

PROVINCIAL GROSS DOMESTIC PRODUCT MANUAL



Government of Nepal
Office of the Prime Minister and Council of Ministers
National Statistics Office
Thapathali, Kathmandu

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MESSAGE

It is our great pleasure to officially release the Provincial Gross Domestic Product (PGDP) Manual. This manual serves as a comprehensive reference for the methodology used in estimating the Provincial GDP of Nepal. Following the endorsement of the new Constitution in 2015, National Statistics Office (NSO) has placed its greater emphasis on the role of statistical coordination. Consequently, manuals like this support the statistical coordination.

The utilization of PGDP data is increasing, driven by a growing demand for more accurate and reliable information. In response to this need, the NSO conducted a thorough review of the methodologies, data sources, and indicators used in PGDP estimation, culminating in the production of this comprehensive compilation manual.

I gratefully acknowledge the technical assistance provided by the Asian Development Bank (ADB) through its TA-6596 NEP: Knowledge Solutions and Institutional Strengthening for Sustainable Development in strengthening the PGDP efforts. The Government of Nepal has enhanced its capability on PGDP compilation through workshops provided to the data users and providers at the province levels. I express my deep gratitude to the representatives of the government agencies, provincial and local governments, academicians, and sectoral resource persons for their constant support and inputs.

I would like to thank Mr. Dilli Raj Joshi, Deputy Chief Statistician of the National Accounts Statistics Division, for his invaluable contribution and leadership. Special thanks are also extended to Directors Mr. Ganesh Prasad Acharya and Mr. Rishi Ram Sigdel, as well as former Director, Mr. Ishwori Prashad Bhandari for their dedicated efforts. Additionally, I would like to acknowledge Mr. Purna Bahadur Garti Magar, Mr. Ganga Ram Bhattarai, Mr. Awadhesh Kumar Shukla, Mr. Shiva Shrestha, and Ms. Sarada Sharma, Statistics officers of the National Accounts Section, for their technical input in related sectors. I also thank Ms. Sabita Aryal and others for their contributions. I also express sincere gratitude to Mr. Jan Hansen, Principal Economist, Mr. Manbar Singh Khadka, Senior Economics Officer, Mr. Anjan Pandey, Senior Programs Officer, and Ms. Neelina Nakarmi, Economics Analyst of ADB for their guidance throughout the 'Support to the National Accounts Statistics of Nepal to strengthen Provincial GDP' assignment. I also express my special thanks to Mr. Santosh Gartaula, Fund Manager and Mr. Anil Sharma, Senior Economist for their inputs on this assignment.

I hope this Provincial GDP Compilation Manual will be highly useful and meet the users' needs to the greatest extent. The NSO always welcomes comments and suggestions from users, which are valuable for improving our future publications and practices.

30 May 2024



A handwritten signature in black ink, appearing to read 'Arjun Prasad Pokharel', written over a horizontal line.

Mr. Arjun Prasad Pokharel
Chief Statistician
Kathmandu, Nepal

MESSAGE

ADB, through its technical assistance, supported the National Statistics Office (NSO) to enhance the compilation of Provincial Gross Domestic Product (PGDP), in line with Nepal's 15th periodic plan that aims to establish a rigorous and scientifically sound system for generating, managing, and providing high-quality data essential for Nepal's federal structure. By strengthening data infrastructure, ADB's support enables informed policymaking for equitable development and sustainable prosperity.



I understand the manual is the first of its kind on PGDP compilation. It incorporates findings from workshops held across all seven provinces with data users and providers and provides guidelines to ensure comparable, consistent, and reliable statistical results. It also informs users about potential challenges and solutions, facilitating the appropriate use of regional statistical data. Additionally, it aligns with international standards and practices, such as the System of National Accounts.

We hope the application of PGDP compilation will enhance reliability of the macroeconomic and the UN's Sustainable Development Goal indicators. These indicators are the key tools for policymakers and planners, enabling them to effectively plan, monitor, and evaluate initiatives and programs in the provinces.

I am confident that the manual will serve as an essential tool for provincial statistical offices, economic researchers, and policymakers. By adopting standardized procedures, the manual shall support to improve the overall quality and comparability of PGDP data, facilitating more informed decision-making and policy formulation.

I extend my congratulations to NSO and its staff for their initiative in preparing this useful manual.

18 July 2024

A handwritten signature in black ink, appearing to read 'Arnaud Cauchois', written in a cursive style.

Arnaud Cauchois

Country Director

Nepal Resident Mission

Asian Development Bank

ABBREVIATIONS

ADB	Asian Development Bank
CAAN	Civil Aviation Authority of Nepal
CBS	Central Bureau of Statistics
CFC	Consumption of Fixed Capital
COFOG	Classification of the Functions of Government
CPI	Consumer Price Index
DoC	Department of Customs
DoMAG	Department of Mines and Geology
DoR	Department of Road
DoTM	Department of Transport Management
DTS	Distributive Trade Survey
EMIS	Education Management Information System
ESA	European System of Accounts
FCGO	Financial Comptroller Generals Office
FISIM	Financial Intermediations Services Indirectly Measured
FOB	Free on Board
GDP	Gross Domestic Product
GNDI	Gross National Disposable Income
GNI	Gross National Income
GO	Gross Output
GVA	Gross Value Added
HMIS	Health Management Information System
IC	Intermediate Consumption
IMF	International Monetary Fund
IPP	Internal Power Purchase
IRD	Inland Revenue Department
ISIC	International Standard Industrial Classification

KUKL	Kathmandu Upatakya Khanipani Limited
MoALD	Ministry of Agriculture and Livestock Development
MoFAGA	Ministry of Federal Affairs and General Administration
MPI	Manufacturing Production Index
MPPI	Manufacturing Producer Price Index
NDWSC	Nepal Drinking Water Supply Corporation
NEA	Nepal Electricity Authority
NEC	National Economic Census
NLSS	Nepal Living Standard Survey
NPISH	Non-Profit Institutions Serving Household
NRB	Nepal Rastra Bank
NSO	National Statistics Office
NTA	Nepal Telecommunication Authority
NTWHC	Nepal Transit and Warehousing Company
OECD	Organization for Economic Co-operation and Development
PGDP	Provincial Gross Domestic Product
PLMBIS	Province Line Ministry Budgetary Information System
PPI	Producer Price Index
PPP	Purchasing Power Parity
RGDP	Regional Gross Domestic Product
RoW	Rest of the World
SNA	System of National Account
VAT	Value Added Tax
WPI	Wholesale Price Index

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CHAPTER **1**

INTRODUCTION



System of National Accounts

The System of National Accounts (SNA) is an accounting system that summarises all the economic activities, both in the form of flow and stock, performed during a certain period of time within an economic territory. It produces various national aggregates such as Gross Domestic Product (GDP), Gross National Income (GNI), and Gross National Disposable Income (GNDI) to measure the overall value of goods and services produced within the economic territory. The national account comprises consumption, production, investment, government expenditure, and net exports. These accounts offer a comprehensive insight into a country's economic progress and are key to evaluation of various sectorial policies and their performance.

1.1 Background

Provincial government is a relatively newer structure that was established by the federal constitution in 2015. As soon as the provincial governments came into existence, there was a higher demand for various types of disaggregated data for better policy formulation, planning, and resource allocation to

meet the development needs of the people. However, due to lack of required statistical infrastructure, the provincial governments were not able to produce the necessary data especially in the area of national accounts.

National Statistics Office (NSO) has been producing various official statistics including national accounts statistics for a long time to address the official data demand in Nepal. However, the data produced by NSO alone is still limited in terms of quantity as well as timeliness. Moreover, provincial governments are also seeking more disaggregated data in various areas that additionally pressurizes on the official data production process. In spite of increasing pressure on data production, the data demand on national accounts at province level has received a high priority from the central government for short run since this is essential for provincial economic planning and policy process. Therefore, NSO has started compiling various macroeconomic indicators at the province level since 2018/19.

It follows the key principle methodology as suggested by Eurostat 2013¹ to compile the province level national accounts. However, it faces challenges with

¹ <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-13-001>

the availability of reliable and timely indicators. Additionally, there was a need to revisit the methodological aspects of compiling the provincial accounts to fully align the framework with the Eurostat 2013 manual and identify robust indicators.

1.2 Historical Background in the Arena of International Community

The history of national accounts can be traced back to the 17th century with the development and formalization of modern national accounting systems taking place in the 20th century. During the 17th century, mercantilist economists focused on accumulating wealth through a favourable balance of trade by emphasizing maximizing exports and minimizing imports. In the 18th century, physiocrats such as François Quesnay highlighted agriculture as the primary source of wealth and introduced concepts like the circulation of money and the “economic table”. Economists like Adam Smith and David Ricardo furthered the understanding of economic growth factors such as income distribution and market roles (1960, Letiche, J. M.).

