integrated Household Survey (PIHS) and afterwards it was made part of PSLM survey. PSLM / HIES provincial level survey, provides information on income and consumption as well as on social indicators. It provides important information on education, health, population welfare, housing, water & sanitation, household income, savings, liabilities, expenditure and consumption patterns at national and provincial levels with urban / rural breakdown and by consumption quintiles. This survey is collecting information from selected households using sampling techniques, having spread all over the country. The survey also provides requisite data on consumption which is used by Planning, Development and Special Initiatives Division for estimation of poverty. Time series data regarding poverty incidence is available for eight years from 1998-99 to 2015-16. So far eleven rounds of PSLM / HIES surveys have been completed and the latest one was PSLM provincial level survey (PSLM / HIES) conducted in 2018-19. PSLM district level survey 2019-20 having spread of selected households all over the country has been completed successfully wherein data is collected for the first time on tablets for which the data processing is in progress. All PSLM publications along with micro data and relevant documentation are available at PBS website.

2.9 Labour Force Survey (LFS)

Labour Force Survey (LFS) is an important survey which provides information about labour force and unemployment rate of any country along with some other important indicators. It plays an important role in the socio-economic development of the country as a whole through monitoring employment factors. Planning cannot be materialized without information about the characteristics of the population of a country. Labour force statistics are pivotal to manpower planning, human resource development and economic growth. This survey collects a set of comprehensive statistics on various dimensions of country's civilian labour force which are used as basis to pave the way for skill development, planning, employment generation, assessing the role and importance of the informal sector, and sizing up the volume, characteristics and contours of the employment. LFS is one of the most visible and sought out work of PBS and its role is vital for economic development planning.

In the light of guidelines issued by International Labour Organization (ILO), the Labour Force Surveys are conducted in Pakistan. Labour Force Surveys are regular feature of PBS since 1963. This survey provides reliable and representative estimates at national and provincial level with urban and rural breakdown. Data is collected on quarterly basis in selected sample areas covering both rural and urban population throughout the country. The questionnaire and methodology of the survey have been undergoing pertinent improvements through the forum of "Panel on Labour Statistics" comprising of all important stakeholders to improve the survey with current best practices. The questionnaire was revised in 1990 to include probing questions on marginal economic activities, likely to be carried out mostly by women and tend to go unrecorded with conventional questions. The questionnaire was further improved in 1995 to reckon with the size and composition of migration and informal sector. The scope of the survey was extended in 2001-02 to take the stock of occupational safety and health of employed persons. The questionnaire was further articulated for undertaking 1st quarterly LFS 2005-06 and this practice has since been continuing. The LFS 2010-11 and onwards are based on new Pakistan Standard Industrial Classification by GOP (2010). The LFS collects information about socio-demographic characteristics of the total population i.e. age, sex, marital status, level of education, current enrolment and migration etc. Also acquire current information about national labour force; i.e. number of persons employed, unemployed, and underemployed or out of labour market, wages and mode of payment, occupational health and safety of employed persons etc. Thirty four reports on LFS have been published and released. The latest survey was conducted in 2018-19 covering approximately 45000 households divided up into four distinct, nationally representative samples, each

enumerated in a given quarter. In the light of guidelines ILO (2020), the questionnaire contents of next LFS 2020-21 have been improved. All LFS publications since 2003-04 and micro data since 2010 with relevant documentation are available at PBS website.

2.10 Pakistan Demographic Survey (PDS)

Demographic statistics including vital statistics are inevitable for policymakers, planners and administrators for planning of development programs for the national as well as provincial governments. Traditional sources for vital statistics are the Civil Registration System comprising birth and death registration system, and population census. The Civil Registration System in Pakistan, as in several other developing countries appears highly deficient and inadequate to provide reliable birth and death statistics. In the absence of an efficient Civil Registration System and inability of decennial census to provide birth and death statistics, demographic surveys are conducted to collect statistics regarding growth rate during the inter-censual periods. PBS has conducted several demographic surveys since 1960s however, regular demographic survey known as Pakistan Demographic Survey (PDS) was initiated in 1984 and so far nineteen rounds of PDS have been completed. PDS provides information about estimates of current growth rate of population, birth & death rates, fertility & mortality along with some other demographic characteristics of the population.

Last PDS was conducted in 2008 known as PDS 2007 wherein information was collected regarding deaths & births for reference period 1-1-2007 to 31-12-2007. Population & Housing Census was due in 2008 but could not be conducted till 2017 therefore, PDS was also halted. It is worth mentioning that since Population & Housing Census 2017 has been successfully conducted, therefore PBS has initiated the planning and preparation to conduct the PDS and Governing Council of PBS has approved it. Therefore, PDS will be conducted from January to March 2021 with reference period of 2020 for births and deaths.

2.11 National Accounts (NA)

To develop the System of National Accounts (SNA), international organizations viz European Commission, International Monetary Fund, Organization for Economic Co-operation and Development (OECD), United Nations, and World Bank, prepared and provided guidelines, definitions, and international standards as indicated in SNA 2008 published in 2009 (SNA, 2009). According to SNA 2008, the system of national accounts is the internationally agreed standard set of recommendations on how to compile measures of economic activity in accordance with strict

accounting conventions based on economic principles. These recommendations are set of concepts, definitions, classifications and accounting rules comprising the internationally agreed standards for measuring items such as gross domestic product (GDP). The accounting framework of the SNA allows economic data to be compiled and presented in a format designed for economic analysis, decision making and policy purpose.

National Accounts is an accounting framework which makes use of various data sources in the country. The National Accounts of Pakistan are compiled by PBS on basis of the internationally agreed SNA. Main aggregates calculated by PBS are the Gross Domestic Product (GDP), Gross National Income (GNI), value added and capital formation of the various industries. GDP is calculated from the production side while GDP from the expenditure side is confined to capital formation, government consumption, exports minus imports and changes in stocks. Private consumption is calculated residually. National Accounts section of PBS is currently engaged in a number of activities which are briefly summarized.

a) Annual NA

The annual regular activities of National Accounts are (i) compilation of GDP / GNI at current and constant prices by industrial origin, (ii) expenditure on GDP at current and constant market prices, (iii) estimates of Gross Fixed Capital Formation (GFCF) by industrial origin at current and constant market prices in respect of private and public sectors and general government (iv) composition of general government final consumption expenditure.

b) Change of Base for NA from 2005-06 to 2015-16

History of change of base of national accounts of Pakistan is not so rich and remained a rather neglected activity. In 1952, the national accounts estimates were prepared from 1949 onwards at current prices. In 1962-63, the base of 1959-60 was adopted followed by change of base in 1980-81 finalized in 1987. In 2003, the base of 1999-2000 was adopted and the rebasing was done with classifications of the 1968 SNA. The base of 2005-06 was adopted in 2013 incorporating the recommendations of the SNA 2008 as far as possible. While adopting the base of 2005-06 in 2013, the need for the next change of base was realized. Consequently, after the approval of the Governing Council of the PBS, work on the change of base of national accounts from 2005-06 to 2015-16 has been initiated. Various surveys / studies / censuses were planned during the period 2014-15 to 2016-17 for the achievement of the aforementioned task. All censuses, surveys, and studies planned during

change of base of national accounts project, are at final stages and efforts are being made to rebase the National Accounts during 2020-21.

C) National Health Accounts

Like National Accounts, the National Health Accounts (NHA) is an accounting framework making use of various sources. National Health Accounts are an internationally accepted tool for collecting and estimating financial flows through health system regardless of the origin or destination of funds. It is designed particularly as a policy tool for improving the capacity of health sector planners to manage their health systems. PBS initiated work on compilation of NHA in 2005 and first report for the year 2005-06 was released in 2009. Since then five more reports for the years 2007-08, 2009-10, 2011-12, 2013-14, 2015-16, and 2017-18 have been released.

d) Compliance of NA with International Standards and Classifications

PBS has incorporated the concepts, definitions and recommendations of 2008 SNA as far as possible while adopting the 2005-06 base year. Examples include valuation of the output at basic prices instead of factor cost, treatment of Research & Development (R&D) expenditures as output rather than intermediate consumption, compilation and allocation of financial services indirectly measured and insurance service charges to users etc. PBS has also adopted the United Nations' "International Standard Industrial Classification of all Activities" (ISIC), revision 4. ISIC Rev. 4 was adopted through "Pakistan Standard Industrial Classification" (PSIC, 2010). PSIC (2010) is being followed in all the regular surveys. PBS adopted latest International Standard Classification of Occupations (ISCO, 2008) through developing Pakistan Standard Occupational Classification (PSOC) in 2012 and being applied in Labour Force Surveys.

2.12 Price Statistics

PBS has been collecting, compiling and disseminating prices statistics on weekly, monthly, quarterly and annual basis. PBS has developed very informative and modern mechanism for price statistics. The Consumer Price Index was computed for the first time with 1948-49 as a base for industrial workers in the cities of Lahore, Karachi and Sialkot only. Continuous efforts were being made to make CPI representative by improving and expanding its scope and coverage in terms of items, category of employees, cities and markets. Accordingly, the CPI series were computed with 1959-60, 1969-70, 1975-76, 1980-81, 2000-01 and 2007-08 as base years. Now PBS has completed the process of rebasing of price statistics from 2007-08 to 2015- 16 under the auspices of technical

committee consists of price statistics experts of the country. The Governing Council of PBS in its 5th meeting in 2014 issued a policy directive to rebase the National Accounts and Price Statistics after every ten years and decided the year 2015-16 as the next base year. In compliance, PBS initiated the process to Rebase the National Accounts from 2005-06 to 2015-16. Similarly, to synchronize the Price Statistics Base with the National Accounts Base, the Price Statistics were planned to be rebased from 2007-08 to 2015-16 which has been done.

PBS has been collecting the retail and wholesale prices since July 2016 as the new base year 2015-16 was finalized. They have been computing five indices on weekly and monthly basis which are: (i) Urban-Consumer Price Index (UCPI) (ii) Rural-Consumer Price Index (RCPI) (iii) National-Consumer Price Index (NCPI) (iv) Wholesale Price Index (WPI) (v) Sensitive Price Indicator (SPI).

In addition to above mentioned main regular exercises of PBS, other data collection exercises were conducted by PBS on one time basis viz National Education Census of Pakistan conducted in 2005 in collaboration with the Academy of Educational Planning and Management, Ministry of Education and support from UNESCO. Time Use Survey was carried out in 2007 in a sample of 19,600 households on the initiative and support of the World Bank in order to account for the 24 hours' time in terms of the full spectrum of activities carried out during this time span. Report on ICT-Indicators reflecting structure and growth in the Information and Communication Technology sector was published in 2007 in collaboration with GIZ and a private sector firm. Compendium on Gender Statistics in Pakistan in 2004 and 2009, based on secondary data and on surveys conducted by former FBS. Compendium of Environmental Statistics in Pakistan 2005 and 2010 reflecting data on environment in historic perspective from 1947 onward. For all types of primary data collection exercises, there is dire need of sampling frame out of which sample is selected to conduct the census or survey. Let us discuss the sampling frames of PBS.

2.13 Sampling Frames

PBS is maintaining and regularly updating sampling frames for conducting surveys. PBS being NSO is custodian of sampling frames of Pakistan and mandated to support all national and international organizations, departments, agencies for conduct of surveys and censuses as per international standards according to the clauses of powers and functions of the Bureau as mentioned in the Act-2011. Therefore, it provides services for sampling and sample designs for all activities of

PBS itself and to all the Ministries, Departments, and Agencies working at national as well as international levels, Provincial BOS, Provincial CRS, etc. for conducting their surveys scientifically. Sample design directorate is the custodian of frames comprising lists of enumeration blocks and Mouzas for the whole country. These frames consist of "Lists and Area Frames", whereas; Area Frame has two components, i.e., urban and rural areas frames, which have been developed separately. The smallest unit is the block in a frame consisting of 200 to 250 houses on the average. The urban areas have been divided into compact blocks while in rural areas, the Mouzas have further been divided into blocks, if required otherwise, one Mouza is also treated as one block. It is pertinent to mention that all urban area blocks have been digitized and have geo referred boundaries with at least ten points of interests (POIs). However, updation of rural area frame is under progress and will be completed by the PBS. Further, coding schemes have been standardized for all statistical purposes. Election Commission of Pakistan and registration department are linked up with this scheme. Now the urban and rural frames will be the same throughout the country.

2.14 PBS and Sustainable Development Goals

UN adopted Millennium Development Goals (MDGs) in 2000 and set 8 goals, 18 targets and 48 indicators for its member countries to achieve by 2015 in key sectors like poverty, education, health, water and sanitation etc. Keeping in view specific conditions of Pakistan, 8 goals, 16 targets and 37 indicators were adopted. PSLM survey was the main mechanism for monitoring of MDGs in Pakistan. Out of adopted 16 targets and 37 indicators, PBS monitored 7 targets and 15 indicators through PSLM (13 indicators) and LFS (2 indicators) Surveys. In 2015, UN had adopted new development plan for post 2015 monitoring called Sustainable Development Goals (SDGs). Under SDGs there are 17 goals, 169 targets and 244 indicators out of which 12 indicators are duplicate and monitored under different goals. The agenda of SDGs is very comprehensive and is designed with the aim of "**Leaving No One Behind**" so that benefits can reach up to the individual level and marginalized groups. There are global goals, regional and sub-regional goals to address the issues. United Nations Statistics Division (UNSD) has assigned the task of monitoring and reporting of SDGs to the National Statistical Offices (NSOs) of each member country. Therefore, PBS being the NSO is responsible for monitoring and reporting for progress of SDGs. According to guide lines of the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs) developed for devising a mechanism for data flows, "the coordinating role of National Statistical Offices in the

National Statistical Systems should be central." International Organizations and National Statistical Systems should work together towards ensuring the most transparent and efficient way of reporting SDG data for both National and International Statistical Systems. Generally, PBS takes care of survey source data while lead Ministries of the Government of Pakistan are Custodian of SDG indicators to supervise the performance of their relevant indicators and create the demand to estimate it, and to verify the reliability of administrative data. Calculations of SDG indicators are usually done by the PBS and every lead Ministry is also keenly involved in the calculation process of their relevant indicators usable for policy formulation. Hence, coordination between the lead Ministry and PBS is essential to agree on one point. PBS is the focal department having liaison with the international statistical agencies to report on SDGs indicators in consultation with Ministry of Planning, Development and Special Initiatives (PD&SI) and other lead Ministries / Departments. Therefore, UN asks all the data related queries from PBS and PBS directs all the queries to the lead Ministry and Ministry of PD&SI.

Keeping in view the new development agenda and changing ground realities, PBS has chalked out detailed survey plans and worked out in two dimensions as follows:

- Review of existing questionnaires of PSLM / HIES, LFS and PDS
- Data gap analysis (discussed in next chapter)

Questionnaire Review

PBS has taken initiative of revising the PSLM / HIES questionnaires to capture SDGs through this survey. For this purpose, Technical Committee for PSLM survey was reconstituted and first meeting was held in September 2016. Consequently, four sub-committees were formed as follows:

- Poverty, Labor & Employment,
- Education,
- Health and
- Housing, Water & Sanitation.

Meetings of each sub-committee were convened and questionnaires were reviewed in detail by these sub-committees, keeping in view the SDGs. After detailed deliberations and approval of the main Technical Committee, questionnaires were amended by adding new questions in existing modules and by adding specialized modules. Besides new modules, extensive changes were incorporated in the education, housing, water & sanitation and assets modules to comprehensively monitor the SDGs. It

is further added that to capture the variability of indicators like disability and migration for monitoring of SDGs, sample size of PSLM district level survey has been enhanced to 6500 blocks comprising of 195000 households all over Pakistan including AJ&K and Gilgit Baltistan. Four PSLM district level surveys and four PSLM / HIES provincial level surveys will be conducted up to 2030 for monitoring of SDGs. PSLM / HIES provincial level survey 2018-19 and PSLM district level survey 2019-20 have been conducted by using the improved questionnaires.

Similarly, LFS questionnaire was reviewed in detail and amendments were made to monitor SDGs, besides the proposal for inclusion of new modules to monitor SDGs indicators regarding international migration and recruitment costs. Further to provide LFS estimates at district level for monitoring of SDGs, PBS will be conducting first ever LFS survey at district level in 2020-21 covering 7200 blocks all over the country comprising of approximately 101000 households. It is planned to conduct three district level surveys up to 2030 for monitoring of SDGs along with six National and Provincial level surveys.