The United Nations, International Monetary Fund (IMF), World Bank, Organization for Economic Co-operation and Development (OECD), and European Commission collaborated to develop the System of National Accounts (SNA) as a comprehensive framework for national accounting. The first version of the SNA was published by the United Nations in 1953, with

subsequent revisions in 1968, 1993, and 2008. As the world economy evolves with changing consumption patterns, economists refine their concepts and theories. Hence to reflect these changes National Accounting Systems have been continuously adapting them by updating estimation procedures and methodologies.

In the national context, Nepal released its GDP for the first time in the fiscal year 1961/62, and it has been regularly releasing the national accounts estimates since 1964/65. In the early 1990s, Nepal embarked on a significant journey of economic liberalization and reforms. This period marked a shift from a largely controlled economy to one that embraced market-oriented policies and greater openness to international trade and investment. The reforms were aimed at stimulating economic growth, improving efficiency, and integrating the country more fully into the global economy. This reform drew attention to robust economic indicators following international standards as stated in the SNA to produce comparable and accurate economic statistics.

1.3 National Accounts and the Economy

System of National Accounts are the statistical system that provides a systematic view of a national economy, using data on economic activities and relevant classifications. A national economy is a closed space within a country, with the rest of the outside world. It can be analysed at two levels: consolidated national accounts, which describes only those flows included in the scheme, and more detailed levels like the input output table or social accounting

matrix that breaks down internal flows by highlighting different economic agents involved in the economy.

National accounts evaluate the flow of the economy as represented by income created by the nation, which is generated by productive activities. The economic flow is the distribution of income within a national economy and between it and the rest of the world. Transactions and flows in an economic circuit are diverse and are classified into four groups: transactions involving goods and services (products), distributive transactions, financial instruments, and other accumulation entries.

The concept of national accounts contributes to the quality, stability, neutrality, and international comparability of the system by describing transactions in the national economies and the links between different national economies. These concepts are based on various systems in an economy, such as business accounting, production, employment, productivity, monetary policy, inflation, budgetary policy, government finance, personal income, wealth and consumption, and the balance of payments. Each system describes a different aspect of a national economy and explains some specific national accounting conventions. National accounts combine these systems into a single accounting framework offering an overview of each account and showing interactions between them and the national economy as a whole.

1.4 Rebasing and Re-benchmarking

Rebasing of the national accounts series is the process of replacing an old base-year with a new and more recent base-year for computing constant price estimates. Rebasing updates prices whereas re-benchmarking focuses on updating methodology, classification and data sources, etc. The rebasing and re-benchmarking could be defined as “updating the base-year for the compilation of volume measure and introducing methodology changes, new data sources, and new classification at the same time”.

Nepal's first attempted to compile the GDP in the FY 1961/62 was limited only to GDP calculations. Central Bureau of Statistics (CBS) – that now has become National Statistics Office (NSO) – prepared the limited National Account aggregates for the period of 1964/65. Thus, the first base year of Nepalese national accounts is 1964/65 which followed the concepts and methodologies as stated in the UN system of national accounts of 1953. The first rebasing of national accounts in 1974/75 reviewed the existing data flow. For this, the concepts and definitions were updated from SNA 1953 to SNA 1968. The second rebasing of national accounts and its methodology was updated in 1984/85. Similarly, the third revision of the base year was changed to 1994/95. However, this rebasing only marked the shifting of base year rather than benchmarking of national accounts series. In the fourth revision, the base year of

national account was changed from 1994/95 to 2000/01. During this revision, the concept and definition were updated from SNA 1968 to SNA 1993. The fifth rebasing of national accounts updated the base year from 2000/01 to 2010/11, and this change reviewed the methodology updating from SNA 1993 to SNA 2008.

1.5 Boundary Principles in the SNA

The boundary principles in the system of national accounts are essential to help define the scope and coverage of economic activities that should be included in the national accounts. It ensures consistency, comprehensive coverage, removing double counting of the same activity or indicator, and international comparability of the national accounts. The following are the key boundary principles described in the SNA:

Non-monetary Transaction

A transaction is considered as non-monetary when a business or economic transaction is completed without any cash being exchanged between the parties involved. These can range from simple transactions like updating an address for someone or some entity to more intricate financial dealings, such as bartering goods or services or providing transfers in kind. For such transactions, it is important to properly document them especially when producers allocate goods or services for their own use or for capital formation. The value of the goods or

services must be estimated and recorded accordingly.

Production

The SNA includes activities like production of goods and services either for market transactions or for non-market transactions. The productions for market transactions and non-market transactions are treated differently. Key aspects of production boundaries are explained briefly as follows:

1. Market Production

The activities that are linked to the production of goods and services for sale in the market are called market production activities. Such activities encompass a wide range of economic activities performed by businesses, government entities, and other institutions.

2. Non-Market Production

Non-market production are those activities related to production of goods and services but are not intended for sale in the market. For example, the following activities do not involve market transactions:

- The preparation and serving of meals for own family members;
- The care, training, and instruction of children for their family members;
- The care of sick, infirm, or old people for their own family members;

- Certain natural processes: natural growth of fish in natural ponds, rivers and seas, natural growth of wild, uncultivated forests or wild fruits or berries, etc.

SNA accounts production activities of all kinds of goods but only includes those services which are sold by one unit to other unit except own-account dwelling services. Therefore, own-account service activities except dwelling services are excluded from the SNA production boundary.

3. Exclusion of Non-Producing Activities

The SNA excludes activities that do not result in the production of goods or services such as transfer payments or financial transactions that do not involve the production of goods or services. In the similar fashion, SNA excludes the natural production such as fish in the ocean, natural growth of forest, deposit of minerals, etc. Nevertheless, if the natural resources are extracted or brought in the market by human effort, then they fall under the production boundary. For example, fishing from the ocean, extraction of minerals, collecting firewood from the natural forest are production activities and the goods produced from these activities are included in the production boundary.

4. Boundary with Illegal Activities

All economic activities irrespective of legal and illegal provision, are included in the SNA boundary. It means both legal and illegal market activities are included. The production or consumption of certain goods or services, such as narcotics, may be illegal, but market transactions in such goods and services have to be recorded in the accounts. If expenditures on illegal goods or services by households were to be ignored on grounds of principle, household saving would be overestimated and households are presumed to obtain assets that they do not in fact acquire².

5. Imputation of Production

In some cases, the SNA may impute the production of certain goods and services that do not have explicit market transactions. This involves estimating the value of goods and services that are not directly observed in the market by monetary transaction. The barter exchange is an obvious example of this sort of exchange. In the absence of direct market transaction, other production such as own account dwelling service, own account production of goods also can be imputed to estimate them in monetary term.

²SNA, 2008, Page 48

6. Valuation

The value of product is measured at basic prices. This means that the amounts recorded in the national accounts reflect the prices that prevailed in the market at the time of the transaction. Basic prices on products are prices before taxes are added and subsidies are subtracted.

7. Intermediate Consumption

The SNA distinguishes between intermediate and final consumptions. Intermediate consumption is valued at the purchasers' price. It consists of the value of goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded

as consumption of fixed capital. It does not include expenditures by enterprises on valuables consisting of works of art, precious metals and stones, and articles of jewellery fashioned out of them³. Intermediate consumption refers to the goods and services used up or transformed in the process of production and is subtracted from gross output to obtain value-added.

8. Production Timeframe

The production boundary is typically defined within a specific timeframe such as a year or a quarter, or a month, to capture the economic activities that occur during that specific period.

³ SNA, 2008, Page 120



CHAPTER

2

**CONCEPTS AND
DEFINITIONS**

National Accounts is the process of measuring flows and stocks within an economy during a specific period of time. It provides macroeconomic indicators of production, consumption, investment, expenditure, income, imports, and exports of the economy. In addition, it also reflects on how the institutional sectors are involved in the production process. Macroeconomic indicators are very useful to know about economic behaviour of the economy. These indicators are the aggregates of the system of national accounts that provide a simplified and comparable but complete and detailed picture of the economy.

2.1 Final Consumption

The system of national accounts and broader economic discipline consider the use of goods and services by households or by the government to fulfil the desire or want of the household. The general government and non-profit institutions serving households (NPISH) also have final consumption, but they are all on behalf of households. Final consumption is a critical component in the measurement of economic activity, and it is typically categorized into two

main types: household and government consumption. In addition to these two types of consumption, there is one more type of activity considered final consumption which is done by NPISH.