2.15 Digital Transformation of PBS

PBS has envisaged the idea of "*Digital Transformation*" from Prime Minister's recent initiative of "*Digital Pakistan*" envisioned to accelerating the processes and providing facilitations to the public through e-governance in public sector institutions. In pursuance to the same, PBS is engaged in development of tangible basis to cope with the issues faced during data driven decision making by the policy makers. Hence, we are shifting our all censuses and surveys on Computer Assisted Personal Interviewing (CAPI) / online tablet based data collection which is highly efficient and effective vis-à-vis conventional paper based data collection.

2.15.1 Rationale of Digital Transformation

The prime objective of proposed transformation is switching to end-to-end electronic data collection for all PBS surveys ensuring data credibility and reducing time lag between data collection and its final publication through reducing manual work of data entry etc. The data would be provided to the end user in a seamless manner with no human interference. Summary cost and real time availability of results gives policy makers time to react. This shift will not only enable PBS to collect the data in a manner that would reduce time, efforts but also it would lead to reduce surveys cost, improving efficiency, data accuracy and reliability to enhance the capability of Government organizations for data driven decision making. Henceforth, this will also lead to revise and adopt a

new data dissemination mechanism to share data through interactive portal for Government, Semi Government organizations like Planning Commission of Pakistan, Provincial Planning and Development Departments, Research Institutions, Universities, and policy makers etc. PBS prepared and successfully implemented the android based data collection and monitoring software for its ongoing surveys as follows:

    i.   Tablet Based Price Data Collection System (TPCS)

    ii.   Monitoring Dash Boards for TPCS

    iii.   Tablet Based PSLM Data Collection System (TDCS)

    iv.   Monitoring Dash Board for PSLM (TDCS)

    v.   Dashboard for Price Information Management System

    vi.   Work from Home Application (PSLM online data cleaning). Especially designed keeping in view the COVID-19 pandemic situation.

    vii. Digitization of rural blocks and Mouzas, to identify the blocks location digitally linking the data collected through census and surveys for efficient policy and planning.

    viii. Work for developing electronic data collection apps for other upcoming PBS surveys like LFS and PDS.

    ix.   PBS is also planning to conduct forthcoming Agricultural Census, Economic Census, and next Population and Housing Census electronically through tablets for reducing time lag and increasing quality and credibility of data.

Digital Transformation will help PBS not only to provide accurate information with timeliness for evidence based policy making but resultantly also increase the credibility of data produced by PBS through reducing manual interaction. PBS is also implementing Digital Transformation in the administration and human resource management system for quality work and quick service delivery. This is also as per international standards for statistical systems and will go long way for betterment of PBS.

2.15.2 Use of GIS for Digitization of Maps in PBS

PBS has developed the Geographic Information System (GIS) which includes mapping software and its application with remote sensing, land surveying, geography and tools that can be implemented with GIS software. The system captures, stores, processes, manages and presents data

that is linked to location. Functions of GIS include provision of data input through Global Positioning System (GPS) and scanning of maps, data analysis and data presentation. All the maps of enumeration blocks in urban areas have been digitized while in rural areas the exercise is in progress. GIS system can be utilized effectively by both public and private sectors while the statistical agencies can use it for standardized presentation of survey results. GIS can help decision makers, researchers for spatial categorical analysis.

2.15.3 Digital Data Dissemination by PBS

Various censuses and surveys are unique sources of data for producing relevant social indicators to monitor the impact of the government policies and programmes. Provision of comparable basic statistics for a country as a whole and for each administrative unit and locality therein, can make an important contribution to the overall planning process and the management of national development. The availability of information at the lowest levels of administrative units is valuable for the management and evaluation of programmes such as education, employment and human resources, reproductive health and family planning, housing and environment, maternal and child health, rural development, transportation and highways planning, urbanization and welfare etc. In addition to collection and provision of primary data, PBS also collect data from secondary sources and publish its statistics regularly in monthly bulletins. The secondary data are foreign trade statistics, industrial statistics, social statistics, environment statistics, and transport and communication statistics etc.

Data collected by PBS is widely used by national and international agencies, academia, researchers and students. Data for specific purposes are also required to be made available to the data users who need specific information and tables that are not available in the routine publications. The publication and dissemination of statistical data is an important activity of the census and survey process. PBS is disseminating the micro data of surveys and the reports published through the website free of cost. However, it is worth mentioning that PBS data dissemination up till now is one dimensional and usually data provided in fixed format and users are unable to extract their required information from the data available at the PBS website. Therefore, keeping in view the changing environment under the "Digital Transformation", PBS has planned to shift the data dissemination from one dimensional approach of providing data in fixed format of PDF reports to an interactive and user friendly approach.

This is paradigm shift from aggregated approach (published reports in PDF format) to micro level information with info graphics in form of dash board for extraction of relevant information for its users. It will provide open access of data with various levels along with comparison with previous years of all indicators as per requirements of data users. Resultantly, it will lead to increase the use of PBS data for evidence based policy and planning. The other objective is to make the whole process of data dissemination transparent and systematic to avoid inconvenience in execution of activities. In addition to this, a geographic database will be developed to link data with maps for producing heat maps with layering of other information like roads, railroads, rivers, schools, hospitals etc. for provision of clear picture of the geographical area for proper planning. For this purpose, PBS support services are establishing Data Ware House of all types of data collected by PBS for preparing customized web portals and dashboards as per need of the users.

PBS initiated work on development of customized dashboards while PSLM-SDGs and price statistics dashboards have been developed successfully with time series data available with possible level of disaggregation and visualization with help of graphs for easy access of data users. Further work on development of dashboards for Population & Housing Census and other activities is currently in progress.

2.16 Provincial Bureaus of Statistics (BOS)

The Planning Commission of Pakistan and International Bank for Reconstruction and Development (IBRD) recommended the expansion of statistical activities for data collection from Federal Government to the provinces to meet their data requirements at national and international levels. Resultantly the offices of Bureau of Statistics (BOS) were started in East and West Pakistan in 1957, while the West Pakistan BOS was divided into four provincial BOS offices in 1970 to provide statistical data for provincial governments. The four provincial BOS were declared as attached departments of relevant provincial Planning and Development Departments in each of the four provinces of Pakistan (Younis, 2016). The provincial bureaus are Punjab BOS, Sindh BOS, Khyber Pakhtunkhwa BOS, and Balochistan BOS, while Gilgit Baltistan (GB) and Azad Jammu & Kashmir (AJ&K) do not have full-fledged BOS offices. However, GB has a plan to establish a statistical cell with the help of UNICEF. AJ&K has a statistical cell in the Planning and Development Department. The provincial BOS are working under the Provincial Planning and Development Departments, headed by Director Generals, supported by Directors, Deputy Directors etc. A collective organigram

of provincial BOS is depicting the overall hierarchy of four provinces which is more or less the same with little difference, if any, for each province. Total strength of provincial BOS is given in the Facts Sheet at Annex-I. Let us briefly discuss the current situation of provincial BOS.

Collective Organigram of Provincial BOS
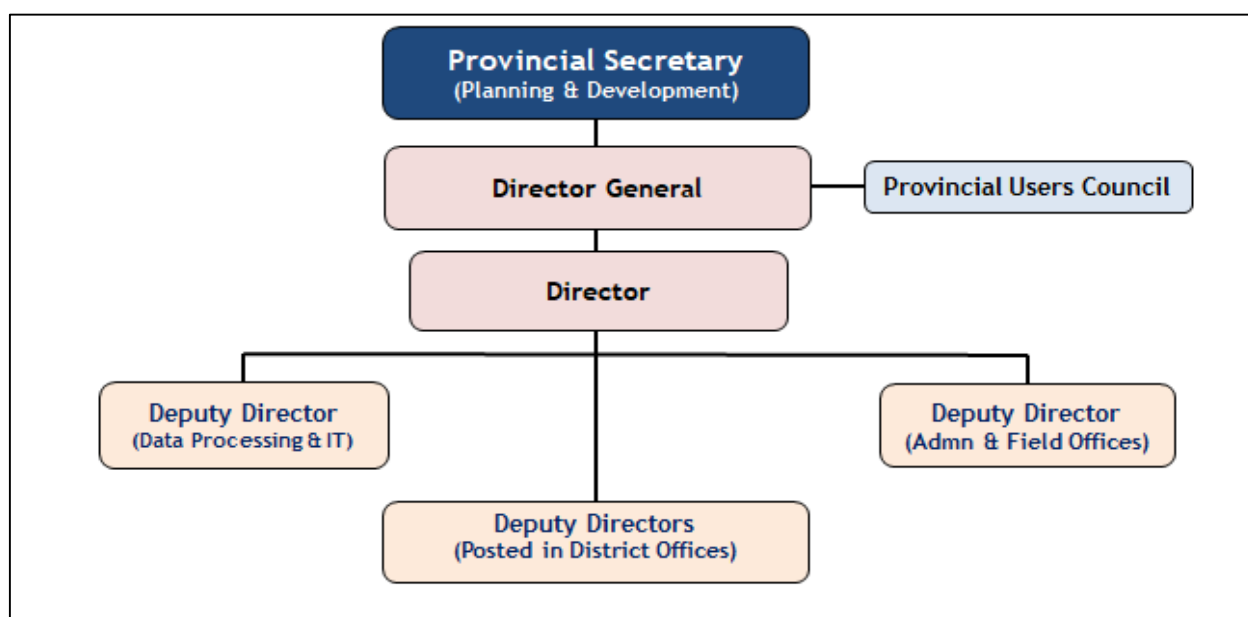
2.17 Functions and Products of Provincial BOS

The standardized functions of provincial BOS are to carry out provincial level data collection, to coordinate and support statistical activities across the province, to liaison with the Federal statistical system, and to prepare and disseminate provincial indicators by collecting information through institutional sources as well as by conducting new censuses and surveys. The main functions of provincial BOS are summarized here which are approximately the same in four provinces with may be little differences somewhere.

i)   To build a sound and effective provincial statistical programme and keep it under constant review to meet the provincial requirements within the framework of NSS.

ii) Maintenance, collection, compilation, and tabulation of statistical data on socio-economic indicators at provincial level, prepare publications, and arrange printing to disseminate the statistical information.

iii) To adopt and follow National Statistical Standards and procedures in collection, tabulations and presentation of various statistical series at provincial level.

iv) To formulate provincial policies regarding adoption of national recommendations for collection of statistics. To identify and eliminate duplication in provincial statistics.

v) To act as liaison between Federal and Provincial Governments and statistical matters and to serve as a Secretariat for the Provincial Users Council.

vi) To extend technical guidance and assistance to other Provincial Statistical Cells when required with reference to their technical problems in designing, conducting censuses and surveys, processing of data and preparing their reports.

vii) To prepare and maintain up to date frame for conducting provincial censuses and surveys.

viii) Acting as electronic data processing agency for statistical requirements of the Provincial Government.

In addition to many individual publications of each provincial BOS, the every BOS publishes its own provincial statistics in shape of "Development Statistics" and "Province at a Glance" separately. Provincial BOS collect data on crop acreage with the help of Director Land Records and share it with provincial CRS to develop estimates for crop production. These crop estimates are approved by the Agricultural Statistics Coordination Board under the Chairmanship of Chairman Planning & Development Board. Land use statistics are also collected through provincial Revenue Departments and are published by provincial BOS. The provincial BOS conduct different provincial censuses and surveys like Census of Manufacturing Industries (CMI), Monthly Survey of Industrial Production & Employment, Directory of Registered Factories, data on Educational Institutions, Health Statistics etc. The **Census of Manufacturing Industries (CMI)** convers all industrial establishments with work force of more than 10 employees presently working and registered under the Factories Act 1934. The provincial BOS provide monthly industrial production data of specified items for monthly **Quantum Index of Manufacturing (QIM)** released by PBS. The provincial BOS are conducting School Census every year to provide data to the Provincial Education Management Information System (PEMIS), and also collect data on health for Provincial Health Management Information System (PHMIS). Punjab BOS is regularly conducting monthly survey of industrial production and

employment. They are publishing and updating the directory of registered factories in the Punjab on annual basis. Statistics of arts and science intermediate and degree colleges in the Punjab are also collected and maintained on annual basis by the Punjab BOS.

All the provincial BOS are conducting an important survey named as Multiple Indicator Cluster Survey (MICS) to provide the province level development indicators. Brief of every province for MICS is discussed here.

2.18 Multiple Indicator Cluster Survey (MICS)

The MICS exercise was started in Pakistan in 1995 with the collaboration, technical and financial support of UNICEF and sampling services of PBS for four provinces. The MICS covers major socio economic indicators including environment, water and sanitation, nutrition status, child health, infant mortality, reproductive health, child development, literacy and education, child protection, child birth registration, ante-natal care, HIV / AIDS and orphans.

First of all, the MICS was started by the Punjab BOS in 2003-04 covering 44 socio economic indicators and having sample of 30,932 households (HHs) from 2,190 randomly selected primary sampling units (PSUs) of clusters at district level throughout the Punjab province. The scope and coverage of MICS were extended in 2007-08 by collecting data for 70 indicators through selecting a larger sample of PSUs comprising of 6,368 clusters and 91,260 HHs at Tehsil level in the Punjab province. The Punjab BOS is continuing the MICS exercise for providing Tehsil level indicators. The Sindh BOS started MICS exercise in 2010-11 which was district level survey covering 26,648 HHs. The Khyber Pakhtunkhwa BOS conducted MICS first time in 2001 with the support of UNICEF and Provincial Planning & Development Department and for second round in 2008 to collect the data for district level indicators. Balochistan BOS with the help of Provincial Planning and Development Department has also started the MICS in Balochistan province according to the standards adopted by other three provinces.

However, it is worth mentioning that no MICS was conducted at national level. Therefore, in 2017, keeping in view the requirements of SDGs and to avoid the duplication of activity, PBS extended its support to conduct national coordinated MICS in collaboration with UNICEF and Provincial BOS. One of the main objectives was to draw the sample for all provinces simultaneously to provide representative results for national level indicators. In this regard, modalities, timelines, mechanism to conduct the survey and sample design required to produce national level results, and

provision of sample lists to all the four provinces and Islamabad Capital Territory (ICT) were finalized after detailed deliberations. For the purpose, a standardized set of questionnaires with fixed minimum requirements was designed for comparability objective. PBS has provided full support in terms of provision of house listing and sample design along with maps and physical identification of selected blocks. However, all provinces have their own limitations. Punjab completed its exercise and published report in 2019. Sindh and Khyber Pakhtunkhwa completed their work of data collection but data processing is in progress while field work in Balochistan is in progress and field work of ICT has not yet been initiated. Therefore, national level figures are not available so far.

2.19 Provincial Crop Reporting Service (CRS)

The Land Revenue Record System was the only source of agricultural statistics while the first Agricultural Census of Pakistan conducted in 1960 was mainly dependent on this system. However, the experts could not search out a way for current agricultural data except creation of statistical cell in provincial agriculture department which was ultimately converted to the Directorate of Crop Reporting Service (CRS) Punjab in 1978. The CRS is responsible to ensure the reliable and timely estimates of area and production of major and important minor crops. These estimates are developed on the basis of information collected from selected Mouzas. These Mouzas were previously selected probability proportional to wheat area (Younis, 2016). With the passage of time, keeping in view the importance of agricultural statistics every province of Pakistan established its own Crop Reporting Service (CRS) having Directorate of CRS working under the Provincial Secretariat of Agriculture Department, while GB and AJ&K don't have such type of service. The provincial CRS are basically providing acreage and production estimates for major and minor crops in both the cropping seasons of "Rabi and Kharif". The major food and cash crops are wheat, rice, cotton, sugarcane, and maize while other crops like fodder, sunflower, pulses, tobacco, water melon, potato, including vegetables are considered as minor crops. Provincial CRS are doing data collection exercises in the sampled Mouzas of every district of the concerned province except Balochistan. The Mouzas are scientifically selected according to envisaged sample designs with the help of PBS using different suitable sampling techniques and these sample designs are also revised according to needs of provincial CRS. However, Balochistan CRS is collecting information from available farmers using subjective approach and providing production estimates without using statistical scientific techniques for selection of Mouzas, fields and crop cutting experiments. There is also need of sample selection of Mouzas / Killis / Basties in Balochistan using sampling techniques just like other three provinces through crop cutting to

develop production estimates. The provincial CRS also conduct various surveys in selected Mouzas from time to time to provide reliable, accurate and timely estimates to the government for timely planning regarding import, export, food prices, food security, industrial raw material, and development projects for agriculture and auxiliary industries. A collective organigram for provincial CRS is given to depict the hierarchical arrangements which are more or less same in four provinces except minor differences, if any. The Facts Sheet is placed at Annex-I to reveal the strength of provincial CRS for completion of previously discussed assignments. These assignments include surveys mentioned here.

i)   Acreage Estimation Surveys for Rabi and Kharif crops.

ii)   Yield Estimation Surveys at the time of harvesting of relevant crops.

iii) Crop Condition Surveys during cropping season to assess the crop health.

iv) Growers' Opinion Surveys for important crops about acreage and yield.

v)   Surveys on Harvest Prices (Farm Gate Prices).

vi) Cost of Production Surveys for different crops.

vii) Survey of Agricultural Machinery.

Collective Organigram of Provincial CRS
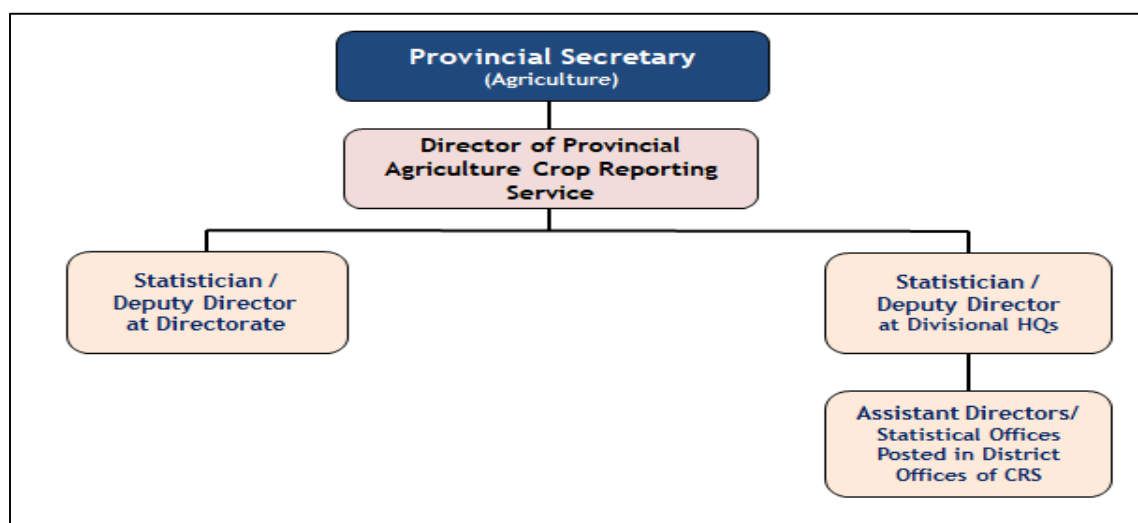
The provincial CRS are collecting, producing and providing agricultural data including land use statistics for provincial as well as Federal level publications. They publish provincial agricultural statistics data and provide required data to the Federal Government for publication of "Agricultural Statistics of Pakistan" on yearly basis which is the main country level publication on this topic.

2.20 Other Producers of Official Statistics

In addition to above mentioned Federal and Provincial statistical organizations providing official statistics, there are a few other important organizations which are collecting, producing, processing, and publishing statistics for the benefit of data users and policy makers.

2.21 Pakistan Public Administration Research Centre (PPARC), Establishment Division

The Establishment Division is responsible to collect, maintain and review the strength of Federal government employees. For this purpose, the Statistical Cell of PPARC has been conducting triennial Census of Federal Government Civil Servants since 1963 and collecting important data items relevant to the Federal Government employees. For every census after three years, the census questionnaires are sent to each and every Federal Government civil servant through their administrative Incharge, wherever the civil servants are working at the time of census throughout the country. After filling the questionnaire, the civil servants send it back through proper channel to the PPARC, Establishment Division. After retrieval of filled-in questionnaires, the data are processed and tabulations are generated for publication. The census reports have been publishing after every more or less three years showing salient features of Federal civil servants e.g. department, designation, basic scale, age, sex, date of birth, religion, total service, academic qualification and professional experience, foreign and local trainings, marital status, number of children, particulars of spouse, ownership of vehicles and property, physical disability etc. Data processing till 15th census was done by the Pakistan Computer Bureau (PCB) which was afterwards held due to restructuring of PCB as National Information Technology Board (NITB). Therefore after 15th census, PPARC is facing problem for data processing. In addition to the triennial census of Federal government Civil Servants, PPARC is also publishing Annual Statistical Bulletins separately for the Federal Government Employees and for the Employees of Autonomous Bodies. The data for census is provided by every civil servant through filling a questionnaire while data for annual bulletins is collected from administrative records of every Ministry, Division, Department, and Office through In-charge of Administration Branch with reference time of 1st July of each year. Both the annual bulletins are published regularly to meet the demand of current data, about employees of the Federal Government, by the Parliamentarians, Ministries, Divisions, different Commissions, Missions, and Committees, and public at large.

2.22 Ministry of Finance

Ministry of Finance is producing, maintaining, and publishing very important statistics regarding financial issues in the country and their most important publication is the Economic Survey of Pakistan showing reliable data for every sector of the economy, which is published by the Economic Adviser's Wing.

2.22.1 Economic Adviser's Wing of the Ministry of Finance

The Economic Adviser's Wing of the Ministry of Finance (MoF) is regularly publishing most important publication "Pakistan Economic Survey" on annual basis. They are not involved in the collection of data or the compilation of the budget but publish economic statistics in the Statistical Supplement of its annual publication called the Pakistan Economic Survey. It is the country's most popular economic publication with ample of data, figures, tables and charts. The term "survey" has a hybrid meaning. It can be an organized statistical inquiry falling under "statistics". But it can also be an expertise or an assessment of a situation of whatsoever kind. The "Pakistan Economic Survey" belongs to the latter category but because of its misleading title, some journalists and users may not be aware that most of its figures stem from PBS and from the State Bank of Pakistan (SBP), including especially those on National Accounts.

2.22.2 Government Finance Statistics

For internationally agreed macro-economic statistics, United Nations, IMF, World Bank, OECD and others have developed some core frameworks manuals which meanwhile are reconciled with each other. The most important ones are the System of National Accounts, the Balance of Payments Manual, the Monetary and Financial Statistics Manual, and the Government Finance Statistics Manual. Reporting to the international bodies like UN and IMF is based on these manuals. In Pakistan, Government Finance Statistics are in the responsibility of the Ministry of Finance. In this capacity but also in its function as the country's custodian of Federal Government's expenditure and revenues, the MoF is providing publications on Government Finance Statistics like fiscal policy, public debt, and Finance Division yearbook. Moreover, the Fiscal Responsibility and Debt Limitation Act 2005 require dissemination of the medium term budgetary statement, the fiscal policy statement and the debt policy statement. The MoF compiles monthly, quarterly and annual fiscal data for the Federal Government and releases its publications on its website.

2.22.3 Foreign Economic Assistance

The Economic Affairs Division of Ministry of Economic Affairs maintains data on foreign economic assistance related to the Government of Pakistan and its constituent units from foreign Governments and multilateral agencies. The issues regarding external debt management and matters relating to technical assistance to foreign countries, credit to friendly countries on lending / re-lending of foreign loans and monitoring of aid utilization are being handled by this Division. It publishes data on assistance by donor, type of aid, committed and disbursed and undisbursed amounts as "status report" on its website. The figures are used by SBP for compiling the Balance of Payment.

2.22.4 Federal Board of Revenue (FBR)

The Federal Board of Revenue publishes statistics on its revenues and on sales and trade figures on imports and exports. The Directorate of Research and Statistics is the statistical organ of the Board and is under Member Statistics & Planning, FBR. It receives unit wise, head wise information pertaining to revenue receipts from three Large Tax Payers Units (LTUs) and Regional Tax Payers Offices (RTOs) that deal in the Inland Revenue Receipts e.g. sales tax, federal excise duties and direct taxes. In addition, these field formations produce statistical data ancillary to revenue receipts including classificatory variables such as kind of economic activity.

For the purpose of import and export data, there are 13 Model Customs Collectorates that receive information from different sea ports, air ports and dry ports located all over the country. After receiving information from all the field formations, the Directorate of Research and Statistics compiles and disseminates the information at national level. Nearly all the Custom entry and exit points and ports as well as the Model Customs Collectorates, LTUs and RTOs are computerized and interlinked through IT. For this purpose, the directorate depends partially upon the automation done by the Pakistan Revenue Automation Limited (PRAL), a subsidiary entity of FBR, and the software developed by PRAL.

The trade figures of commodities are provided by FBR to PBS on monthly basis which are released by the PBS. These figures are based on commodities received and shipped from customs entry and exit points, on the basis of value of commodities declared by the importers / exporters in the Goods Declaration Forms. The State Bank of Pakistan also compiles trade data of export of

commodities and services separately based on funds received and transferred through commercial banks.

2.23 State Bank of Pakistan

State Bank of Pakistan (SBP) is the central bank of Pakistan and performs both the traditional and developmental functions to achieve macro-economic goals. The traditional functions include issue of notes, regulation and supervision of the financial system, bankers' bank, lender of the last resort, banker to Government, monetary policy, and management of public debt, management of foreign exchange, etc., advising the government on policy matters and maintaining close relationships with international financial institutions. The nontraditional or promotional functions include development of financial framework, institutionalization of savings and investment, provision of training facilities to bankers, and provision of credit to priority sectors. By its very nature, it is an important user as well as producer of official statistics. SBP has Statistics and Data Warehouse Department headed by a Director who reports to the Chief Economic Advisor.

The Statistics and Data Warehouse Directorate is responsible for compilation and dissemination of timely and reliable statistics on economic, financial and monetary aspects pertinent to the core functions of the central bank. The statistics are also used by the government for formulation and monitoring of different policies and by researchers, academic institutions and international agencies for undertaking detailed analysis of Pakistan's economy. Data on money and banking, international trade, monetary accounts, balance of payments, exchange rates, foreign exchange reserves, foreign direct investment and private external debt, domestic debt, flow of funds accounts, etc. is communicated through its website as well as periodic publications on weekly, monthly and annual basis.

Most of the data are collected electronically and processed using specially designed software under Data Warehouse of SBP. With the adoption of the state of the art systems of Data Warehouse, the desired statistics are now produced more efficiently with significant improvements both in terms of quality as well as timeliness. All the important statistics are compiled and disseminated according to the standard procedures recommended in the relevant manuals prepared by the international organizations and fulfill the requirements of both GDDS and SDDS. Detailed data on banking statistics is disseminated through a biannual publication titled "Statistics on Scheduled Banks in Pakistan". Part of the data is also published in Monthly Statistical Bulletin and annual publication of "Banking Statistics of Pakistan".

2.24 Ministry Of National Food Security and Research (Economic Wing)

The Economic Wing of Ministry of National Food Security and Research is regularly publishing "Agricultural Statistics of Pakistan" which is a data bank on agriculture at national level. They are not collecting primary data directly from the field but are compiling secondary data after receiving from different sources. The Agricultural Statistics of Pakistan can be considered as a compendium on agricultural statistics comprising of time series data on annual basis. It has data about area, production, and yield of important major and minor crops, vegetables, fodder, fruit, land utilization, irrigated area, agricultural inputs, agricultural credit by different banks, farm mechanization, livestock, fisheries, forestry, trade of agricultural commodities, prices of agricultural produce etc. They are facing problems in data collection from different organizations which causes delay in publications.

2.25 Zarai Taraqiati Bank Limited

The Agricultural Development Bank of Pakistan has been renamed as Zarai Taraqiati Bank Ltd (ZTBL). The main functions of ZTBL are to provide finances to the farmers in agriculture sector particularly the small farmers for production as well as development of agriculture sector. These loans are categorized as production loans disbursed at sowing season of crops and development loans for the development projects in agriculture. Information about agricultural loans distributed among farmers, is maintained by the ZTBL itself and is provided to the SBP, Economic Wing of M/o National Food Security and Research and some other organizations for their publications.

In addition to above many other organizations have arrangements for data collection and maintenance but they need training for proper establishment of statistical cells. FIA collect and compile data for preparation of different reports, bulletins and financial yearbook and they developed Case Management System (CMS) for these data but without statistical capacity. Ministry of Industries and Production collects data on Large Scale Manufacturing (LSM) and provides the same to PBS for computation of Quantum Index of Manufacturing (QIM). Small and Medium Enterprises Development Authority (SMEDA) also collects data for research work, case studies and services to Small Medium Enterprises (SMEs) through surveys. SMEDA needs data from future Economic Census by the PBS for their policy making. National Productivity Organization (NPO) is also using data on workforce for major sectors and their productivity. Export Processing Zones Authority (EPZA) collects and maintains the data on companies working with the zone, export, import, and

labour data. Technology Upgradation and Skill Development Company (TUSDC) collect secondary data for their projects and research. Pakistan Telecommunication Authority (PTA) also collect and maintain data about telecom indicators on monthly and quarterly basis. Oil and Gas Regulatory Authority (OGRA) is also producing and maintaining the statistics about oil and gas production in the country having no statistical set up. Planning Commission is also collecting data for preparation of annual plans, five year plan, special assignments, public sector development programme (PSDP), and growth strategy from secondary sources. They are end user of the data for analysis and research purposes. Statistics are also maintained in different sections of Ministry of Foreign Affairs. Many other organizations are also producing statistics but they don't have proper statistical system within the organization like National Highway Authority etc. There is need of establishing statistical cells in these organizations after getting proper training from the PBS.

2.26 Capacity Building in NSS

Training is one of the basic ingredients of human resource development in an organization. All organizations irrespective of their size should have training schedules and rotation programmes to impart proper and continuous training to their personnel working in different capacities for methodically improvement and enhance the quality of professionalism. Practical application of theory in the real life situation necessitates the role of practical training and internship program. Statistical practitioners working in the NSS are the backbone of collection, compilation, analysis and interpretation of statistical series. They need on Job trainings for continue improvement in their professional skills. To meet the training requirements, the Pakistan Institute of Statistical Training and Research (PISTAR) was established on 29-06-1986 under the Statistics Division, which was later on merged with PBS as Training Wing. The Training Wing (TW) of PBS is responsible to plan, organize and conduct training courses regularly for statistical personnel of various levels, cater training requirements of statistical personnel working in the NSS. It is also responsible to conduct research in statistical methods and data collection, compilation, analysis, and interpretation and to improve the capacity of statistical practitioners for writing research papers on popular topics with reference to data collected through various censuses and surveys specially those conducted by NSS. TW also has to arrange workshops and seminars on important topics in the field of statistics, economics and other allied subjects.

Training Wing of PBS provides trainings to the statistical practitioners working in PBS, BOS, CRS, and other Ministries, Divisions, Departments. PBS has conducted number of trainings for these professionals in the past years. However, continue schedule of trainings throughout the year may be implemented for the improvement and development of professionals working in the NSS. To improve the capacity building in NSS, a central Statistics Training and Research Institute (STAR) may be established and fully equipped with state of the art training facilities to conduct regular courses and to create research environment in the NSS.

CHAPTER-3

3.1 Data Gap Analysis

There are different data collecting organizations generating official statistics while working in the NSS of Pakistan and ocean of data are produced and disseminated by these organizations having offices throughout the country at Federal as well as Provincial levels. All these organizations are working according to their best available facilities and resources to produce reliable and timely data. However, there is need of systematic, coherent, and reconciled approach for the development of NSS. All the organizations of statistical system must be agreed and committed to adopt international standards, common use of definitions and classifications, common links with academia and the users, common occupational standards and ethics, and sharing of workload among Federal and Provincial governments, for the development of system and to identify the duplication of data collection exercises and data gaps required to be filled within the NSS.

The new statistical law i.e. General Statistics (Reorganization) Act 2011, provides the functional autonomy to PBS with a Governing Council, a professional Chief Statistician and five functional Members. The Act empowers PBS to collect, compile and disseminate statistical information according to the needs of the society. It allows PBS to formulate, prescribe and implement principles to collect official statistics in the country including standardization and harmonization of concepts, definitions, and classifications. The Act also asks PBS to introduce schemes to reduce the duplication and to resolve the differences in data collection exercises which is an important step towards data gaps. The PBS is also mandated to employ a Statistical Fund mainly for capturing financial assistance from the donors. Under new environment, the PBS is producing statistics with more confidence of independence and autonomy. Although data collection exercises at Federal level are covering social, economic, agricultural, and industrial sectors, however, improvements are always required. There is need to explore new subjects in addition to routine based data collection exercises for which identification of data gaps is required particularly with respect to SDGs. Therefore, data gaps identified are briefly explained here.

3.2 SDGs and Data Gaps

PBS has undertaken the detailed data gap analysis along with Ministry of PD&SI and UNDP, keeping in view the SDGs and reviewed different surveys conducted by PBS and other surveys conducted in Pakistan by other organizations. After in depth analysis, a comprehensive data gap report

was prepared and published in 2018. SDGs report on "Data Reporting Gaps" identified survey sources and administrative sources of the data that can be used to compute the indicators (UNDP Pakistan, 2018). SDG unit in the Ministry of PD&SI formulated criteria for selection of reliable sources of data for indicators reporting on SDGs when following issues are found:

i) Data can be reported through two different sources, i.e., survey data and administrative data, which one to prefer?

ii) In both the cases there can be several overlaps and duplications.

iii) Issues of definitions in different surveys to compute same indicator.

iv) Regularity of data and level of disaggregation required.