Consumption is a key factor in economic analysis as it reflects the demand side of the economy. Understanding consumption patterns helps policymakers, businesses, and economists to make informed decisions regarding economic policies, production planning, and resource allocation.

Household Consumption

Household consumption refers to the final use of goods and services by households to satisfy their needs and wants. This includes spending on items such as food, clothing, housing, healthcare, education, and leisure activities. Household actual final consumption consists of the consumption of goods and services acquired by a household and used to satisfy the needs or wants of the members of that household⁴. It is noteworthy that the consumption of goods and services by businesses in the production process is considered as intermediate consumption, not the final consumption. In that sense,

⁴ SNA, 2008, Page 179

final consumption can only be made by households, the government, and NPISH. However, the consumption of government and NPISH also finally goes to the households. According to SNA, household consumption is a key component of the Gross Domestic Product (GDP). It represents the value of goods and services consumed by households within a specific time-period.

Government Consumption

Government consumption refers to the funds spent by government agencies on goods and services to fulfil the needs of the public. This encompasses expenditures on public administration, defence, education, healthcare, and various other public services. Essentially, it reflects the total value of goods and services utilized by the government while delivering public services. Services paid for individuals by Government are individual consumption while services paid for the community or the public are classified as collective consumption. A collective consumption service is a service provided simultaneously to all members of the community or to all members of a particular section of the community, such as all households living in a particular region⁵. Government consumption might be intermediate consumption. Care should be given to identify the final consumption that includes consumption on goods and services on behalf of households individually or collectively.

⁵ SNA, 2008, Page 179

⁶ SNA, 2008, Page 179

Notably, government consumption does not include government investment, which pertains to expenditures on tangible assets such as infrastructure (e.g., roads, bridges, schools) and is accounted for separately in the national economic records.

NPISHs Consumption

Final consumption expenditures by non-profit institutions serving households (NPISHs) refer to the services provided to households by NPISHs without a direct charge. This includes the gross output of NPISHs minus their sales to households. Any services paid by households or on their behalf are included in personal consumption expenditure (PCE) as spending by households. Some of the services provided by NPISHs to the members of the associations that own them have some of the characteristics of collective services. For example, some researches carried out by NPISHs may benefit all members of the community. However, most of the services provided by NPISHs are individual in nature and, if it is not practicable to identify the outputs of NPISHs that may be considered to be collective in nature, all the services will be classified as individual consumption⁶.

Total Final Consumption

Final Consumption is one of the key components of the expenditure side Gross Domestic Product. It is comprised of the combination of household final consumption expenditures, government

final consumption expenditures, and final consumption expenditures by NPISHs. Total consumption reflects the overall expenditure on products and services within a particular economy. The proportion of consumption to GDP is frequently utilized as a gauge of the level of economic development and the quality of life in a nation. Increased levels of consumption in relation to GDP could indicate a superior quality of life, although this can also be influenced by factors such as income distribution and savings habits.

Note that the values of “do-it-yourself” like repairs and maintenance to vehicles or household durable goods, the cleaning of dwellings, the care and training of children, or similar domestic or personal services produced for own final consumption are excluded from GDP estimation. Only the expenditures on goods utilized for these purposes such as cleaning or repairing materials are included in household final consumption expenditures.

2.2 Assets

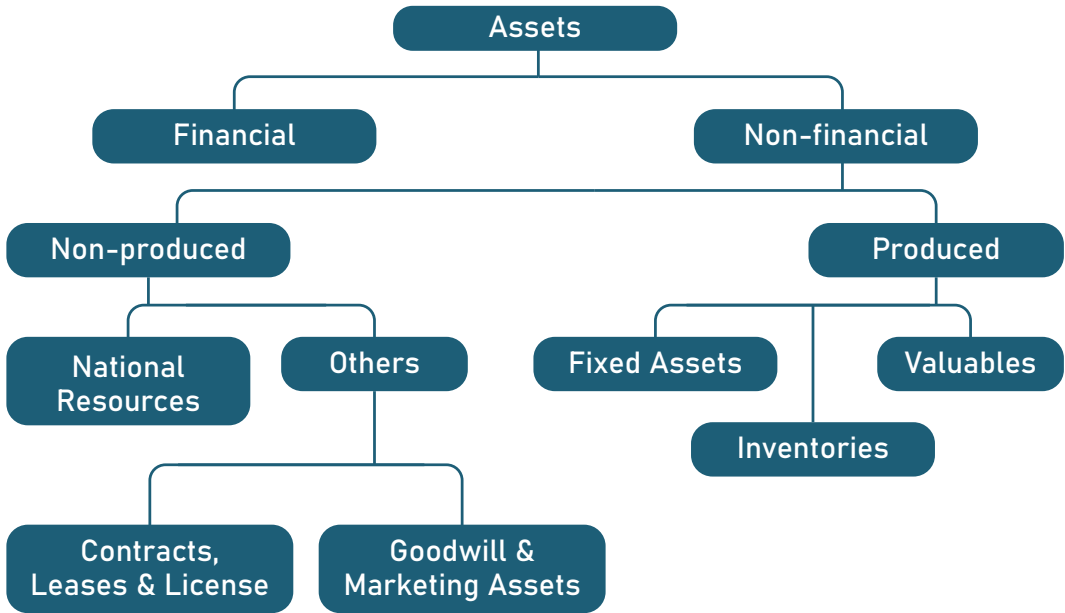
In the context of economics and finance, the concept of “assets” refers to valuable economic resources that are owned or controlled by an individual, organization,

or government entity. These assets can take on different forms, and are typically classified into different categories based on their nature and characteristics.

- All that has a life of more than a year and qualifies as economic assets, i.e. a store of value on which ownership rights can be established, and the economic owner derives benefits by holding or using including all non-financial assets;
- All financial claims, shares, or other equity in corporations of the residents, plus gold bullion held by monetary authorities as a reserve asset;
- Natural resources such as land, mineral deposits, fuel reserves, uncultivated forests or other vegetation, and wild animals;
- No need to be privately owned and could be owned by government units exercising ownership rights on behalf of entire communities.

The SNA has a large number of environmental assets, such as the atmosphere and the high seas; nevertheless, undiscovered or unusable mineral or fuel resources are not considered assets.

Figure 1: Assets Classification



Source: SNA 2008 Page 19

2.3 Valuation Principles: Prices

Valuation principles related to prices are crucial for accurately measuring economic activities and assets. Valuation refers to the assignment of a monetary value to goods, services, and assets, and it plays a key role in the compilation of national accounts.

Basic Price

The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, by the producer as a consequence of its production or sale. It excludes any transport charges

invoiced separately by the producer⁷. The formula to calculate the basic prices is as follows:

$$\text{Basic price} = \text{Purchase price} - \text{Tax} + \text{Subsidy} - \text{Transport charge}$$

Producer's Price

Producer price often referred to as output prices or factory gate prices, represents the value at which producers sell their goods and services before they reach the end consumer. The amount received by producers for each unit of goods or services produced minus any applicable Value Added Tax (VAT) or similar deductible taxes is what constitutes the producer's price. This price does

⁷ SNA, 2008, Page 101

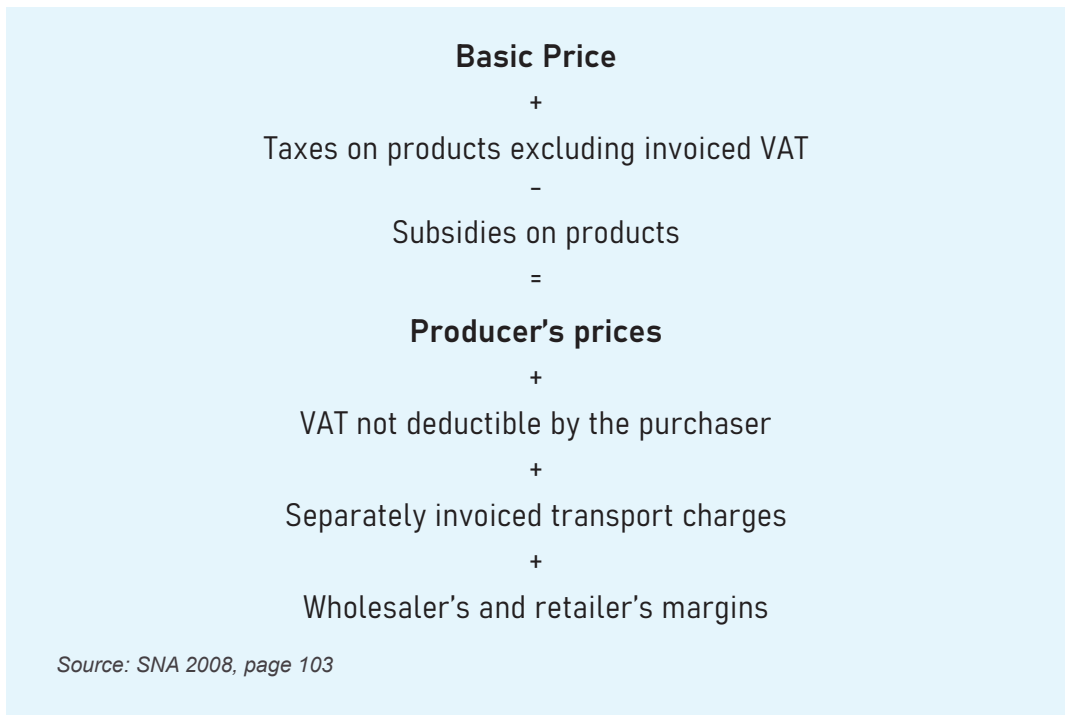
not include any separate transportation charges billed by the producers⁸.