Following criteria are setup in the data gaps report:

i) Authentic and reliable data includes major objective of data, regular and preferable Government source data.

ii) Required data disaggregation depending upon the demand and can be aggregated at national level.

iii) Frequency of survey that should be regular.

Data gap analysis reveals that PBS is the main agency for monitoring and reporting on SDGs as 69 indicators have been assigned to PBS while 58 indicators of SDGs are covered by PBS through its surveys, censuses, and secondary data out of total 244 SDG indicators. PBS will manage to cover rest of the assigned 11 indicators in coming years. Following are the main sources of monitoring of 58 SDG indicators in PBS:

i) Thirty one SDGs indicators are monitored through PSLM district level (19) and HIES (24) amended questionnaires. Twelve indicators are covered in both the surveys.

ii) Eleven SDGs indicators are monitored through the Labour Force Survey.

iii) Six SDGs indicators are monitored through National Accounts.

iv) PDS has also planned to cover one indicator while agricultural census will monitor four indicators.

v) Social statistics section will monitor two indicators.

vi) Three indicators are regarding National Statistical Policies and Strategies.

List of Indicators monitored by PBS is at Annex-II.

Sustainable development goals, though built on MDGs, are much wider in terms of their inclusive scope and qualitative nature. UNDP Pakistan (2018) highlighted in Annexture-I and Table-2 of their report on data gap analysis that out of 244 indicators, 69 can be reported through survey data, 101 through institutional data, and 74 can be reported from other sources for Pakistan. Out of these 74, there are 14 indicators which are not applicable while, rest of the 60 indicators are yet to be decided either due to non-availability of data or definitional issues. This reveals that still there are data gaps which need to be addressed either conducting special surveys by PBS or by supporting other organizations for collation of data. PBS is of the view that following surveys and studies may be conducted to monitor SDGs as there is neither mechanism nor data source available to monitor these indicators.

3.2.1 Proposed Surveys to Monitor the SDGs

i) A comprehensive survey can be conducted to monitor all aspects of violence against women including physical, sexual, psychological (SDG 5.2.1. 5.2.2).

ii) There is need to conduct "Time Use Survey" for monitoring of the "Proportion of time spent on unpaid domestic and care work, by sex, age and location", SDG indicator 5.4.1. PBS conducted this survey in 2007-08 and it is rich source of data for Gender Responsive Budgeting initiative and other policies.

iii) Secondary information can be compiled by PBS on crime, climate indicators of SDGs by considering metadata of indicators.

iv) Some of indicators related to agriculture will be monitored through forthcoming agricultural census. However, there is need to conduct studies to monitor the below mentioned indicators after conduct of agricultural census.

    a. Indicator 2.3.2: Average income of small-scale food producers, by sex and indigenous status.

    b. Indicator 2.4.1: Proportion of agricultural area under productive and sustainable agriculture.

    c. Indicator 15.3.1: Proportion of land that is degraded over total land area.

3.3 Other Data Gaps

The NSS currently is responsive to needs articulated by donor agencies, especially when they indicate to fund the respective surveys. But the system is neither responsive nor relevant to expanding

needs of policy makers and other stakeholders. There has been a lack of knowledge of these needs. Areas like labour productivity, producer price index, quarterly national accounts and environmental accounting have still to be included in the system. Very little research is done on methodologies and issues to be covered in data collection and dissemination. This is due to lack of an effective linkage between the producers and the users of data. Lack of research environment in the NSS is also another factor for this deficiency. These deficiencies ultimately affect the need based and timely release of data.

Timeliness of data is essential for an effective NSS as there is always demand of current and latest data by the data users. The reports of censuses and surveys conducted by the organizations have been delayed due to outdated and uneconomical systems of data compilation, whereby paper based questionnaires are filled by the enumerators at distant locations, sent to respective headquarters for checking and then passed on to the computer sections / centres for data entry with a time consuming data collection and processing system. Many of the statistical bodies in the world are using tablet or laptop computers by their enumerators to collect data and convey it electronically for compilation. This would require a complete review and overhaul of the current IT structure, both hardware and software. A data security system needs to be put in place.

After 18th Constitutional Amendment, the provincial statistics need more emphasis to meet the data requirements about more subjects shifted to the provinces. There is more need for strengthening the NSS to develop a coherent, coordinated and sustainable system of data collection, processing, analysis and dissemination for good governance at Provincial as well as Federal levels. The Provincial BOS may not be able to meet these requirements due to capacity constraints. For PBS, it is a challenge to extend its statistics by disaggregation of data at Provincial, Regional, and District levels and also to provide leadership, guidance, coordination, and support in establishing a system which would have chain linkages both vertical and horizontal which must meet the increasing data needs of all levels of the Government. The data generated at different levels need to be comparable both across time and space. Such a system of integration would require a coordinated action at various levels by the organizations being part of NSS with PBS as NSO.

The system needs to meet the requirements of internationally agreed standards, methodologies, and principles not only for a coherent comparability and consistent aggregation but for meeting the requirements of international donors and foreign creditors and investors. In view of varying levels of technical and institutional capabilities, priority perceptions, and low importance

given to statistical function in different organizations and provincial tiers of the system, it would be necessary not only to prescribe and articulate the methodologies and systems but also to provide guidance and technical support by the PBS.

Another necessary requirement is the harmonization of classifications as well as the IT applied since heterogeneous use of processing software, programming and file saving formats leads to inefficiency or loss of comparability at all. Coordination would be required within the federal level as well as between federal and provincial level and among the provinces.

Statistical data is a national asset paid for by the tax payer and it is right of all stakeholders including researchers to have access to it within the framework of protection of privacy in a historic time series and in modern research languages without any hindrance. The new General Statistics (Reorganization) Act 2011 indicates that "The Bureau shall ensure timely publication of data collected, to take reasonable steps to ensure public access to official statistics, to public information on what statistics are available and how that can be obtained by the users". In our situation, printed statistical reports are provided to government departments and latest reports are available on website while time series in electronic format are not available. Provision of metadata has to be part of the offer. This apart from technical work will require client oriented dissemination of electronic data, possibly organized in the form of a data warehouse and a national data portal. This approach at the end of the day shall result in increased propensity of governments, investors, analysts and researchers to make evidence based decisions.

The National Statistical System currently places more emphasis on surveys and censuses which are both expensive and time consuming and therefore, carried out in multiannual periodicity only or even on adhoc basis. In the case of enterprises and establishments, there is the additional problem of low response and an inadequate sample frame. The administrative records which should be the major source of data collection are neither automated nor updated in view of low priority accorded by the administrative ministries and departments to the statistical function. PBS has to coordinate with the relevant ministries in developing up to date IT based systems of administrative records with linkages to it through a regular reporting system. The Business Register established by PBS could serve as a model for this purpose. For example, while imposing the reformed GST, the FBR should provide secondary data to PBS for conducting statistics out of it and there should be standardized classification of industrial activity. Such statistics would help to meet the dire need of

short term economic statistics for monitoring the business cycle and for launching Quarterly National Accounts.

Pakistan currently subscribes to the IMF's GDDS though the authorities are keen to elevate to participate in the IMF's SDDS. Both standards provide good data dissemination aspects regarding the institutional setup and legal provisions, statistical methodology and dissemination practices that the national statistical agencies can follow. Major outstanding issues for Pakistan to meet the SDDS requirements are quarterly data on national accounts with one quarter lag, quarterly data on wages/earnings with one quarter lag, quarterly data on employment and unemployment with one quarter lag, and monthly data on central government operations with one month lag as well as dissemination of advance release calendar of important statistics. There is a need to provide a more precise "Advance Release Calendar" with regard to various kinds of statistical series and data produced and disseminated by the statistical agencies.

Capacity building in terms of infrastructure and human resource are highly essential for creating an environment conducive for production of quality data throughout the organizations being part of NSS. There is a need to have a streamlined system for recruitments so that the organizations do not have to wait for posts to be filled. There is also a need to formulate fresh service rules to attract quality talent in all relevant fields and cater to needs of career planning, rewards and training for performance-based management. There are possibilities of improving human resource without aggravating costs. There is a need to provide extensive training in technical and management levels. For the technical training it is necessary to impart training in methodologies, techniques and standards of official statistics both for the beginners and for existing work force. Training in statistics amongst other areas would cover training in modern computer software which is dialogue oriented and can be applied to replace the present out dated systems. Training in IT will also aim at reorienting work in computer centres in favour of client server applications and related support in networking and interactive work in real time.

Research in applied statistics is currently missing which has affected development of techniques, methodologies and new areas of data collection. There is therefore, a need to concentrate on training and research in applied statistics. In Pakistan, the colleges and universities do not provide education in this area. As a result, fresh graduates need additional training and work experience to be productive for statistical organizations. Universities may be encouraged to add courses on official and applied statistics as approved by the HEC in their academic programs at graduate and post graduate

levels. There is also a need to encourage research on National Statistical data through ensuring greater access to micro data to academia and researchers both from institutions or individuals as this will contribute to improving quality of data and expanding its demand.

There is a need to win public support for statistics through mass awareness. It can be done through press conferences on statistics releases on regular basis. Use of print, electronic, and social media for regular statistical messages, talk shows, and programmes are missing. Moreover, there is a need to follow an effective data dissemination plan to create public awareness about statistics.

At the moment, there is limited public private partnership in developing official statistics. In some countries private sector has been involved in supplementing national statistics to overcome resource constraints with State institutions and in order to make the system more responsive to demand from stakeholders particularly the private sector. In our situation private organizations have recently been involved by donors in conducting surveys for Benazir Income Support Programme, floods loss assessment, and COVID-19 pandemic situation. Such institutions and academia could be utilized to contribute to strengthening national statistical system. However, the data collection by the private organizations should be in conformity with the standards and methodologies prescribed by the PBS in order to enable the data to qualify to be designated as reliable statistics.

3.4 Data Gaps about Business Enterprises

PBS collected data about economic activities including business enterprises during Economic Census 2001-05 but after that no such type of census could be conducted while data requirements are increasing day by day. State Bank of Pakistan also highlighted the need for census of business enterprises which is required for National Financial Inclusion Strategy (NFIS). Small and Medium Enterprises Development Authority (SMEDA) is the apex SME development agency of the Federal Government and also highlighted the need of data about business enterprises. SMEDA Ordinance 2002, interalia empowers the organization to facilitate the growth and development of SMEs. Adoption of unanimous SME definition by all institutional stakeholders is critical for developing policies, programs and monitoring & evaluation of the SME sector. Therefore, it is imperative that a consensus on the definition of business enterprises along with their classifications may be adopted with consultation of SBP, SMEDA, and other stakeholders while collecting, maintaining and reporting data. It is pertinent to note that, among the statistics collected by PBS, there is no segregation or even definition and classification of Small and Medium Enterprise (SME) related information. Most of the current data collection mechanisms available in the country are patterned / aligned as

Small and Large, and that too for manufacturing sector alone, with the line for small drawn at 10 employees. The data thus accumulated by PBS does not adequately serve the purpose of an informational base for policy, planning and monitoring of Small and Medium Enterprise (SME) sector, which in fact accounts for over 99% of economic establishments in the country. Therefore, there is utmost need for data about economic activities / establishments including small, medium and large enterprises.

Therefore, it is important to classify and categorize firms as "Small Enterprises", "Medium Enterprises" and "Large Manufacturing" first, after consultation with SBP, SMEDA and international definitions, then collect, compile, and report data on the same lines. This categorization is important both for policy design, targeting public sector support measures as well as monitoring and evaluation.

CHAPTER-4

4.1 SWOT Analysis

After analyzing the current situation and data gaps, the SWOT analysis depicts the internal situation of every organ of NSS for further development. The internal Strengths, Weaknesses, Opportunities, and Threats of every organization have been communicated by the stakeholders. In the light of their feedback, SWOT analysis is presented in this chapter. SWOT analysis can be depicted as:

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                    ┌───────────────┐
                    │  Weaknesses   │
                    └───────┬───────┘
                            │
                            ▼
┌────────────┐          ╭────────╮          ┌──────────────┐
│ Strengths  │ ───────▶ │  SWOT  │ ◀─────── │ Opportunities│
└────────────┘          ╰────────╯          └──────────────┘
                            ▲
                            │
                    ┌───────┴───────┐
                    │    Threats    │
                    └───────────────┘
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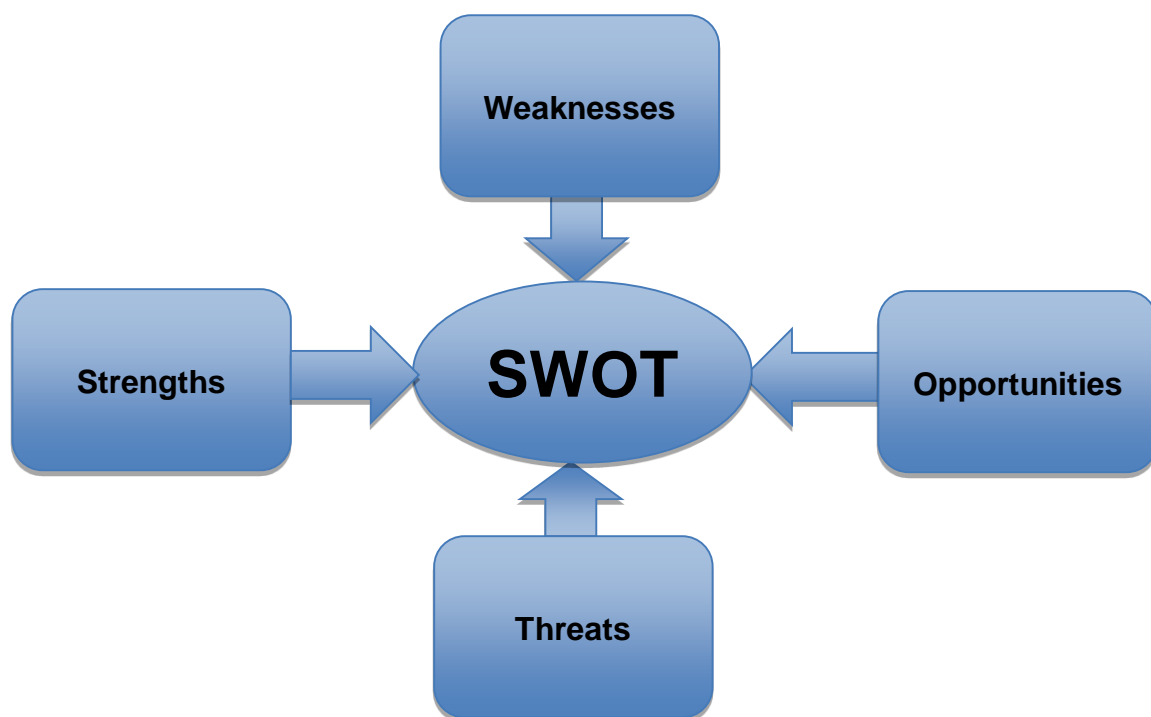
The SWOT analysis has been commonly developed for all the Federal and Provincial statistical data collection organizations. Therefore, organizations working in NSS of Pakistan can see their most relevant items only as the rest of items may belong to any other part of NSS.

4.2 Strengths of NSS

i.   Professionally well experienced experts with different academic backgrounds who are fully trained for data collection exercises of censuses as well as surveys in different fields of life.

ii.   Sufficient knowledge of sampling frames, methodologies, sample selection and implementation in the field for every census and survey.

iii. Having dedicated sampling frames for household surveys, establishment surveys, and agriculture related censuses, surveys, and studies at Federal or Provincial levels.

iv. Conducive working environment at headquarters of PBS, and Provincial Bureaus of Statistics especially in Punjab and Khyber Pakhtunkhwa.

v. NSO has network of provincial, regional and field offices all over the country.

vi. PBS being the backbone of NSS, has developed Geographical Information System (GIS) through which urban blocks have been digitized while digitization of rural blocks is in progress.

vii. GIS has also been applied and used by Punjab BOS and CRS.

viii. PBS provides price statistics weekly and monthly to the government through well developed and maintained price collection and processing mechanism through digital transformation.

ix. Provision of micro data for users for analysis and research purposes which will increase the credibility and reliability of data for policy making.

x. Provincial CRS have offices in every district and providing production estimates.

xi. PBS has started electronic data collection. Computer Assisted Personal Interviewing (CAPI) technique has also been initiated by provincial BOS for MICS and Child Labour Surveys.

xii. PBS as NSO provides guidelines to provincial statistical organizations for any provincial census or survey

xiii. PBS also helps statistical system for capacity building through trainings on sample design, data collection, compilation, data analysis, report writing, data dissemination etc. using different softwares.

xiv. PBS has new General Statistics (Reorganization) Act 2011.

xv. Governing Council as governing body for superintendence of PBS.

xvi. PBS has expertise in sample selection of PSUs to be provided to the provincial and other organizations for their data collection exercises.

xvii. According to the Act 2011, National Users Councils at Federal level has been notified for close supervision and guidance of PBS.

xviii. According to the Punjab BOS Survey "Users Satisfaction Survey-2017" more than 90 % data users showed their satisfaction and confidence for data quality.

4.3 Weaknesses of NSS

i. Lack of medium and long term strategic planning, absence of regular and long term activity schedules, most decisions are made on adhoc basis or even are donor driven.

ii. NSS is not performing its active role for provision of credible, authentic and timely statistics. The data gaps are filled by the organizations don't having statistical background and without using robust statistical techniques.

iii. Weak communication and media management resultantly not increasing statistical literacy and not creating confidence on data generated by the NSS.

iv. Non-availability of financial resources from the government compels organizations working in the NSS to search out funding agencies for new and gigantic projects.

v. Malfunctioning due to outdated IT equipment and softwares at most of the data collection organizations in the NSS. Delay in data collection, entry and processing due to paper based data collection causing late release of reports. Unit and item low and non-response in censuses and surveys particularly about personal and sensitive questions also cause delay in data collection and processing.

vi. Aging staff who are retiring year by year. Slow to adapt changes especially related to digitization due to low capacity of existing staff to manage it.

vii. Capacity building issues for officers and staff regarding on-job training particularly meager chances of foreign trainings. Lack of research and analysis for primary data provide little room for improvement in the conduct of censuses and surveys.

viii. Fear of data security and cybercrimes.

ix. Lengthy decision procedures cause delay in implementation. Non-existence of Statistics Ministry and Division delays decision procedures. Slow recruitment process resulted in number of vacant important posts. Insufficient career progression in the NSS due to inappropriate service structure result in brain drain of professional experts in the field of statistics.

x. Non-availability of updated sampling frame for establishment and business surveys. Development of Business Register in the absence of Economic Census. Business Register works as sampling frame for surveys of SMEs and LSM industries. No mechanism to build sampling frames of all intuitions in the country especially related to health and education.

xi. Non-availability and non-application of sampling procedures for estimation of crop acreage and production for Balochistan CRS as compared with other provinces.

xii. Definitional differences of concepts among different organizations.

xiii. Non-availability of all types of data produced in the NSS, at a single website or dash board having a central data base.

xiv. No regular and continue liaison between Federal and Provincial statistical organizations to support each other and to reduce the data gaps.

xv. Non-availability of quarterly National Accounts.

xvi. According to the General Statistics (Reorganization) Act-2011, the Provincial Users Councils should work as governing bodies of provincial BOS which are still inactive.

4.4 Opportunities for NSS

i. Shift from supply driven to demand driven data collection and taking care of SDGs.

ii. Adoption for the concepts of big data and cloud technology.

iii. PBS and provincial BOS have initiated computer based rapid and efficient data collection. All data collection organizations of NSS can adopt the opportunity for digital transformation from paper based data collection to android based data collection.

iv. Master Sampling Frame which can be used for all censuses and surveys at Federal and Provincial levels.

v. Sample selection for CRS Balochistan just like other provinces.

vi. Connection of agricultural census with population census to get frame of agricultural households.

vii. Arrangements for own enumeration force for huge data collection exercises like population, economic, and agricultural censuses.

viii. Use of GIS and GPS for improvement of data collection, analysis, and supervision of censuses and surveys.

ix. Quarterly and Sectoral National Accounts at Federal level.

x. Improve evidence based decision making on the basis of reliable, timely, and transparent data provided by the NSS.

xi. Strengthening credibility, and reliability of data making it independent from political and other undue influence.

xii. Develop centralized data portal for all types of produced data in the country with time series data having visualizations through maps and charts having connection with GIS, by connecting all data websites and links of data collection organizations with that portal. It will develop a centralized data bank for Pakistan and would be used efficiently for data extraction to support the policy making.

xiii. Safety measures to secure data bank from cybercrimes.

xiv. Micro data availability by all the organizations working in the NSS and to arrange for user friendly data dissemination.

xv. Coordination amongst the Federal and Provincial data collection organizations to reduce the gaps; support the provincial departments for their improvement, and to establish synergies between federal and provincial statistical systems.

xvi. Seminars and workshops by Federal as well as Provincial statistical organizations.

xvii. Improve the capacity building facilities by establishing PBS Training Wing as central Statistics Training and Research Institute (STAR). Establish STAR as Centre of Excellence for Statistics in the country.

xviii. New data series comprising of new censuses and surveys can be produced by the NSS particularly with reference to SDGs.

xix. Working on adhoc surveys and studies for emergency situation like floods, earthquake, locust attack, and COVID-19 pandemic situation, to evaluate the losses and socio economic impact.

xx. Arrangements to increase the statistical literacy.

xxi. Notifications and activation of Provincial Users Councils.

4.5 Threats for NSS

i. Irregularity of surveys and censuses which disturb the data series.

ii. Conducting surveys by different non-governmental organizations producing non-official statistics without having adequate sampling frames and proper sample design causing nonscientific and misleading results.

iii. Lack of coordination among and within the statistical organizations.

iv. Delay in release of results for population census 2017.

v. No legal support in case of denial on behalf of respondent.

vi.   Shortage of intelligent and technical experts due to lack of attractive salaries and service structure throughout the NSS.

vii. Non-establishment of PBS Training Wing as centralized Statistics Training and Research Institute (STAR).

The overall NSS needs to implement the internationally agreed standards and methodologies for data collection not only for coherent comparability but also to meet the demand of international organizations, donors and investors. The provincial and federal entities of NSS must take care of international standards by prioritizing the statistical activities through close coordination and support by the PBS. Harmonization of classifications and IT tools throughout the NSS must be standardized to avoid heterogeneous software and programming which lead to inefficiency and non-comparability of the results among federal and provincial level data. PBS must come forward to provide training to the other parts of NSS for harmonization of IT procedures.

There is problem of low and non-response for censuses and surveys in general and in particular surveys related to the enterprises and establishments due to old sampling frame. Economic Census is the utmost need of the day for this purpose so that at least a Master Sample Frame should be used for surveys on SMEs, for QIM etc. Business Register must also be developed and FBR should supply required data to the NSS according to the standardized classification of industrial activities finalized after consultation with SBP, SMEDA, PBS, and provincial BOS. These statistics can be utilized as short term economic statistics for monitoring business cycle and for National Accounts. The administrative records may also be upgraded and updated according to the guidelines of NSS as these are major sources of data for statistical activities. A regular reporting system may be developed by each Ministry, Division, and Department to provide online administrative data to the NSS.

The strengths of NSS will be further strengthened through improving weaknesses and converting weaknesses into opportunities, while opportunities will further become real strengths after controlling threats by devising fruitful strategies. In the light of SWOT analysis let us develop strategic framework for the period of ten years from 2021 to 2030. These strategies will be implemented for short term and long term time frames.

CHAPTER-5

5.1 Strategic Framework for 2021-30

The Marrakech Action Plan for Statistics (MAPS) was adopted, among others, with the resolution that developing countries should prepare NSDS to improve their statistical system for better statistical output. Resultantly the PARIS21 prepared guidelines to draft NSDS and the developing countries prepared their NSDS according to their needs. The focus of NSDS for Pakistan is to devise a strategic statistical plan for coming ten years from 2021 to 2030. This plan will also provide opportunity to the NSS to provide data for SDGs so that in 2030 Pakistan would be able to provide data for all the indicators. The strategic framework provides basic structure to propose the short term (2021-25) and long term (2026-30) plans for development of statistics in the country through improvement in the NSS. The mission and vision statements are required prior to plan strategies for improvement in the NSS for the next ten years.

Let us present the mission and vision statements, core values and strategic plans of our NSS in Pakistan in the light of situation, data gaps, and SWOT analyses. The mission is a short statement covers the purpose of organization, its goals, products and services. However, vision statement shows the direction and road map that where the organization will be after certain time period. Being NSO of Pakistan, PBS has developed mission and vision statements keeping in view the overall statistical system. The other organs of NSS can also develop their own mission and vision statements. However, strategies have been collectively devised for all the statistical partners of NSS and they can implement relevant strategies in the organizations.

5.1.1 Mission Statement of PBS

To design, produce and disseminate the reliable, authentic, timely, and transparent data compatible with needs of the economy, socio-economic development requirements of the nation, consistent with international standards and to provide capacity building opportunities in the National Statistical System (NSS) of Pakistan.

5.1.2 Vision Statement of PBS

To provide relevant, quality and user friendly statistical information through digital transformation for evidence based decision making at all levels and to improve the confidence of

stakeholders through supplying demand oriented data and by creating analytical and research environment in the statistical system of the country.

The strategic framework elaborates the strategies which can be implemented to achieve the desired goals for the enhancement in the efficiency of the NSS to approach vision statement. It is important to note that the goals should be realistic and achievable rather to make a wish list. Therefore, the goals and targets for next ten years which have to be achieved by the NSS, are defined in a way that a few of them could be obtained in short term of 2021 to 2025 and others would be achieved in long term till 2030. The statistical organizations need strategies to achieve the goals and targets for the improvement of existing practices adopted in the NSS particularly to provide data for SDGs till 2030 in addition to routine data collection exercises. First the goals and targets are given and then the strategies have been elaborated.

5.1.3 Goals and Targets

i. Provide timely, reliable, transparent, and independent official statistics for use of national and international agencies, individuals, and stakeholders.

ii. Provide Master Sampling Frame for all types of censuses and surveys. Develop connection between Agricultural Census and Population Census.

iii. Provide data in the perspective of sustainable development goals.

iv. Shift from supply driven to demand driven approach and generate new data series.

v. Efficient and responsive NSS in case of pandemic and emergency situation.

vi. Upgradation of National Accounts to enhance the efficiency of NSS.

vii. Enhance the role of Governing, National Users and Provincial Users Councils.

viii. Improve the harmony and communication within NSS and with stakeholders to compete the non-official statistics.

ix. Establishment of central data bank to provide user friendly data and to save data from cybercrimes. Introduction and implementation of new concepts of big data and cloud computing.

x. Establishment of data dissemination and media cells. Use of social media to increase the statistical literacy.

xi. Capacity building and career planning for statistical practitioners.

xii. Liaison with universities to introduce statistical practices and official statistics.

xiii.   International cooperation to harmonize and adopt international best practices and classifications for comparability purpose.

Following strategies are proposed in order to achieve the goals and targets of the NSDS.

5.2 Strategy-1: Timely, Reliable, and Transparent Data Collection

Strategy is required to provide precise information about relevant data items at the right time to improve the efficiency of NSS. To meet this goal through strategic framework, we further divide the strategy into sub-strategies.

5.2.1: Digital Transformation

Digital transformation of statistical organizations from traditional paper based data collection to android based data collection and supervision through development of monitoring softwares is the utmost required strategy for timely, transparent, and reliable data collection, processing, and dissemination. There is need of paradigm shift from traditional to smart data collection in the country. The smart data collection methodologies must be adopted after leaving traditional approach of data collection on papers. Paperless data collection by using electronic devices / gadgets must be implemented throughout the NSS to get latest data without any delay. Monitoring of the enumerators can also be done through GPS coordinates linked with GIS system to provide authentic and reliable data. Using this strategy, data from field will be transmitted electronically to computers at headquarters of every organization to avoid external influence and provide timely and quality statistics for policy makers.

PBS and Provincial Bureaus (Punjab and Sindh) have initiated this exercise which has shown encouraging results. PBS should try to adopt this strategy for future surveys and for coming Agricultural and Population censuses. The other statistical organizations should also adopt this strategy for release of timely and accurate statistics. The system for online collection of secondary data must be developed so that every data producing agency or administrative unit / office should automatically transmit the required data to the data collection organization, as soon as the data is generated, processed, and finalized. The digital transformation will reduce the human interference and manual work to the maximum which will ensure the reliability and transparency of collected information. Therefore, paradigm shift from paper based data collection to android based data collection is the demand as well as need of the time. The GIS technology must also be used for design, implementation and evaluation of various programs for digital transformation

5.2.2: Use of GIS and GPS

Geographic information system (GIS) is computer based system used for capturing, storing, managing, analyzing, visualizing and displaying all forms of geographically referenced information. All types of mapping work were done by manual techniques which were generally slow and less accurate. To overcome these problems, automation in mapping is imperative to shift from manual to automated and digital mapping. The digital maps can also be used for better planning and decision making. It is useful for actual, accurate and targeted data collection. The use of GIS through global positioning system (GPS) is very common in developed statistical systems in the world to locate the actual enumeration areas, for censuses and surveys. The GIS technology may also be used for designing, implementation, supervision, and evaluation of various programs. PBS has also used GIS for population census 2017 for preparation of maps for urban areas and now is updating the rural area frame using this technology. All statistical organizations working in the NSS should get advantage of this technology for collection of real data according to the ground realities.

5.2.3: Need Based District Offices

It is considered imperative to establish offices of statistical organizations at district level for rapid data collection. All districts of four provinces, Gilgit Baltistan (GB) and Azad Jammu & Kashmir (AJ&K) have representation in the samples selected for every census or survey and it is difficult for one district office to collect data from adjacent other district(s). There are far flung areas, long and complicated distances and routes among district headquarters particularly in Balochistan, deserts, and hilly areas of the country. There is only one office of PBS in GB at Gilgit and one in AJ&K at Muzaffarabad. GB and AJ&K also do not have full-fledged BOS and CRS offices for collection of relevant statistics. Under these circumstances, the supervisors and enumerators have to work for data collection exercises in other than their posting districts. There are logistic as well as financial constraints for enumeration staff, difficulties for enumerators and supervisors to stay at night in other districts, recognition of enumeration areas (EAs) etc. Therefore, it is imperative that need based district offices of PBS must be established in all the districts of four provinces, GB and AJ&K. The BOS and CRS organizations should also be established in GB and AJ&K for collection of timely and reliable information according to the requirements. The provincial BOS and CRS should also establish their need based offices in every district to overcome the difficulties in data collection.

5.2.4: Own Enumeration Force

The data collection organizations do not have their own enumeration force for gigantic data collection exercises. It has been practiced by different wings of PBS that for huge data collection exercises like population census, agricultural census, livestock census etc., the enumerators as well as their immediate supervisors were borrowed from the provincial governments. This practice affects the quality of data as the borrowed staffs are not specialized for data collection. In addition, adequate monitoring of data collection is also not possible due to the fact that borrowed enumerators are not direct subordinates of census organization. To strengthen the data collection abilities of NSS, strategy of own enumeration force must be adopted and own enumerators as well as supervisors must be recruited for census period in future particularly for gigantic data collection exercises.

5.2.5: Establishing Statistical Cells in Data Producing Agencies

Situation analysis highlighted that many data producing agencies do not have their own statistical cells e.g. FIA, PTA, OGRA, NHA etc. They do not have statistical capacity to manage the produced data for which they need training in statistical concepts, to develop software for data management. These types of data producing agencies should establish their own statistical cells for proper maintenance, transparency and reliability of their data.

In addition to above, for timely release of statistics restoration of Statistics Ministry / Division is also desired to strengthen the NSS to overcome the issue of lengthy decision procedures ultimately causing delay in implementation.

5.3 Strategy-2: Master Sampling Frame

Sampling frame is the basic requirement of any survey or census for its successful execution. Master sampling frame can be prepared for sample based censuses and surveys. Strategies must be adopted for different censuses and surveys.

5.3.1: Frame of Mouzas and Enumeration Blocks

It is very useful strategy for all censuses and surveys that a Master Sampling Frame should be developed which can be used for all types of censuses and surveys. Presently, two separate frames for agriculture related data collection exercises and other household surveys are being used at Federal level. The agricultural census, surveys, and rural or Mouza statistics are collected using frame comprised of Mouza lists at district level. The other censuses or surveys like population census, PSLM

survey, LFS etc. are conducted using frame of enumeration blocks. It is advised that a single Master Sampling Frame should be developed for all types of censuses and surveys. In addition to PBS, the provincial and regional statistical organizations, cells, wings should also use this Master Sampling Frame which can be updated and streamlined according to their needs. In addition to this another strategy could be useful for agricultural census.