Purchaser's Price

The purchaser's price is the amount paid by the purchaser, excluding any VAT or similar tax deductible by the purchaser, to take delivery of a unit of a good or service at the time and place required by the purchaser. The purchaser's price

of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place⁹. Purchaser's prices are calculated by adding any taxes on products to the basic prices and subtracting any subsidies. Relation between basic price, producer's price and purchaser's price is given in the Figure 2.

Figure 2: A Summary of Basic, Producer's and Purchaser's Prices



2.4 Institutional Unit

An institutional unit is a type of economic entity that can carry out economic activities, possess assets, incur liabilities, and deal with other units.¹⁰ The major

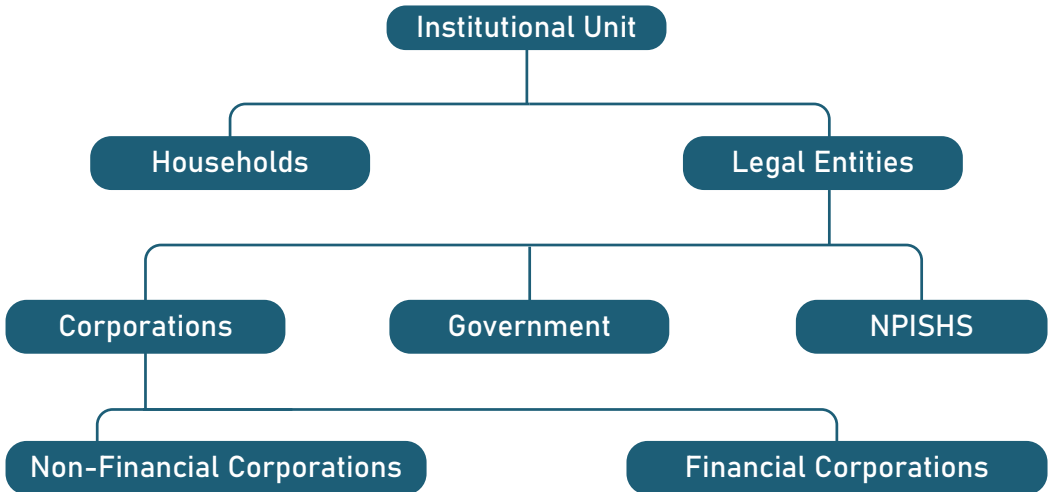
institutional units of the system of national accounts perform economic activities. There are mainly two economic units and they are further divided into institutional units.

⁸ SNA, 2008, Page 101

⁹ SNA, 2008, Page 102

¹⁰ Monetary and Financial Statistics Manual-September 2000 (<https://www.imf.org/external/pubs/ft/mfs/manual/pdf/mmfsc3.pdf>)

Figure 3: Institutional Unit



Source: SNA 2008 Page 17

Household Sector

Household sector includes individual persons or groups of persons, including families, who share the same living accommodation. The principal functions of households are to supply labour, to undertake final consumption, and, in some cases, as entrepreneurs to produce market goods and non-financial services on an informal basis.

Governments Sector

Government sector has the authority to impose and collect taxes, and spend funds for public benefits. This includes central, provincial, and local governments. This sector is involved in activities to fulfil their political responsibilities and their role of economic regulation, producing services for individual and collective consumption.

Financial Sector

The financial sector consists of entities involved in financial intermediation and auxiliary financial activities. For example, they may provide advice to clients about the terms available for specific types of borrowing and lending, such as a mortgage broker or provide certain sorts of financial resources such as a foreign exchange bureau that exchanges one currency for another. This sector plays a vital role in facilitating the flow of funds between savers and borrowers, managing risks, and allocating capital efficiently within an economy. For example, the central banks, commercial banks, and insurance companies fall under this sector.

Non- Financial Sector

Non-financial corporations are corporations whose principal activity is the production of market goods or non-financial services. The non-financial

sector is composed of public non-financial corporations, private non-financial corporations, and non-profit institutions that are market producers of goods and non-financial services. Their examples include the cement factories, noodles factories, garment factories, etc.

Non-profit Institutions Serving Households (NPISH)

These are legal entities that are principally engaged in not-for-profit and provide goods and services to needy households.

Rest of the World (RoW)

The Rest of the World indicates the economic activities taking place in the entities outside the domestic territory of a country. Economic activities performed at RoW are not taken into account in the compilation of GDP by production approach. However, net export is one of the key components of GDP by expenditure approach. In addition, the transactions and transfers taking place at the RoW are accounted for estimating GNI and GNDI.

2.5 National Account Aggregates

The system of national accounts provides comprehensive and consistent macroeconomic indicators termed aggregates, such as GDP, GNI, and GNDI, etc. These aggregates cover the production, spending, and earnings of all economic entities. Macroeconomic indicators play a crucial role in assessing

the overall economic well-being of a nation. These indicators are very useful in assessing the economic behaviour of the economy and for policy making.

Gross Output

In economics, gross output (GO) is the measure of total economic activity in the production of goods and services in an accounting period. The value of gross output consists of:

1. Value of final products;
2. Change in value of work in progress;
3. Value of goods shipping in the same condition as received;
4. Work done for or services rented to others;
5. Value of electricity sold;
6. Value of goods for own use account.

Gross Value Added (GVA)

Gross Value Added represents the additional value created by producers for goods and services. It is calculated by subtracting intermediate consumption from the output. Total GVA of all economic activities within an economic territory in the given period is termed as GDP by production approach.

Gross Domestic Product (GDP)

Gross Domestic Product is the monetary value of all final goods and services produced within an economy during a specified period of time. It measures the total production of the economy

in monetary terms within a defined economic territory over a specific time-period. This is one of the most fundamental macroeconomic indicators that are commonly used to measure the size of an economy and to gauge the economic performance of the economy. There are three approaches for estimating the GDP¹¹. They are:

i. Production or Value-Added Approach

The production or value-added approach consists of estimating an industry or sector's output and subtracting its intermediate consumption from it. It is generally valued at basic price. The Gross Domestic Product (GDP) of an economic territory is calculated by adding the gross value added of all industries or sectors within that territory. The GDP at the purchasers' price is calculated by adding taxes (minus subsidies) on products to the total value added across all industries.

$$\text{GDP (Production approach)} = \text{Total Output} - \text{Intermediate Consumption} + (\text{Taxes} - \text{Subsidies}) \text{ on products}$$

For example, if the total output of a rice mill is Rs. 100 Lakh worth of rice and Rs. 60 lakh of raw material inputs (paddy, electricity, business services, etc.), then the value added for the rice mill is Rs. 100 Lakh minus Rs. 60 Lakh equalling Rs. 40 Lakh.

ii. Income Approach

The income approach accounts compensation of employees, net taxes on production and imports, gross operating surplus, and mixed income during a period of time and economic territory. GDP by income approach is estimated by adding these components. Therefore, the income approach shows how GDP is distributed among different economic agents in the production process, as the sum of:

Compensation of employees (wages and salaries): the total remuneration, in cash or in kind, payable by an employer to the employee in return for work done by the latter during the accounting period. The employers' social contributions (employers' actual social contributions and employers' imputed social contributions) are also included in the compensation of employees.

Gross operating surplus: This is the surplus (or deficit) on production activities before accounting has been taken of the interest, rents or charges paid or received for the use of assets.

Mixed income: This is the remuneration for the work carried out by the owner (or by members of his/her family) of an unincorporated enterprise; this is referred to as 'mixed income' since

¹¹SNA, 2008

it cannot be distinguished from the entrepreneurial profit of the owner.

Taxes on production and imports, subtracting subsidies on production: The former consists of compulsory, unrequited payments to or from the general government or institutions with respect to the production or import of goods and services, the employment of labour, and the ownership or use of land, buildings, or other assets used in production. Subsidies on production consist of 'subsidies except subsidies on products that resident producer units may receive as a consequence of engaging in production'.

GDP (income approach) = Compensation of employees + Gross operating surplus / Mixed income + Taxes on production and exports - Subsidies on production

iii. Expenditure Approach

The expenditure approach is just another way to calculate GDP by summing up final consumption expenditures of households, government, and NPISH, gross capital formation, exports, and subtracting imports. The compilation is based on the general identity model:

$$GDP = C + I + (X - M)$$

Where, C = Final Consumption Expenditure of households, government and NPISH;

I = Gross Capital Formation (GCF);

X = Export;

M = Import.

GCF consists of GFCF, acquisition less disposal of valuables and change in inventories.

In principle, GDP by all three approaches: production, expenditure and income should be same for an economy for the given period of time. It is because the goods and services produced are all expended and income from the production process is distributed. However, due to difference in data sources, there is a chance of statistical discrepancy. In Nepal, GDP by production and expenditure approach are independently applied and therefore, there is statistical discrepancy. Nevertheless, due to the unavailability of sufficient data on mixed income/operating surplus, the GDP by income approach depends on production approach. It is remarkable that if GDP is estimated using supply and use tables (SUTs), statistical discrepancies can be removed.

Gross National Income (GNI)

To calculate GNI, compensation paid to resident employees by foreign firms and income from overseas property owned by residents are added to GDP while compensation paid by resident firms to overseas employees and income generated by foreign owners of domestic property is subtracted.

GNI = GDP + net factor income from abroad

Net factor income: Foreign income paid to resident employees + foreign income paid to residential property owners and investors - Domestic income paid to foreign employee - domestic income paid to foreign property owners and investors

Gross National Disposable Income (GNDI)

Gross National Disposable Income is a macroeconomic indicator that measures the total amount of income earned by a country's residents, including individuals and corporations. GNDI includes both income and transfers and provides a much better account of people's available income. The formula for calculating Gross National Disposable Income is as follows:

GNDI = Gross National Income (GNI) + Net secondary income (current transfer) from abroad

Where, Net current transfer = Transfer received in the domestic economy minus transfer sent to ROW

Capital Formation

Capital formation refers to the process of increasing a country's physical or human capital stock through investment in new equipment, machinery, infrastructure, and education. It is a crucial element in economic development and growth, as it contributes to the expansion of productive capacity, technological progress, and improvement in the skills and knowledge of the workforce. Capital formation is often measured as a part of

the investment component in the GDP calculation.

Capital Formation = Gross capital formation - Consumption of fixed capital (CFC)

Where, Gross capital formation or Investment includes all expenditures made by industries on acquiring new capital goods such as machinery, buildings, and infrastructure.

And;

Gross Capital Formation = Gross Fixed Capital Formation + Change in Inventories + Acquisition less disposal of valuables

Gross Fixed Capital Formation: Investment in physical assets (machinery, buildings, and infrastructure) and in human capital (education and training)

Change in Inventories: The change in the value of goods and materials held in stock over a specific period

2.6 Methodology of Regional GDP

Calculating regional Gross Domestic Product (GDP) involves using any of the above-stated approaches like production or output approach, income approach, and expenditure approaches. In line with these approaches, regional GDP is estimated by bottom-up, top-down, and mixed approach.

a) Bottom-up approach

The internationally preferred approach for regional GDP compilation is to directly measure the activity of local units (represented by geographic units) and build up regional accounts from this information. The geographic unit compilation approach is preferred as it directly measures the value addition. This approach is also useful analytically since it clearly links the activities of businesses within a region to the growth of that region or province.

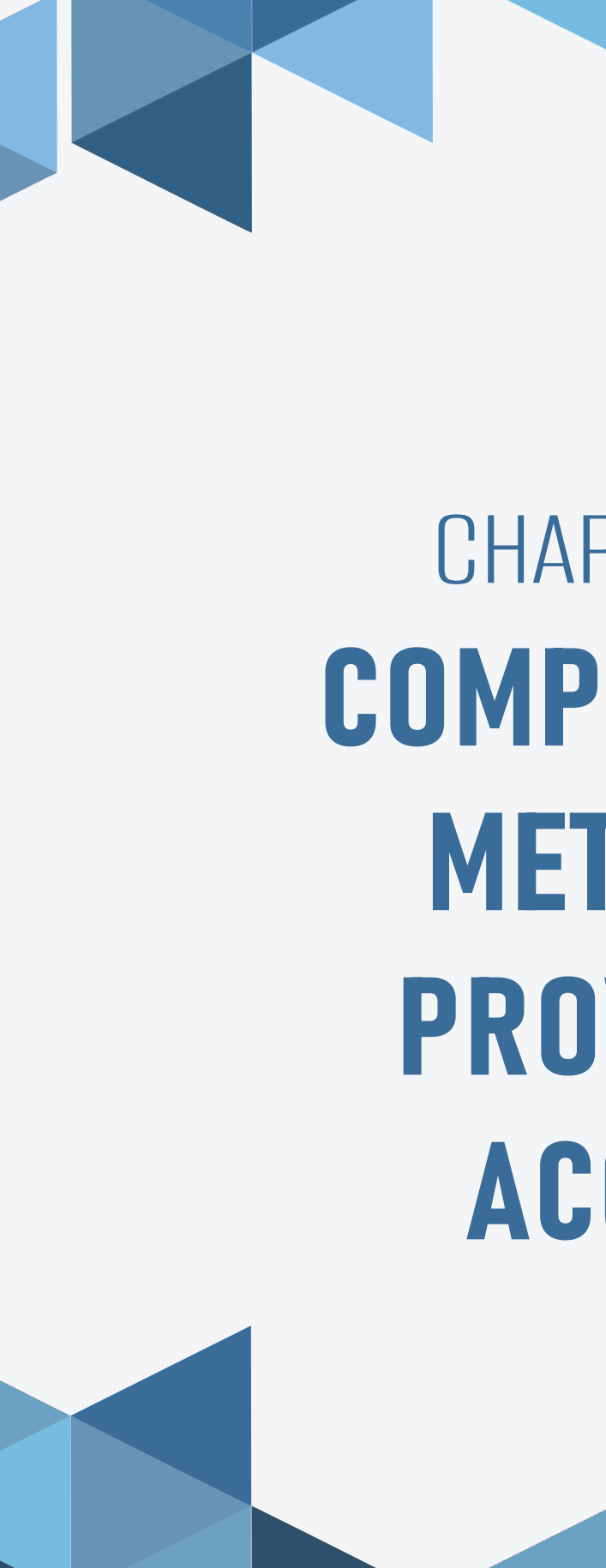
b) Top-down approach

The alternative approach where regional indicators are used to allocate national level GDP estimates to regions or provinces is called top-down approach. A top-down approach is used if the bottom-up approach cannot be implemented. This is usually due to a lack of unit level data for that industry. Because there are many exceptions to applying a bottom-up approach across the board, regional GDP methodology has been determined on an industry-by-industry basis. The top-down approach has been used for almost all industries for estimating GDP at the Provincial GDP in Nepal.

c) Mixed approach

A mixed approach to calculating regional gross domestic product involves combining elements of both the top-down and bottom-up methods. This approach is often employed when certain data is available at a detailed level (bottom-up) while other data is only available at a higher level (top-down). The mixed approach allows for a more nuanced estimation of the regional GDP by taking advantage of both detailed sectoral data and higher-level national data. It seeks to mitigate the limitations of each method by combining their strengths.

The level of detail in regional GDP calculations can also vary. Some countries might have detailed regional data, while others may provide broader regional estimates. It is essential to refer to each country's statistical agencies or relevant publications to understand the specific methods and data sources used in calculating the regional GDP.



CHAPTER **3**
**COMPILATION
METHOD OF
PROVINCIAL
ACCOUNTS**

Regional accounts provide crucial insights into the economic activities and living standards across different regions, facilitating more informed policy-making and resource allocation. International practices for calculating Regional Gross Domestic Product (RGDP) involve standardized methods and guidelines to maintain consistency, comparability, and accuracy across regions and nations.