5.3.2: Frame for Agricultural Census using Population Census

FAO (2005a) provided guidelines for coordination between population and agricultural censuses. The population census provides information about every household of the country and there in strong relationship between agricultural activities and households. We know that population census is the only exercise in Pakistan which completely covers each and every household (HH) of the country whether it is a rural or urban HH. Questionnaire of population census is got filled at HH level having information about all the members of the HH and the house in which they are living to know about their living conditions. If we include two or three questions regarding agricultural holding in the questionnaire of population census, it will provide complete sampling frame of agriculture HHs for agriculture related censuses and surveys. These questions could be about ownership of agriculture land, cultivation of agriculture land, number of livestock, and even ownership of agricultural machinery can also be included in the questionnaire. By adopting this strategy, Master Sampling Frame comprising of agricultural households can easily be prepared at country level.

5.3.3: Sampling Frame and Sample Selection for CRS Balochistan

The Crop Reporting Service Balochistan is still providing estimation of crop acreage and production using subjective approach while other three provinces are using scientific sampling and estimation techniques to develop important estimates of all crops in each Rabi and Kharif seasons. This subjective approach depends upon the reply of available farmer without using scientific sampling techniques. They neither apply statistical techniques for Mouza selection nor for field or plot selection for crop cutting experiment and production estimation. Crop cutting experiments are not practiced in Balochistan so far, as are adopted in other three provinces. PBS has sampling frame of Mouzas for each province including settled and unsettled areas of the country. Therefore, sample design for Balochistan CRS must be developed and implemented on priority to bring methodology and practices of CRS Balochistan at par with other provinces.

5.4 Strategy-3: Fulfill the Requirements of SDGs

Pakistan is also one of the member countries of the United Nations who agreed to improve the lives of their people till 2030 through adopting SDGs. For this purpose, data related to all SDG indicators is required. PBS is trying to collect data about all the indicators but still data gaps are observed to fulfill the targets of 2030 SDGs agenda. Two strategies must be practiced to fulfill the data gaps.

5.4.1: Cover the Data Gaps for SDGs

It has been analyzed in chapter three that still data are not available from any data collection exercise for sixty SDG indicators. It is the responsibility of NSS to think over it and plan new data collection exercises to fulfill the demand of SDGs. Therefore, PBS should come forward to explore the definitions and variables for missing SDG indicators and plan new data collection exercises to fulfill the demand of SDGs. Pakistan still has ten years to plan and implement for these exercises. Otherwise, there will be nothing to report regarding many indicators of SDGs for the country at the target time of 2030.

5.4.2: PSLM and MICS for SDGs

It has been elaborated in chapter 2 under the topic of MICS conducted by provincial BOS that national level MICS was planned to collect data for SDGs by the provincial BOS. PBS fully supported provincial BOS for technical issues to conduct the survey but national level MICS could not be completed so far except Punjab BOS. Therefore, SDG indicators covered in MICS must be included in future PSLM survey so that till 2030, Pakistan can provide data for maximum SDG indicators.

5.5 Strategy-4: Shift from Supply Driven to Demand Driven Data Collection

If there is no demand of our collected data, then there is no use of our data collection exercises except the wastage of resources to produce garbage. Therefore, the NSS must devise strategies to provide the data desired by data users. For the purpose, three strategies are planned.

5.5.1: Demand Driven Data Collection

Organizations in the NSS are usually engaged in routine data collection exercises which were planned at the time of their emergence or little later. Now the world has been modernized and demands for data are changing rapidly. There is need of demand driven data collection exercises throughout the system. It is utmost necessary to know about the real demand of collected data for

which the best recommended way is the "User's Satisfaction Survey". Therefore, all the data collection organizations must judge the real demand of their data through conducting the survey and asking users about their data demands. They must start new data collection series of censuses and surveys rather to stick with routine exercises.

Further NSS must review their surveys and studies and plan to use resources efficiently rather than conducting each survey every year without any significant change in indicators, as social and demographic indicators need time to respond to policies and not changed rapidly. Instead of conducting all surveys every year, specialized surveys must be designed for monitoring SDGs and any other aspect which need urgent data for policy making.

5.5.2: Data User's Satisfaction Survey

Conducting a user's satisfaction survey to probe about the needs of data users is a good strategy to provide demand driven data in the society to get real benefit. The web portals can also be used for User's Survey to have a short questionnaire but mandatory to be filled by a new visitor. The visitor can be requested to give his / her opinion about available data and his / her required data if not available from the present set of data. Every statistical organization should establish a section to attempt the queries and demands of data users which should be considered at the time of planning of future censuses or surveys. This strategy will provide information of User's Survey easily for compilation, analysis and implementation of the decisions regarding data collection exercises, on the basis of results even on annual basis.

5.5.3: Data on Business Enterprises

The data gap analysis highlighted that data on business enterprises is required for planning purpose. PBS should conduct Economic Census covering all the business enterprises according to the definitions of various economic activities. These definitions and concepts must be mutually discussed and finalized between PBS, SBP, SMEDA and other stakeholders before starting the data collection exercise for Economic Census. The Economic Census must be conducted throughout the country to fulfill the data gaps regarding information about all types of economic activities / businesses in rural as well urban areas.

5.6 Strategy-5: Efficient and Responsive NSS for Emergency Situation

Natural calamities can occur in any country at any time, which create difficulties for the planners and managers to tackle the critical situation in their jurisdiction. Pakistan also faces natural disaster and calamities several times like floods, earthquake, and recently pandemic COVID-19, locust attack etc. Under these circumstances, it becomes difficult for the government to have an idea and estimate the exact losses to plan the rehabilitation and compensation strategy. It is important to prepare and enhance the efficiency of statistical organizations to identify the affected areas and provide the scientific estimates of losses to the government to manage the critical situation on urgent basis. In addition, the disaster related statistics must also be produced in the country.

5.7 Strategy-6: Enhance the Efficiency and Scope of National Accounts

National accounts (NA) are the most important part of NSS as it provides basis of economic analysis and important decision making to increase the economic performance and development of the country. These accounts provide GDP, GNI, saving, inflation etc. which are used to check the economic pulse of the country and for economic comparison at national and international levels. The efficiency and scope of the NA must be enhanced. Strategies devised for NA are described here.

5.7.1: Expand the Scope of the National Accounts

The national accounts of Pakistan are maintained according to the SNA2008 developed for international standardization and comparisons. The data items are fixed for calculations of different economic indicators. There is need of expansion in the scope of national accounts by exploring and including new data items. Therefore, studies must be arranged to probe new items at local level to be included in the national accounts. This strategy will provide data from new emerging sectors of the economy which will depict the true picture of the economy.

The scope of national accounts can also be expanded to construct **Input Output Tables** in the light of lessons learnt from preparation of **Supply Use Tables (SUTs)** composed in 2010-11. **Institutional Sector Accounts** may also be prepared by the PBS for coming years to enlarge the scope of national accounts. **Social Accounting Matrix (SAM)** shows the flows of economic transactions to represent national accounts in a country or region. PBS can construct SAMs for base year 2015-16 in the light of SUTs and input output tables. UNESCAP (2020) highlighted that "satellite accounts provide detailed descriptions of economic functions or themes, including their

interaction with and impact on the economy at large e.g. satellite accounts for education and training, health, tourism, transport, aviation, the nonprofit sector, the ocean economy and culture". PBS must expand the scope of national accounts to introduce the **Satellite Accounts** in the field of agriculture, energy, and environment etc.

5.7.2: Automation in the System of National Accounts

The system of NA should be upgraded to a certain level of automation, not only to produce the annual GDP growth at country level but also to release the quarterly trends of GDP. The data providers for NA must be attached online with PBS to communicate the finalized relevant data which is required quarterly as well as yearly for timely completion of the NA.

5.7.3: Quarterly National Accounts and Price Statistics

The data for national accounts and prices statistics are collected, prepared and released at Federal level in the country. Price indices e.g. CPI, SPI, WPI, etc. are released weekly as well monthly to know the trends for policy makers. Inflation rate is also calculated annually on the basis of price statistics. The national accounts (NA) also release economic indicators like GDP, GNI etc. on annual basis. There is need to improve the NA system to prepare and release the national accounts on quarterly basis to know the quarterly behavior so that policy makers could analyze and plan for improvements in the annual trends.

5.8 Strategy-7: Role of Governing and Users Councils

The roles of Governing Council, National Users Council and Provincial Users Councils are clearly mentioned in the General Statistics (Reorganization) Act, 2011. For close supervision of activities and provision of current statistics, the roles of all councils are important for guidance, and timely decisions to fill the data gaps and avoid duplications for development of need based statistics in the country. These roles can be enhanced by increasing the number of members to involve maximum experts and professionals to get their input for decision making. The councils must conduct regular meetings to review the past progress, present status, future plans and proposals.

5.9 Strategy-8: Improve the Harmonization and Communication

It is imperative for the strengthening of NSS that all the statistical organizations working in the country should go forward collectively. They must create an interactive environment through which they should communicate with each other freely, fairly and supportively for any statistical as well as administrative issue(s). They should meet each other periodically to discuss the statistical

activities and their progress to avoid any duplication and to find out the new topics for data collection to fill the data gaps particularly with reference to the SDGs which will create harmonization in the NSS. The statistical organizations should also diligently involve the data users, experts and stakeholders to get benefit from professionals, gauge their own progress and find out new topics for data collection.

5.10 Strategy-9: Streamline the Non-Official Statistics

Official statistics are produced and disseminated by the organizations, cells, and wings working under the Federal or Provincial Governments. There are so many other non-governmental organizations in the country and a few of the international organizations which are collecting and disseminating data through their reports using print and electronic media. These non-official statistics are quoted even sometimes by the government personnel. The NSS must be improved at a certain level so that everyone should have confidence only in the official statistics. The non-governmental organizations must be streamlined to get verified their sample designs and methodologies by the PBS for their data collection exercises in the light of standardized methodological procedures. This strategy must be adopted not only at Federal level but also at provincial levels.

5.11 Strategy-10: Standardization of Data Series and Procedures

The data series provided by different organizations must be made standardized by adopting international definitions to meet the international obligations which could only be possible through close liaison of data collection organizations in the country. Activities of statistical organizations must be reviewed annually to provide guidelines for standardization. PBS can play the role for guidance of other counter parts of the NSS. All the organizations working in the NSS should try to get ISO-9000 certification through adopting standardized operating procedures (SOPs).

5.12 Strategy-11: Schedules of Activities

The schedule of activities or activity calendar provides detailed information about all the major data collection activities of a statistical organization. These schedules are prepared on annual, triennial, quinquennial and / or decennial basis by various organizations. Every statistical organization in the NSS should prepare and get approval of ten year activity plan which can be narrowed down to annual and monthly schedules of activities for smooth planning, preparation and execution of all the statistical activities. This strategy will ensure the smooth execution of data collection exercises without break and disturbances.

5.13 Strategy-12: Development of Central Data Bank "Statistics Pakistan"

It is a big problem of statistical data producers, collectors, compilers, users, policy makers and planners, national and international organizations, and other stakeholders that they have to find out data regarding different social and economic aspects of this country from various sources / websites whenever they need it. Sometimes people working in the data collection organizations could not find data collected by other departments. Data is collected for users who can find and use it easily. Therefore, PBS should come forward and establish a Centralized Data Bank by developing a web portal under the title of "Statistics Pakistan" linking it with all the data collection organizations which are part of NSS. The organizations must be held responsible to update their products on monthly, quarterly and/or annual basis. For this purpose, dashboard(s) will be developed showing different sectors of the economy and main categories of available data produced by all the organization being part of NSS. The "Statistics Pakistan" will become able to provide all types of data generated in the country under one umbrella.

5.14 Strategy-13: User Friendly Data

The data collection organizations publish their data into standardized tabulations comprising of approved tabulation plan for every census and survey. These publications are uploaded on the websites or links and data users consumed lot of time to find out desired information even from the published tabulations. Sometime data user cannot find desired results in spite of many efforts to arrive the concerned variables. Therefore, every organization should develop dashboards showing main data items with brief titles so that user can approach the right click without wasting much of time. In addition to standardized tabulations published, the organizations should provide a mechanism and option on the dashboard for data users to prepare new and multidimensional data tables from the available variables, if desired. PBS has initiated this exercise and would be able to provide technical guidance to other organizations for preparation of dashboards for user friendly data.

5.15 Strategy-14: Data Security and Cyber Crimes

It is imperative to make sure the safety and security of official statistics produced in the country from misuse and cybercrimes. Sometimes websites are hacked and during that time the data can be manipulated or misused. Change of values of one variable during hacking hours can lead to misleading results and decisions at national and international levels. Therefore, the organizations

being part of NSS should develop a mechanism for security of data from hackers. Strategy of data security from misusage and cybercrimes must be adopted by all the organizations in the NSS.

5.16 Strategy-15: Data Dissemination and Media Cells

Every statistical organization producing and publishing statistical data should have its own written and approved data dissemination policy. They must establish data dissemination and media cells / sections responsible for advertisement of statistical activities to create awareness among the masses of target population, to release the latest reports in time on the websites as well as for print and electronic media, arrange press releases etc. Further, they can prepare lists of data users visiting "Statistics Pakistan" portal for marketing of statistical information. This media section must prepare and publish guidelines to provide metadata and micro data for users. They must be responsible to upload and maintain the updates for "Statistics Pakistan". It would be helpful to minimize the printing of publications and to maximize the online reports. The section should maintain the record of statistical news, views, and criticism to analyze the things for improvement of the organizational work. They must be responsible to attempt queries of data users and visitors of web portal.

5.17 Strategy-16: Adoption of Big Data and Cloud Computing

Most of the organizations being part of the NSS are working on the basis of old methodologies and procedures. It is very difficult to bring a change in the routine work and convert them on new concepts and technology. Many of the statistical practitioners are still aware of only simple usage of computers. Big data and use of cloud technology is not even introduced in the NSS. The cloud technology provides huge storage for big data which can be used for production of official statistics through developing and application of computing softwares. There is utmost need to introduce and work on big data, use of cloud technology and computing with data science tools to generate official statistics for different statistical activities to compete the global world. Therefore, organizations must start working on these concepts and train their personnel so that our NSS could become able to compete with the rest of statistical world.

5.18 Strategy-17: Capacity Building

Capacity building is the most important aspect of statistical practitioners working in the NSS having different academic qualifications and official assignments. Trainings are important for officers as well as officials working as planners, enumerators, computer operators, data processing assistants, statistical clerks etc. They need trainings in new techniques applicable in the field for data collection,

compilation, and online dissemination, presentation, and many new statistical concepts. Capacity building of statistical practitioners working in NSS must be prioritized through local as well as foreign trainings. PBS has a Training Wing presently working in Islamabad for the purpose.

There is a need of centralized statistical training and research institute in the country which can be upgraded up to the level of center of excellence for statistics with the passage of time. Training for fresh recruited officers as well as officials in the NSS must be made compulsory and be arranged on priority while regular on-job trainings should be arranged for every statistical practitioner. Research environment also be created in the training institute by recruiting PhD scholars to analyze the official statistics produced in the country. Capacity building of officers and officials working on administration side throughout the NSS must be emphasized particularly with reference to official standardized procedures, as the technical professionals require support of administration for qualitative and quantitative performance.

5.19 Strategy-18: Career Planning for Statistical Practitioners

Career planning for every statistical practitioner in the NSS is required to strengthen the system for production of quality statistics in the country. Slow recruitment process resulted in number of vacant important posts. Creation of career progression opportunities for the competent and hard worker statistical personnel is the main concern to attract the fresh and intelligent brains and to stop the trained brain drain. The system of recruitments and promotions in the NSS must be streamlined to attract the quality talent by introducing attractive and career oriented service structure which seems difficult without creation of service group. Therefore, Pakistan Statistical Service (PSS) must be created to strengthen the NSS in the country.

5.20 Strategy-19: Statistical Conferences and Seminars

Coordination must be strongly developed and maintained among central, provincial and regional statistical organizations, cells, and wings, academia, researchers, professionals and international organizations through a reasonable strategy. Statistical conferences and seminars must be arranged at Federal and Provincial levels to develop coordination among data producers and data users to reduce the distances between both. These conferences provide opportunities to know about the real data issues, deficiencies and efficiencies, data gaps and overlaps, demands, and problems faced by the end users. In the light of these observations, the organizations will improve their systems according to new demands of the daily changing world.

5.21 Strategy-20: Coordination with Universities for Internship Programmes

Universities are feeders and are providing statisticians for working in the NSS as statistical practitioners. It is utmost necessary for strengthening the statistical system in the country that students must be provided at least knowhow about statistical practices implemented in the real life. Therefore, it is necessary for the development of statistical system in the country that statistics departments of different universities must be affiliated with the statistical organizations located in their geographical areas. The students must be offered internship programmes at different offices working in the NSS in order to know about the statistical practices adopted in the country. The universities should also start compulsory course on "Official Statistics" at BS and MS levels for the benefit of academia as well as students, which is already approved by the HEC. This strategy will prepare the students of statistics for their practical role in the professional life which will ultimately benefit the strengthening of NSS for production of quality and timely data.