The System of National Accounts (SNA 2008) emphasize the importance of regional accounts in cases where there are significant disparities in economic and social developments among different regions within a country. However, SNA 2008 does not explicitly address regional accounts compilation methodology. Nevertheless, the European System of Accounts (ESA) is a well-known framework that offers guidance for compiling both national and regional accounts for the European Union GDP.

Countries, such as India, the USA, the UK, Australia, Malaysia, the Philippines, Japan, and others are calculating provincial GDP. These countries have traditionally calculated regional GDP using various methods based on their situation of data availability.

In Nepal, the NSO initiated the compilation of the primary macroeconomic indicator i.e. GDP at the province level since FY 2018/19 following SNA 1993 with 17 economic industries¹². After rebasing the national accounts in FY 2019/20, the compilation of provincial GDP started following SNA 2008 and utilizing ISIC Rev. 4¹³. However, out of the 21 sections of the economic activities, the GDP estimates cover only 20 of them, excluding activities related to extraterritorial organizations. Furthermore, for practical reasons, NSO has merged the activities of the sections R, S, and T in other service activities. As a result, the published national GDP and provincial GDP (PGDP) figures are based on 18 economic activities.

3.1 Provincial Compilation Method

Compiling provincial GDP using a “top-down” approach involves starting with the overall national GDP and then breaking it down into its various components at different levels, eventually reaching a detailed breakdown by industries or sectors. This method ensures that the sum of all parts aligns with the total

¹² ISIC rev 3; https://unstats.un.org/unsd/classifications/Econ/Download/In%20Text/ISIC_Rev_3_English.pdf

¹³ https://unstats.un.org/unsd/publication/seriesm/seriesm_4rev4e.pdf

national GDP, maintaining consistency and coherence in the data. The following explanation describe the procedure of estimating the provincial GDP using the top-down approach.

a. National GDP

The first step is to estimate the overall Gross Domestic Product of the country. This involves analysing data for different economic activities such as production, consumption, and accumulation etc. using the estimation approaches production, income, and expenditure. In order to accurately estimate GDP for different provinces, only the production approach is used.

b. Classification and Provincial Breakdown

The national GDP is estimated by aggregating value addition of all economic activities such as agriculture, manufacturing, services, etc. following the classification of the International Standards Industrial Classification (ISIC). While calculating provincial value added, appropriate indicators are used to divide the national value added proportionally for each industry. The sum of industrial value-added for each province, provides the PGDP.

c. Data Sources and Surveys

For the purpose of national account compilation process, data are collected from various sources such as surveys, censuses, financial statements, administrative data and other relevant information. In case, such sources fail

to fulfil the data requirement, then the expert views are also taken into account.

d. Constant Price Estimate

The provincial constant price estimates are calculated by using the consumer price index (CPI) of food and non-food. But CPI is available at national level only. However, CPI of food and non-food are available for Mountain, Hill, Terai, and Kathmandu valley. Thus, the CPI of food and non-food disaggregated to these three ecological belts are used to derive provincial CPI using appropriate weight distribution to Mountain, Hill, Terai, and Kathmandu valley.

The Annex 1 elaborates the data sources, their availability, and levels according to industries. Annex 2 highlights the methods of compilation and currently used indicators. It also includes the indicators that were suggested during the workshops conducted by NSO in the provinces in 2023/24.

3.2 National and Provincial GDP Estimation Methodology

NSO uses all three approaches of estimating GDP – production, expenditure and income. However, the predominant approach for compiling GDP in Nepal is production approach as the income approach relies on residual estimation. After rebasing in 2018/19, the base year of the GDP is shifted from 2000/01 to 2010/11 and since then NSO has estimated change in stock independently. Consequently, GDP is also estimated using expenditure approach independently.

The estimation of Gross Value Added (GVA) involves valuation of the products, by-products, and ancillary activities at the basic prices and deducting the value of inputs or raw materials and services consumed during the process of production.

The Gross Value Added are derived as residual item as

GVA = Gross output – Intermediate Consumption

Where, gross output is derived by multiplying Price and Quantity.

i.e., Gross Output = Quantity X Unit Price



A. Agriculture, Forestry, and Fishing

Output in agriculture is not considered simply when the process is completed, i.e., when the crops are harvested or animals are slaughtered. Rather, output in agriculture is measured as being produced continuously over the entire period of the production. Agriculture industry is grouped into four major groups: Crops Production, Livestock, Fishing and Forestry.

Crop Production

Crop production includes paddy, wheat, maize, millet, barley, buckwheat, pulses, tea, cardamom, ginger, coffee, mushroom, oilseeds, tubers & bulbs, nursery

products, and production of fruits and vegetables.

Intermediate Consumption (IC) for agriculture in general refers to the costs of goods and services used during the process of production in the specified period of time. This includes costs of seed, manure, fertilizer, plant protection materials, occasional wages, bullock labour, rental of machine (tractor, reaper, thresher, pump set, etc.) use. It also includes minor repair and maintenance cost of farm equipment. The estimate of intermediate consumption is derived from the cost of production survey which is conducted by NSO. In case the cost of production survey has not incorporated the cost of production for certain crop, it is estimated using similar types of crops.

Livestock

Livestock production includes animal meat, milk, poultry, egg, etc. IC for livestock in general refers to the costs of goods and services used during the process of production in the specified period of time. This includes costs of fodder, plant protection materials, and occasional wages. Minor repair and maintenance cost of farm equipment used is also considered as intermediate consumption.

Forestry

Forestry sector in the SNA is comprised of cultivation, harvesting, and production of timber and other forest products. Forestry production includes wood, log, herbal and firewood production, etc. Intermediate consumption for forestry in general refers

to the costs of goods and services used during the process of production in the specified period of time. This includes costs of wage other than compensation of employees, materials used to cultivate, harvest and process forestry goods and the minor repair and maintenance cost of the equipment used.

Fishing

Fishing sector comprises of activities such as catching and selling fish for commercial purposes. The activities engaging in the extraction and cultivation of other aquatic resources for commercial purposes is also part of the fishing sector. Intermediate consumption for fishing in general refers to the costs of goods and services used during the process of production in the specified period of time. This includes costs of fodder, fish protection materials, wages other than compensation of employees, minor repair and maintenance cost of the pond or the fishing area and other small equipment used.

Regionalization Methodology

The Ministry of Agriculture and Livestock Development (MoALD) provides production quantities for each crop at the province and district levels. But provincial production price is not available. Therefore, the province level production volume of each crop is used as an indicator to divide proportionally the national GVA into provincial GVA. The total GVA of crop is the sum of the GVA of each crop by province. Briefly stating, the top-down approach is used in compiling

the production quantity of each crop. Agriculture Price Index is not available at provincial level therefore CPI of food item is used. Province level food CPI is used to derive constant price estimate.

Example: If the National GVA of paddy production in 2020/21 is Rs 129,731 million and Bagmati province accounts for 9 percent of paddy production in volume, then the GVA of paddy in Bagmati province is Rs. 11,795.7 million (9% of 129,731 million).

Data Source

The MoALD provides the data on fruits, nuts, spice crops and livestock products. Similarly, Nepal Commercial Floriculture Survey 2015/16, Commercial Tea Production Survey 2016/17, Commercial Coffee Production Survey 2017/18, Nepal Vegetable Crop Survey 2009/10, Cost of Production Survey 2016/17, Nepal Commercial Poultry Survey 2015, and Nepal Fishery Survey 2015/16 are the major sources of agriculture data. Department of Forest data is used to estimate forest products – firewood, log, medicinal products and other forest related products. Studies conducted at different time periods are the sources of data for input, output and capital formation. Study on community forestry conducted by NSO is used to estimate the GVA and other national accounts aggregates. Changes in the quantity of forest products are used to derive estimates at constant prices. The estimates of fish products are obtained from the MoALD.



B. Mining and Quarrying

The extraction of minerals from the earth is known as mining. This includes metals, coal, gemstones, oil, and natural gas. Similarly, the extraction of stone, sand, gravel, and other construction materials from the surface of the earth is known as quarrying.

The estimates of output of the mining products are based on the administrative records provided by Department of Mines and Geology (DoMAG). Share of mining as compared to quarrying in Nepal is minimal. The input structure of the mining activities is also taken from the records of Department of Mining.

Regionalization Methodology

The Department of Mines and Geology provides data on revenue and royalties at the province and district levels. The ratio of revenue and royalties is used to estimate for PGDP. Province wise non-food CPI is used to derive at constant price estimate.

Data Source

Annually recorded data on the quantity of the minerals or other geological materials extracted, revenues and royalties collected from the selling of the resources are obtained. The main data source for this sector is DoMAG. Similarly, data on the production of gems and stones are also obtained from DoMAG.

Other ad hoc studies/surveys of quarrying activities are also considered.



C. Manufacturing

Manufacturing includes physical or chemical transformation of materials, substances or components into new products using machinery equipment, labour, chemical, or biological formulation. The materials, substances, or components transformed are raw materials that are products of agriculture, forestry, fishing, mining, or quarrying, or products of other manufacturing activities. For the estimation of the national accounts of Nepal, the manufacturing sector is divided into two major groups:

Organized Manufacturing

Organized manufacturing is also divided into two groups:

1. Modern manufacturing consists of registered establishments engaging ten or more persons; and
2. Small manufacturing consists of registered establishments engaging less than ten and one or more persons.

The estimation of gross output, intermediate consumption, and gross value added for the benchmark year is calculated as follows:

Gross Output at basic prices = (Census Output + non-industrial receipt)

Where, census output is the total value of the shipment (including own account consumption) + total receipts from industrial services + total cost of work done on own account + change in the value of the stock of finished goods, semi-finished goods, and goods sold in the same condition as purchased.

Gross Value Added at basic prices = (Gross Output at basic prices - Intermediate Input at purchaser prices).

Where, intermediate consumption at purchaser price is calculated by the sum of census input and non-industrial cost. Moreover, census input is calculated by the sum of the total cost of materials and supplies purchased (including own-account production) + total cost of fuels and electricity purchased + total cost of industrial services + change in the value of the stocks of materials and fuels.

Manufacturing Production Index (MPI) is used to extrapolate the output for subsequent years. NSO conducts quarterly surveys to collect data for the manufacturing production index. In addition, it also produces Manufacturing Producer Price Index (MPPI) which is used for both extrapolation and deflation purpose. In this way, the current and constant

price value of manufacturing value added is estimated.

Unorganized Household Manufacturing

Unorganized household manufacturing consists of unregistered household-run enterprises known as the informal sector, and usually does not have any division of labour.

To categorize a manufacturing enterprise as part of the unorganized sector, it must involve workers who are not paid wages for their labor. For benchmarking purposes, the Nepal Living Standard Survey (NLSS) offers data from the non-agriculture enterprises section, which provides insights into the unorganized manufacturing sector. Gross output at basic prices refers to the revenue from sales of manufactured goods. In contrast, intermediate consumption includes costs for fuels, raw materials, and other operational expenses of an intermediate nature. Gross value added at basic prices is determined by subtracting intermediate consumption from gross output.

The index of the annual growth rate of households engaged in manufacturing activities and the manufacturing price index have been used for the extrapolation of benchmark estimates at current prices.

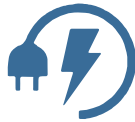
Regionalization Methodology

National Economic Census, 2018 (NEC 2018) provides employees at district and province levels. The ratio of engaged employees at the provincial level is used

for the provincial estimation. Province-wise non-food CPI is used to estimate the constant price estimate.

Data Source

The estimates of modern manufacturing are based on the data provided by the Census of Manufacturing Establishments 2011/12 and the Survey of Small Manufacturing Establishments (2008/09). The estimates of unincorporated manufacturing activities are based on the NLSS, National Population Census, and Economic Census.



D. Electricity, Gas, Steam, and Air Conditioning Supply

For the purpose of estimating national accounts, this sector is divided into three groups: hydroelectricity, micro hydropower, and biogas. Electricity includes the generation, transmission, and distribution of electrical energy for sale to households, industrial and commercial users. This also includes micro-hydro schemes up to 3KW in capacity. It excludes activities of turbine mill and improved water mills as they are intended mainly to generate mechanical power. It also includes the bio gas (Gobar gas) mostly used for lighting and cooking, mainly in rural areas.

Electricity

To compile output and intermediate consumption of the electricity sector, the

financial statements of Nepal Electricity Authority (NEA), has been used. The private electricity generating companies' annual financial statements are also used to compile output and IC.

Micro Hydropower

Estimates of the gross output and intermediate consumption of micro hydropower are estimated from the Economic Census. The Economic Census provides information about the micro hydropower. Initially, the NEC 2018 included the current estimates of gross value added and intermediate consumption. With the help of the price index, the constant value was converted to the current value and extrapolated accordingly.

Biogas

NSO has the benchmark estimates of biogas compiled from the 'Survey of Gobar Gas' conducted in 2003/04. First of all, by using the information from this survey, estimate per plant by capacity of biogas is calculated. Then, these estimates for different capacity of plants are multiplied by the corresponding number of plants to estimate the total estimates for the benchmark year. The imputed value generation by biogas plants in the process of cooking as well as lighting are also considered. Here, life of biogas is assumed to be 15 years. Household growth and number of newly installed biogas plants are used to estimate the subsequent year's output. The Liquefied Petroleum Gas (LPG) price index of this sector is used as a price deflector to estimate the constant price estimate.

Regionalization Methodology

For regionalization, NEA provides the generation, transmission, and distribution of the electricity data that are used to disaggregate the national GVA to province level of this sector.

The provincial GVA is calculated using a top-to-bottom method using the national GVA and the province-to-biogas plant ratio. Province-level non-food CPI is used to derive a constant price estimate.

Data Source

The annual report of NEA and its financial statement, as well as those of other private energy companies - including large power companies such as Himal, Butwal, Chilime, and many smaller ones, provide the information for this sector. Similarly, surveys such as the Micro Hydropower Survey 2004, the Gobar Gas Survey 2002/03, the Report on the Number of Gobar Gas Plants by Installed Capacity, the Biogas Support Centre, and AEPC are also used to estimate the GDP of this sector for small-scale power units.



E. Water Supply; Sewerage, Waste Management and Remediation Activities

Water supply industry is comprised of the collection, purification, and distribution of water to household, industrial, and commercial users. In Nepal, Nepal Drinking Water Supply Corporation

(NDWSC), Kathmandu Upatakya Khani Pani Limited (KUKL) as well as water users' groups are the key actors of this sector. The distribution of water by water and sanitation division is not included here but it is taken into accounts of government expenditure. Similarly, the operation of irrigation system is not included in this sub-sector but it is classified as expenditure in agriculture. Collection, treatment and supply of water is also covered into the accounts of total production of this sector. However, water fetching activities undertaken by households are not accounted.

The estimates for this sector rely mainly on the information collected from the NDWSC, KUKL, water users' groups, waste collection, and material recovery. The volume of total water supplied over the year is used as a volume extrapolator, and price index is used as a price deflator for the estimates at constant prices.

Water Supply

The financial statements of NDWSC and KUKL are analysed to estimate the output and intermediate consumption for this sub-sector.

Water Users' Groups

The number of water users' groups are used as volume indicator. With the help of the price and volume index, Gross Output of the water users' groups is estimated. Intermediate consumption is estimated using the fixed ratio.

Waste Collection Activities

The year 2017/18 is taken as benchmark to estimate gross output and intermediate consumption for waste collection activities. Household growth is used as volume index to extrapolate the values for the subsequent years.

Waste Management and Remediation Activities

The estimates of output, intermediate consumption of material recovery activities is estimated from the economic census for the year 2017/18. The CPI of housing, utilities and number of these units are used as a volume index.

Regionalization Methodology

NEC 2018 provides details on the number of waste management companies at the province and district levels. This figure is used to disaggregate national GVA of waste management and remediation activities. For disaggregating the national GVA of water supply ratio of the revenue collection by province is used. The province level non-food CPI is used to estimate the constant price estimate.

Data Source

The major data sources for the compilation of macroeconomic aggregates for this sub-sector is originated from the Financial Statement of NDWSC, KUKL, Economic Census, and Study of Water Users' Groups.



F. Construction

Construction can be defined as an economic activity directed to the creation, renovation, repair, or extension of fixed assets in the form of buildings, land improvements and other engineering works such as roads, bridges, dams and so forth. In simple words, the output of construction is unmovable goods. For the national accounts estimation purpose, this industry is further divided into permanent (Pakki) and temporary (Kachhi) construction.

Permanent Construction

Permanent construction is of capital-intensive type and uses durable construction materials like cement, bricks, iron rods, etc. and construction workers like engineers, supervisors, carpenters, masons, labourers, etc. as inputs in the process.