5.22 Strategy-21: Improve the Statistical Literacy

Statistical literacy is not only the theoretical knowledge of statistics but also the utilization of data by the planners, decision makers, business community, and common people in solution of real life problems including planning and development. It is imperative to literate the people about usage of statistics in real life for which statistical organizations must actively perform their practical role to highlight the importance and usage of statistics which is not possible without working on war footings. Therefore, statistical organizations should adopt the strategy to release monthly statements comprising of important data clips, videos, topics, statistical messages in social and print media to highlight the importance of data. It can easily be done by using facebook, tweet, whatsapp etc.

5.23 Strategy-22: International Cooperation

International cooperation for the development of statistics in the country is desired as the international agencies are supporting countries for the purpose of producing reliable and timely statistics. The international agencies like UNSD, FAO, UNFPA, World Bank, IMF, JICA, SIAP, ESCAP etc. are already supporting our NSS by providing guidelines, technical and financial support for conducting different censuses and surveys as well as for capacity building of the statistical personnel working in the NSS. However, there is a need to initiate a donors group on statistics to seek their regular assistance for implementation of statistical plans and completion of statistical activities at Federal as well as Provincial levels.

5.24 Strategy-23: Revision of NSDS

The NSDS may be revised regularly after reasonable intervals. The present strategy has been devised for 2021-30 which must be revised with definite improvements in 2030. The devised strategies can be improved and amended even before 2030, if it deemed necessary for the benefits of the NSS and to produce more efficient and smart data.

CHAPTER-6

## 6.1 Implementation Plan for 2021-30

Implementation actually translates the strategic thinking into strategic practical action. Implementation of strategies envisaged in the previous chapter will be made in an integrated and holistic manner over the next ten years from 2021 to 2030, for the development of statistics in the country. Implementation plan has been bifurcated into two spans of time i.e. short term and long term. Short term planning is for the first five years 2021-25 while long term is for 2026-30. However, exact time limits have also been shown wherever looks feasible. It will involve coordination among PBS, other statistical organizations, and development partners. PBS will take lead in overall implementation of different strategies of NSDS and at the same time other partner organizations of the NSS will also be responsible for implementation of their relevant actions required for complete implementation of the strategies. PBS will also manage to assess the implementation progress on yearly basis. Implementation plan has been devised step by step for every strategy. A matrix for implementation of main strategies has also been shown on next page.

6.1.1: Timely, Reliable, and Transparent Data Collection

To support the policy and decision makers, it becomes imperative for data collection organizations to produce data in time with reliability and transparency to fulfill the data requirements. For timely completion and release of data, restoration of Statistics Ministry / Division, is necessary to overcome the issue of lengthy decision procedures ultimately delaying in implementation. All data users demand latest information on urgent basis with quality and quantity. For this purpose, rapid data collection strategies should be adopted.

i) Android based data collection should be started in all the statistical organizations during 2021-30. The data collection organizations should shift from paper based data collection to the android based data collection (long term).

ii) PBS has initiated electronic data collection using tablets. They must expand this activity for all future surveys.

   a) For Labour Force Survey 2020-21 (implementation has been started which will be completed in 2021).

   b) For Pakistan Demographic Survey 2021 (implementation in 2021).

   c) For coming Economic Census (2021-23).

d) For coming Agricultural Census (2021-23).

e) For next Population Census (till 2030).

iii) Punjab and Sindh BOS have also started android based data collection for MICS. They should adopt this technique for all future data collection activities (short term).
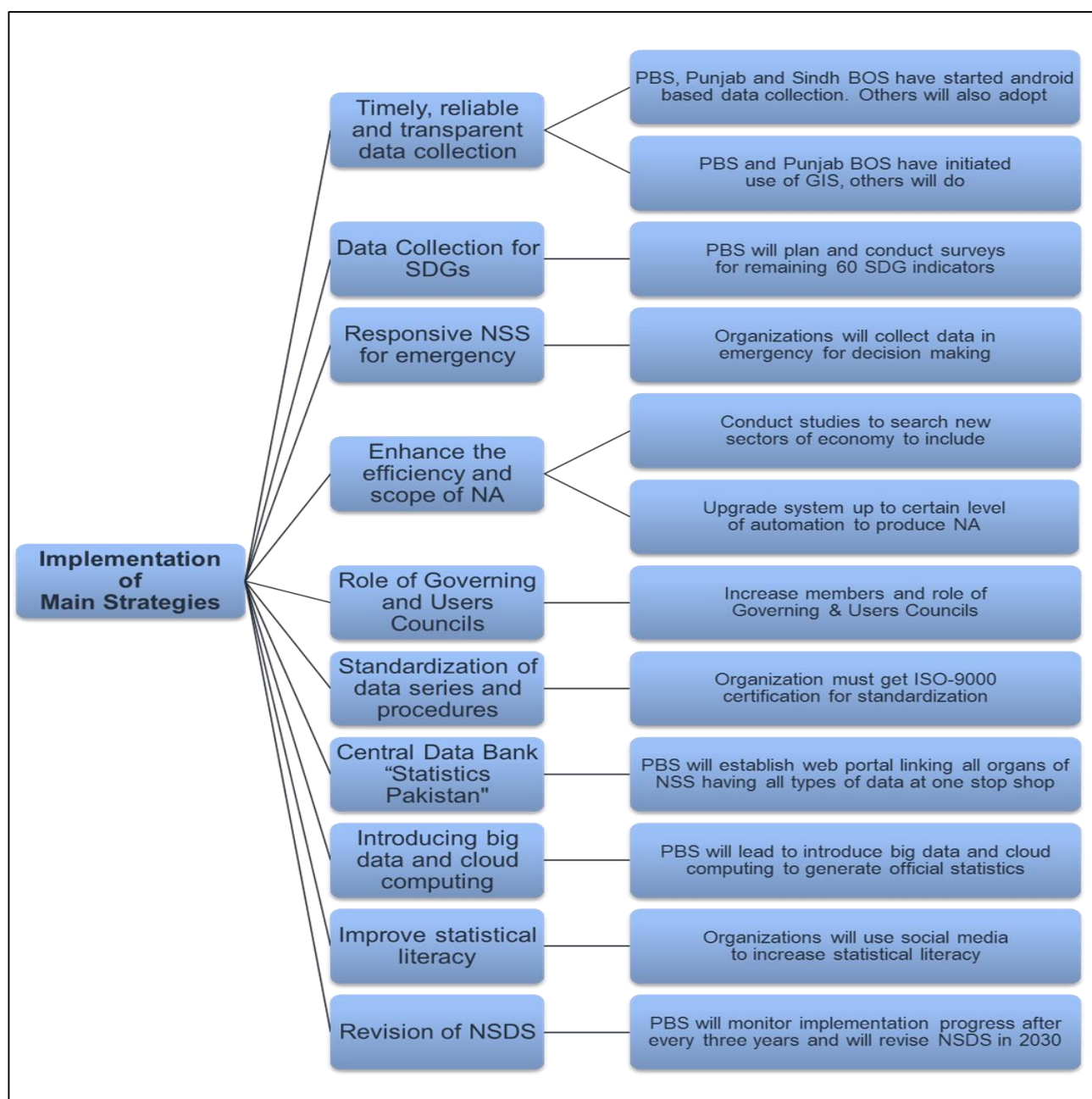
iv) Other provincial BOS that cannot start android based data collection so far should start electronic data collection (short term).

v) Provincial CRS should also adopt electronic data collection system (short term).

vi) PPARC, Establishment Division must start android based data collection for the Census of Federal Government Civil Servants (short term).

vii) Secondary data should also be collected through online connectivity (short term).

viii) PBS and a few other organizations have started use of GIS. Rest of the organizations should also start and implement these applications to get the actual and factual position of enumeration areas in the field and to supervise the field activities (short term).

ix) Need based district offices of data collection organizations must be opened, wherever already not established (long term).

x) Establishment of BOS and CRS in Gilgit Baltistan and Azad Jammu & Kashmir (long term).

xi) Establishment of Statistical Cells in those data producing organizations that don't already have and they need proper maintenance of their produced statistics. PBS will support and provide training, if required (short term).

xii) PBS should arrange own enumeration force for different censuses e.g. population census, agricultural census, etc. rather to borrow from provincial governments. It must be done through PSDP and support of donors (long term).

xiii) Provincial BOS and CRS should also arrange sufficient number of own enumerators to reduce the burden of existing technical staff (long term).

xiv) PPARC, Establishment Division should also arrange own enumerators for census of Federal Government Civil Servants (long term).

xv) PBS will provide technical support to the organizations for android based data collection and use of GIS (as per requirement).

6.2: Preparation of Master Sampling Frame

Sampling frame provides the list of population units from which we select primary sampling units (PSU). A Master Sampling Frame can be used for every census or survey so that every sample based statistical data collection activity could be planned on the same grounds. This strategy will be implemented in short term and long term time spans.

i. List of Mouzas is prepared through Mouza Census by PBS which is used as sampling frame for agriculture related censuses and surveys. Enumeration blocks will be made from each Mouza in rural areas through Updation of Rural Area Frame (URAF) project (will be completed till 2021-22).

ii.   List of enumeration blocks for urban areas has already been used by PBS for sample selection for various surveys. However, enumeration blocks prepared for rural areas by PBS will be used as Master Sampling Frame for selection of primary sampling units (PSUs) (2022 and onwards).

iii.   Population census will be used for preparation of sampling frame for agricultural census at household level by adding two or three questions about agriculture. It will provide sampling frame of agricultural households for sample selection regarding agricultural census and surveys (long term when next population census will be conducted).

iv.   Sample selection of Mouzas in Balochistan for CRS and selection of fields and plots for crop cutting experiments and production estimation, just like other provinces with the support of PBS sample design section (short term).

6.3: Data Collection to Fulfill the Requirements of SDGs

All statistical organizations in the country should work for SDGs so that till 2030, we must have data regarding all development indicators required for SDGs targets. PBS along with Ministry of Planning, Development and Special Initiatives may lead for this strategy.

i.   Define the concepts and definitions for remaining 60 SDG indicators highlighted in the data gap analysis and decide data items / variables for which data is not available from any source (2021-22).

ii.   Plan surveys to collect data for 60 missing indicators required for 2030 agenda of the SDGs (2023-24).

iii.   Conduct the planned surveys to fulfill the data gaps for SDGs so that data could be made available before start of 2030 (2025-29).

iv.   MICS indicators related to SDGs may be included in the next PSLM survey by PBS for national level estimates of relevant indicators for SDGs (2022-23).

v.   Support of donors, if required, could be sought for new data collection series (according to the requirement).

6.4: Shift from Supply Driven To Demand Driven Data Collection

The data collection organizations are usually engaged in routine exercises of data collection whereas; new dimensions of data demands are missing. World is changing every day leading to

generation of new demands of new data series. Therefore, NSS should focus on the demand of data in addition to supply the routine information. The organizations working in the NSS should:

i)   Conduct regular User's Survey to explore the new demands of data (short term).

ii)   Develop a regular survey and launch it on the website to get the opinion of data users regularly. Report of survey must be maintained on annual basis (short term).

iii)   Visit websites and study reports of international data collection organizations to explore new data series (short term).

iv)   PBS will conduct economic census to meet the demand of data about business enterprises in the country (2021-23).

6.5: Efficient and Responsive NSS for Emergency Situation

The NSS must be prepared to generate required data during and after the emergency situations like COVID-19 pandemic, floods, earthquake, locust attack on crops etc. The organizations working for official statistics must enhance their abilities to cope with these situations.

i)   The organizations should prepare plans to face the urgency of data collection in case of pandemic or other disasters (short term).

ii)   The organizations should use GIS to identify the affected areas (short term).

iii)   Every organization should do the pilot exercise to cope with emergency (short term).

iv)   Disaster related statistics also be introduced and made part of data collection exercises in the NSS (long term).

6.6: Enhance the Efficiency and Scope of National Accounts

The system of national accounts is very important to check the pulse of the economy of the country. It should have the latest and up to date required data according to the international standards. Therefore, the system of NA should be improved efficiently.

i)   PBs should arrange studies to search out new sectors of the economy along with new data items to be included in the NA (2021-25).

ii)   NA system must be upgraded to a certain level of automation having online links with data producing agencies, so that latest data should be provided to the NA section without delay (2021-23).

iii)   Input output tables must be prepared by PBS national accounts in the light of supply use tables already prepared (2021-22).

iv) Institutional sector accounts should also be produced (2025-30).

v) Social accounting matrix (SAM) will be generated to know the flows of economic transactions (2021-30).

vi) Introduce satellite accounts for agriculture, energy, environment etc. (2021-30).

vii) Quarterly National Accounts will be prepared to know the economic situation every quarter (2021-25).

viii) System of price statistics will be improved by PBS through price management system (2021-25).

6.7: Role of Governing and Users Councils

For close supervision of activities and provision of current statistics, the roles of all councils are important for guidance, and timely decisions to fill the data gaps and avoid duplications for development of need based statistics in the country. Implementation of this strategy includes:

i) According to the General Statistics (Reorganization) Act, 2011, the members of Governing Council are at least seven which can be increased. Federal Government may increase the members to involve maximum technical experts in the decision making for data collection activities at Federal level (short term).

ii) The Governing Council has notified the National Users Council (NUC) at Federal level according to the Act, 2011 but no meeting of the NUC has been convened so far. The NUC must be activated on priority (short term).

iii) The PBS should establish secretariat of the Governing and National Users Councils at PBS headquarters, Islamabad (2021-22).

iv) The Provincial Statistical Authorities must notify the Provincial Users Councils for each province according to the Act, 2011. The provincial BOS should establish Secretariat for Provincial Users Councils at concerned provincial BOS (short term).

v) Regular meetings of councils must be convened to discuss the data collection issues and to find out their solutions regularly (continue).

6.8: Improve the Harmonization and Communication

The strategy of harmonization and communication must be adopted within the organizations and among the data collection organizations. It can be implemented to strengthen the NSS for reliable and accurate data collection.

i)   The data collection organizations should collectively explore new data series for all tiers of the governmental statistical organizations (short term).

ii)   They should meet alternatively at PBS and provincial BOS at least biannually to present and discuss their progress and future plans (continue).

iii)   They should involve professional experts and stakeholders for technical decision making (short term).

6.9: Streamline the Non-Official Statistics

It is a big challenge for data collection organizations that are producing official statistics that they cannot meet the data needs of data users and data gaps remained unfilled. To get benefit out of it and to fill the data gaps, the non-governmental organizations come forward and produce required information, which is not available from NSS. However, there is need to streamline these data collection exercises which are producing non-official statistics in the country.

i)   The data collection organizations should adopt rapid and accurate data collection and compiling techniques to compete with non-official statistics through marketing their produced data so that data users could have confidence in official statistics only (short term).

ii)   System should be developed to restrict the non-official data collectors and ask them to get verify their sample designs, methodology, and procedures from NSO (PBS) (2021-25).

iii)   PBS should devise some rules and bindings to ask the national and international non-governmental organizations engaged in producing non-official statistics to adopt standardized definitions and procedures (2021-25).

6.10: Standardization of Data Series and Procedures

All organizations being part of NSS should perform data collection activities according to the standardized definitions and concepts so that data series could become comparable within the system as well as outside the system. Implementation will be made to achieve the objective of this strategy in coming years.

i)   All data collection organizations should share definitions and concepts applicable for their data collection exercises particularly with PBS and usually with other counter parts of the system (2021-22).

i)   PBS will analyze the definitions in the context of international concepts, definitions and standards, so that collected data can be compared with national and international data series on the same subject(s) (short term).

ii)   All the organizations in NSS should arrange regular meetings with PBS for standardization of concepts and definitions (short term).

iii)   Organizations must try to get ISO-9000 certification through adopting standardized procedures. PBS will lead to get ISO-9000 certification (2021-23).

6.11: Schedules of Activities

Calendar of activities provides the detailed schedule of each organization on annual basis. All statistical organizations should prepare calendar of statistical activities, censuses, surveys and must follow the calendar so that data collection could not be disturbed due to any changes in the administration at the higher levels. This strategy must be implemented for the period of next ten years.

i)   All statistical organizations should prepare annual schedules of activities for the coming five years (short term).

ii)   Annual calendar of activities must be expanded for ten years (short term).

iii)   PBS will coordinate to follow the calendar of activities (short term).

iv)   The calendar of activities can be amended according to prevailing conditions to include new data collection exercise(s), if deemed necessary (need based).

6.12: Establishing Central Data Bank "Statistics Pakistan"

Official statistics produced in the country is the public property and we have to ensure that official statistics should meet the needs of public through easy access for which implementation plan is necessary.

i)   Statistical organizations, particularly provincial CRS, producers of official statistics should develop and activate their own and separate websites / web links, if already not developed and activated (2021-22).

ii)   PBS will develop and maintain a web portal under the title of "Statistics Pakistan" to establish a Central Data Bank for Pakistan (2021-22).

iii)   All statistical organizations will be connected with "Statistics Pakistan" (short term).

iv)   Data producing organizations will be responsible to regularly update their portals so that latest data could be made available for the use of stakeholders (short term).

v) The official statistics produced in the country will be made available under one umbrella of "Statistics Pakistan" for data users round the clock implementing the concept of one-stop-shop (short term).

vi) PBS will provide technical support for computer related issues e.g. development of websites, web portals, dashboards, softwares development etc., if required by the organizations (short term).

6.13: User Friendly Data

Main tabulations published in censuses and surveys sometimes do not fulfill the demand of data users. In spite of useful published information in the reports, the data users need more information from the same data collected in that activity. Therefore, strategy of user friendly data supply must be adopted by the NSS in coming years.

i) Data collection organizations should develop dashboards showing easy access icons to approach the desired data by the data user(s) (short term).

ii) PBS will develop mechanism for supply of user friendly data (2021-22).

iii) In addition to main published tabulations, the organizations should provide mechanism to produce more multidimensional tables out of micro data according to the demand of data users (short term).

iv) The organizations should also provide micro data without actual identification, for use of researchers, planners and other stakeholders (short term).

v) PBS will provide technical guidance to other organizations (if required).

6.14: Data Security and Cybercrimes

Producing data and uploading on the websites is not sufficient for organizations working in the NSS until and unless the security measures have not been prepared and implemented to secure data from misuses as well as hacking, as the data is national asset. Strategy must be implemented in this regard.

i) PBS should develop a system of security for ocean of data available on its website (2021-22).

ii) Provincial BOS and CRS should also take measures for security of their produced data and uploaded on their websites (short term).

iii)   Technical support from Ministry of Information Technology and Telecommunication will be requested for development of security mechanism (short term).

6.15: Data Dissemination and Media Cells

Dissemination and marketing of collected and published data is the need of the day so that data users can be benefitted from latest releases of data. Therefore, implementation of this strategy is important to get proper benefit from the collected data.

i)   All data collection and producing organizations should develop and get approved data dissemination policy including provision of micro data (short term).

ii)   They should establish Data Dissemination and Media Cells (short term).

iii)   Data Dissemination and Media Cells should arrange regular press releases about all data collection and publication activities for the awareness of masses and data users (short term).

iv)   Every organization should develop mechanism to count down the website visitors, local as well international data users (short term).

v)   They should prepare lists of visitors of portal "Statistics Pakistan" along with telephone numbers to send them SMS and Whatsapp messages regarding latest products (short term and continue process).

vi)   These Cells should continuously update their websites or web portals (short term).

vii)   The Cells should assist their organizations to prepare and implement the guidelines for provision of metadata as well as micro data (short term).

viii)   They should support organizations to minimize the printing and maximize the online release of reports (short term).

ix)   The Cells should also maintain the records of news, views, articles, criticism etc. and in the light of criticism they should advice the technical experts for improvements in the system (short term).

x)   They should attempt the queries of data users regularly and suggest improvements in surveys in the light of demand (short term).

6.16: Introduction of Big Data and Cloud Computing

The new concepts of big data, cloud technology and cloud computing for data collection organizations must be introduced in coming years to compete the statistical world.

i) Introduction of big data e. g. mobile data, scanned data etc. in all the statistical organizations (short term).

ii) Introduce the use of cloud storage as well as cloud computing for generation of official statistics from the big data (long term).

iii) Training must be imparted for both the concepts for all officers and officials working in the statistical organizations (long term).

iv) PBS should lead the NSS for introduction of new concepts and technology (2021-23).

6.17: Capacity Building

Capacity building on continuous basis is the primary requirement for the development of statistical system of the country. It is equally desired for fresh recruited as well as for old and expert professionals working as statistical practitioners. This strategy will be continuously implemented.

i) The Training Wing of PBS will work as centralized training institute and will provide the training opportunities for statistical personnel working in the NSS (continue).

ii) The local and foreign trainings will be provided to the statistical practitioners (continue process).

iii) Training Wing will prepare annual training schedules and will circulate among organizations, well before the start of every financial year (2021-22).

iv) Long training courses for three to four months for statistical practitioners will be planned to make mandatory for promotions in the NSS (long term).

v) Induction courses for fresh recruited officers and officials will be introduced (2021-23).

vi) The centralized training institute will be established under the name "Statistics Training and Research (STAR) Institute" as mentioned in General Statistics (Reorganization) Act 2011 (2021-25).

vii) Funds for construction of STAR Institute will be arranged from PSDP and international donors (2021-25).

viii) STAR Institute will be upgraded as Centre of Excellence for Statistics in Pakistan (long term).

ix) Research environment will be created by inducting PhD scholars for STAR Institute (long term).

6.18: Career Planning for Statistical Practitioners

Career planning for every statistical practitioner in the NSS is required to strengthen the system for production of quality statistics in the country. It is imperative to implement this strategy in coming years.

i) Introduce career progression opportunities for statistical practitioners to attract intelligent brain from the market (2021-25).

ii) The system of recruitments and promotions must be streamlined through improvements in the present service structure (2021-25).

iii) Time scale promotions may be introduced to have at least two promotions throughout service career for those who joined in BS-17 through Public Service Commission (2021-25).

iv) Pakistan Statistical Services (PSS) will be introduced to overcome the problem on permanent basis (long term).

6.19: Statistical Conferences and Seminars

Our NSS is deficient in conducting statistical conferences and seminars. There is need for implementation of this strategy throughout the statistical system.

i) Statistical conferences and seminars should be arranged by PBS as well as BOS at their own levels to create environment of cooperation among data producers, data users, researchers, and academia (short term).

ii) The conferences will be conducted at least once in a year (continue).

iii) The statistical organizations must seek guidance and cooperation from ISOSS as they are successfully conducting national and international statistical conferences in Pakistan as well as abroad (short term).

6.20: Coordination with Universities and Internship Programmes

Coordination with universities is considered important strategy to become aware of new theories, demands, techniques, technologies, and to introduce the practical application of statistics in real life. It should be implemented practically.

i) Statistics departments of each university will be affiliated with statistical organization of that region / area (short term).

ii)   The statistical organizations should contact their regional universities to enhance the cooperation between both stakeholders (2021-22).

iii) The organizations should offer internship programme to the students of statistics (2021-22).

iv)   PBS will continue the internship programme already in practice with the Kinnaird College Lahore since 2005. The same internship programme will be offered by PBS to other universities (2021-22).

v)   Steps must be taken to teach practical applications of statistics during student life and subject of "Official Statistics" must be introduced as compulsory course work at BS and onward degree programmes which is already approved by the HEC (short term).

vi)   PBS can provide guidelines to develop internship programme, if required by any of the organizations (if required).

vii) Internship programme must be given some weight in the student's profile and it would have counted particularly when student will appear for interview for a statistical job in the NSS (short term).

6.21: Improve Statistical Literacy

Statistical literacy must be increased among not only planners and decision makers but also among common people for practical usage of data. This strategy must be implemented.

i)   The organizations being part of NSS should arrange press conferences to highlight the statistical activities and data releases for information of common people (shot term).

ii)   They must use social, print, and electronic media to increase the statistical literacy among the masses (short term).

iii) They should arrange release of monthly data clips, videos, topics, statistical messages and statements in social and print media (continue).

iv)   Organizations should do it by using facebook, tweet, whatsapp etc. (short term).

6.22: International Cooperation

International agencies are supporting statistical organizations in developing countries to produce reliable and timely statistics. The strategy to seek international cooperation must be implemented.

i)   The international organizations must be involved at planning stage of different censuses and surveys by applying international definitions, concepts and procedures to produce comparable data (2021-22).

ii)   Technical and financial support could be sought out from international donors for new and expensive data series particularly with reference to SDGs (short term).

iii)   International cooperation will be extended to seek international training opportunities from JICA, SIAP, ESCAP etc. (continue).

iv)   PBS should establish a permanent working group for international cooperation by inviting international agencies who provide support for statistical activities in Pakistan. The group should meet annually on regular basis under the chair of Chief Statistician, PBS or any international donor (short term).

v)   PBS must be in regular contact with UNSD and should attend annual meetings of UN Statistical Commission and other international organizations which are helpful for development of statistics (continue process).

vi)   PBS should actively participate and promote its role being National Statistical Office of Pakistan, as member of Statistical Commission of the Organization of Islamic Cooperation (OIC-StatCom), in the Working Group and different sessions of OIC-StatCom (already doing and will continue).

vii)   PBS should also participate with full devotion as member in all the activities of Committee on Statistics of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) (already doing and will continue).

viii)   PBS should start big data exercise with the support of ESCAP (2021-25).

ix)   Pakistan should involve in all international statistical activities e.g. celebrations of "World Statistics Day" in October after every five years (already doing and will continue).

6.23: Revision of NSDS

Ten years are considered sufficient time for implementation of different strategies for the development of statistics in the country. The NSDS needs its revision after every ten years.

i)   NSDS should be revised in 2030.

ii)   PBS will monitor the progress of implementation after every three years.

iii)   The strategies must be improved with the passage of time.

iv)   New strategies should be introduced after ten years according to new dimensions.

v)   Unsuccessful strategies may be eliminated from next NSDS.

vi)   Proposed strategies can be improved and amended even before 2030, if it deemed necessary for the benefit of the NSS and to produce more efficient and smart data.

FACTS SHEET

PAKISTAN BUREAU OF STATISTICS

Basic Scale	Sanctioned Posts	Working Strength
MP-I	1	0
MP-II	5	1
BS-20	17	6
BS-19	33	17
BS-18	95	62
BS-17	429	190
Sub-Total	580	276
BPS-1 to 16	2784	2181
Grand Total	3364	2457

PUNJAB BUREAU OF STATISTICS

Basic Scale	Sanctioned Posts	Working Strength
BS-20	1	1
BS-19	2	0
BS-18	19	13
BS-17	84	62
Sub-Total	106	76
BPS-1 to 16	337	261
Grand Total	443	337

BALOCHISTAN BUREAU OF STATISTICS

Basic Scale	Sanctioned Posts	Working Strength
BS-19	2	1
BS-18	5	3
BS-17	22	14
Sub-Total	29	18
BPS-1 to 16	84	69
Grand Total	113	87

CROP REPORTING SERVICES, PUNJAB

Basic Scale	Sanctioned Posts	Working Strength
BS-19	1	1
BS-18	56	52
BS-17	160	145
Sub-Total	217	198
BPS-1 to 16	1392	1140
Grand Total	1609	1338

CROP REPORTING SERVICES, KHYBER PAKHTUNKHWA

Basic Scale	Sanctioned Posts	Working Strength
BS-19	1	1
BS-18	8	0
BS-17	20	11
Sub-Total	29	12
BPS-1 to 16	356	345
Grand Total	385	357

CROP REPORTING SERVICES, BALOCHISTAN

Basic Scale	Sanctioned Posts	Working Strength
BS-19	1	1
BS-18	10	9
BS-17	57	50
Sub-Total	68	60
BPS-1 to 16	528	490
Grand Total	596	550

List of SDGs Indicators Covered By Pakistan Bureau of Statistics

SDG INDICATORS COVERED IN PSLM SURVEY

1. **1.2.1** Proportion of population living below the national poverty line, by sex and   age
2. **1.2.2** Proportion of men, women and children of all ages living in poverty in all its   dimensions according to national definitions
3. **1.4.1** Proportion of population living in households with access to basic services
4. **1.4.2** Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure. Disaggregation by age, gender, SES, indigenous, local communities
5. **2.1.1** Prevalence of undernourishment
6. **2.1.2** Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)
7. **3.1.2** Proportion of births attended by skilled health personnel. Disaggregation by age, parity, residence, provider, SES.
8. 3.2.1 Under Five mortality rate
9. **3.2.2:** Neonatal mortality rate
10. **3.3.2** Tuberculosis incidence per 1,000 population. Disaggregation by age, HIV status, gender.
11. **3.3.3** Malaria incidence per 1,000 population. Disaggregation by age, gender, residence, season.
12. **3.3.4** Hepatitis B incidence per 100,000 population. Disaggregation by residence, exposure to vaccine doses.
13. **3.7.1** Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods. Disaggregation by age, marital status, SES
14. **3.8.2** Number of people covered by health insurance or a public health system per 1,000 population
15. **3.b.1** Proportion of the target population covered by all vaccines included in their national program
16. **4.4.1** Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill. Disaggregation by gender.
17. **4.5.1** Parity indices (female/ male, rural/ urban, bottom/ top wealth quintile and others such as disability status, indigenous peoples and conflict affected, as data become available) for all education indicators on this list that can be disaggregated. Disaggregation by gender, residence, wealth, disability, conflict areas
18. **4.6.1** Percentage of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex.
19. **5.a.1 (a)** Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure
20. **5.b.1** Proportion of individuals who own a mobile telephone, by sex
21. **5.6.1** Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care. Disaggregation by age, location, economic quintile, education level, marital status, disability

22. **6.1.1** Proportion of population using safely managed drinking water services. Disaggregation by residence, gender, disadvantaged group, sub national, SES
23. **6.2.1** Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water. Disaggregation by residence, gender, disadvantaged group, sub national, SESs
24. **7.1.1** Proportion of population with access to electricity, Disaggregation by residence.
25. **7.1.2** Proportion of population with primary reliance on clean fuels and technology, Disaggregation by cooking, heating, lighting, residence
26. **9.1.1** Proportion of the rural population who live within 2 km of an all-season road
27. **10.1.1** Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population
28. **10.2.1** Proportion of people living below 50 per cent of median income, by age, sex and persons with disabilities
29. **11.2.1** Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
30. **16.6.2** Proportion of the population satisfied with their last experience of public services
31. **17.8.1** Proportion of individuals using the Internet. Disaggregation by age, gender, educational level, Labour, Residence

SDG INDICATORS COVERED IN LABOUR FORCE SURVEY

1. **4.3.1** Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
2. **5.5.2** Proportion of women in managerial positions
3. **8.3.1** Proportion of informal employment in non-agriculture employment, by sex
4. **8.5.1** Average hourly earnings of female and male employees, by occupation, age and persons with disabilities
5. **8.5.2** Unemployment rate, by sex, age and persons with disabilities
6. **8.6.1** Proportion of youth (aged 15-24 years) not in education, employment or training
7. **8.8.1** Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status *(Only Occupational Injuries data is available In which concept of Fatal and non-fatal is not involved).*
8. **8.9.2** Number of jobs in tourism industries as a proportion of total jobs and growth rate of jobs, by sex
9. **9.2.2** Manufacturing employment as a proportion of total employment
10. **10.4.1** Labour share of GDP, comprising wages and social protection transfers *(LFS is not calculating this indicator; however data on total employment & employment wages is available in LFS).*
11. **10.7.1:** Recruitment cost borne by employee as a proportion of monthly income earned in country of destination

SDG INDICATORS COVERED IN NATIONAL ACCOUNTS

1. **8.1.1** Annual growth rate of real GDP per capita
2. **8.2.1** Annual growth rate of real GDP per employed person
3. **9.2.1** Manufacturing value added as a proportion of GDP and per capita
4. **9.3.1** Proportion of small-scale industries in total industry value added

5. **14.7.1** Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries
6. **2.c.1** Indicator of food price anomalies

SDG INDICATORS COVERED IN PAKISTAN DEMOGRAPHIC SURVEY

1. **3.4.1**: Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease

SDG INDICATORS COVERED IN AGRICULTURAL CENSUS

1. **2.3.1** Volume of production per labour unit by classes of farming/ pastoral/ forestry enterprise size
2. **2.3.2** Average income of small-scale food producers, by sex and indigenous status
3. **2.4.1** Proportion of agricultural area under productive and sustainable agriculture
4. **15.3.1** Proportion of land that is degraded over total land area

For Indicators 2.3.2, 2.4.1 and 15.3.1 special surveys are recommended

SDG INDICATORS COVERED IN SOCIAL STATISTICS

1. **3.6.1:** Death rate due to road traffic injuries
2. **16.1.1:** Number of victims of intentional homicide per 100,000 population, by sex and age

SDG INDICATORS COVERED BY PBS IN GENERAL

1. **7.18.2:** Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics
2. **17.18.3:** Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding
3. **17.19.2:** Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration.

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