Commodity flow method is applied to estimate the output of this sector. This method accounts the use of construction materials and estimates the approximate output. Obviously, the construction materials are available either from domestic production or imports. Total domestic production of construction materials for the year 2010/11 is obtained from the 2011/12 census of Manufacturing Establishment and Survey of Small Manufacturing 2008/09. For subsequent years, the domestic production of construction materials is extrapolated

with the help of Manufacturing Production Index (MPI) and Manufacturing Producers' Price Index (MPPI). Similarly, imported value of construction materials are available in the database of NRB. Total flow of construction materials is obtained by adding domestic production and imports. Since domestic production is at basic price and the imports are at Free on Board (FOB) price, therefore, value of total flow is adjusted to retailer price. By adding the small tools and materials used for construction to the total flow, intermediate consumption can be estimated. The ratio of input-output obtained from construction survey is used to determine the output of permanent construction.

Temporary Construction

Temporary construction is of labour-intensive type and uses locally available materials like bamboo, mud, thatch, etc. This is usually construction of temporary residential dwellings, roads, and bridges. Approximations of own account value of temporary residential construction is made at the current price. The total number of temporary homes provided by the population census and the average cost of constructing such homes in those areas were derived from the NLSS. This gives the estimates of the output for the benchmark year. Similarly, the length of temporary roads (gravelled and earthen) is obtained from the Department of Road (DOR). The estimate of output and IC for the construction of such roads is obtained from the study on input-output ratio for temporary construction. Total estimate of temporary construction is the sum

of estimates from residential buildings, gravelled and earthen roads.

Regionalization Methodology

NEC 2018 provides number of engaged workers in this sector at the district and province levels. The ratio of engaged workers at the province level is used for regionalization. The province level non-food CPI is used to estimate constant price value added.

Data Source

Data used in estimating the construction sector come from the Manufacturing Census 2011/12, the Survey of Small Manufacturing 2008/09. Additionally, data from the Study of Construction Expenditure 2004/05, annual report of Department of Custom and Economic Census are also used. To estimate the output and intermediate consumption of temporary construction, data sources like Annual Report of DoR and Construction Price Index are used. Population Census and NLSS data are also used to get information on housing and other construction.



G. Wholesale and Retail Trade; Repair of Motor Vehicles

The wholesale and retail trade sector has two major domains: trade and automobile maintenance. The commodities or goods for the trade sector are supplied from the domestically produced agricultural production and manufactured goods as

well as the goods imported from the ROW. The trade margin is the difference between cost price and selling price, which is the output of trade sector. The trade margin is computed using commodity-flow approach. The sum of all trade sector's margin is the final output of the trade sector.

Agriculture Trade Margin Estimate

Weight provided by the NLSS has been applied to calculate the tradable volume of agricultural production. Ultimately, the ratio of wholesale and retail trade for the tradable volume has been applied in order to compute the trade margin for the agricultural produce. Distributive Trade Survey 2008 provides the ratio of trade margin to wholesalers and retailers. These ratios are used to the tradable volume of commodities for both domestically produced and imported goods. The ratio of the intermediate consumption of the wholesaler and retailer is also provided by the DTS survey. The value added at the current price is obtained after subtracting the output or trade margin and intermediate consumption. The current price value added is then deflated by using wholesale price index.

Manufacturing Goods Trade Margin Estimates

The weight used to calculate the tradable volume of the manufacturing trade is derived from the census of manufacturing establishments and small-scale manufacturing commodities. The census of manufacturing establishments

provides sales weight and the ratio of stock. Therefore, stock is adjusted, and sales weight derived from the census is applied to manufacturing goods. The trade margin of the wholesale and retail trades has been calculated using the ratio of the two. The difference between output / trade margin and inputs is calculated to get the value added at current price. To get the value added at constant price, the current price value added is then deflated by the WPI of the respective commodity.

Imported Goods Trade Margin Estimates

The ratio of the wholesale and retail trade margins is applied to the volume of imported tradable goods to estimate the trade margin. The value added at the current price is obtained after subtracting the intermediate consumption from output/trade margin. The current price value added is then deflated by WPI of imported commodities to estimate the value added at constant price.

Repairs of Motor Vehicles

Survey of Motor Vehicles (2014) has been used to estimate the output and intermediate consumption for the survey year. The estimated value then has been extrapolated forward with the help of volume indicator and interpolated backward with the help of a fixed splicing technique. The value added at current price is then computed as a difference between output and intermediate consumption. The value added at the current price is deflated by the CPI of transportation to estimate at the constant price.

Regionalization Methodology

The Inland Revenue Department (IRD) provides Value Added Tax (VAT) for the wholesale trade at the province level which is used to disaggregate national GVA of this sub-sector and the number of household engaged in trade activity by province level is used to disaggregate remaining GVA of this sector.

Similarly, NLSS provides the magnitude of the household-based trade. The indicator of retail trade is calculated using ratio of retail trade at provincial level. Province wise non-food CPI is used to estimate at constant price.

Data Source

Data on agriculture production, manufacturing production, and imports are major data for this sector. MoALD provides the agriculture production. Manufacturing production is estimated by using Manufacturing Census 2011/12, Survey of Small Manufacturing 2008/09, MPI and MPPI. Department of Customs (DOC) provides data on imports. Besides these data, periodic surveys like NLSS, and the Distributive Trade Survey are used as data sources. Wholesale Price Index is used for constant price estimation.



H. Transportation and Storage Sector

Transportation and storage sector consists of mechanized land transport,

non-mechanized land transport, water transport, air transport, ropeways as well as storage activities.

Mechanized Land Transport

The mechanized land transport includes bus, minibus, tractor, car, jeep, van, e-rickshaw etc. Department of Transport Management (DOTM) provides the registered number of vehicles by type. From the registered number of vehicles, the commercially plying vehicles are estimated based on the average lifetime of vehicles. NSO has estimated the average lifetime of vehicle by types and brands using expert's estimation. Number of commercially plying vehicles is estimated by subtracting the lifetime expired vehicles from the cumulative number of vehicles by types. The commercially plying vehicles are considered as a moving indicator for the extrapolation and interpolation purpose. The Land Transport Survey 2013 provides output and intermediate consumption for the survey year. The value for this period is then extrapolated forward and interpolated backward using the number of vehicles. To calculate the constant estimates, the double deflation technique has been used. The output of the land transportation sector has been deflated by the CPI of the transportation sector while, the intermediate consumption is deflated by the WPI of petroleum price.

Services of Airlines

The value of GVA and other aggregates of air transport activities are estimated from the financial statements of air

transport companies. For constant price estimates, current values are deflated by the transport CPI. The major data sources for the estimates of the airlines are air transport companies and Civil Aviation Authority of Nepal (CAAN).

Non-Mechanized Land Transport and Water Transport

Output and intermediate consumption for the non-mechanized land transports, for example, rickshaws, pushcarts, etc. are estimated with the help of the non-mechanized land transport survey 2003/04. The value is then extrapolated and interpolated by the revenue collected from this sector. Similarly, the estimate of water transportation has been derived from the NLSS. The extrapolation and interpolation have been done by revenue to complete the series.

Ropeways

The estimates of output and other aggregates are obtained from the financial accounts (Profit and Loss Account) of the cable cars / ropeway service provider companies and processed for national accounting purposes. The current estimates are obtained and are deflated using the CPI of the transportation sector.

Storage Service

There are two different economic entities providing storage services: the government company and the private companies. The government company is Nepal Transit and Warehousing Company (NTWHC). GVA and other aggregates

of government entity are derived from the financial statement of NTWHC. The second entity comprises of private storage service providers. The estimate of reference year is estimated for the private companies through the survey and extrapolated forward and interpolated backward by using revenue collected from this sector. The current value hence obtained is a sum of private and public storage. The current estimate is then deflated by the CPI of transportation to come up with constant estimates.

Regionalization Methodology

DOTM provides revenue collected from vehicle tax, road tax, and repair fee at the provincial level. The share of revenue at the provincial level is used for regionalization. Province wise non-food CPI is used to derive constant price estimate.

For the storage activities, the NEC 2018 provides number of engaged workers in this sector at the province level. The share of engaged persons at the provincial level is used for regionalization. Likewise, province wise non-food CPI is used to derive constant price estimate.

Data Source

The data required to estimate the output and other aggregates are collective from the annual report of DOTM, airlines companies, cable car companies, and NTWHC. Similarly, data from periodic surveys like Land Transport Survey 2013 and NLSS are also used. CPI, of respective sector, is used as a deflator to estimate the aggregates at constant price.



I. Accommodation and Beverages

This section includes “The provision of short-stay accommodation for visitors and other travellers and the provision of complete meals and drinks fit for immediate consumption”¹⁴. Activities carried out by star hotels, tourism and non-tourism standard hotels, camping grounds, recreational vehicles, and trailer parks and other accommodations are examples of accommodation and beverage activities. Similarly, food and beverage mobile service activities, event catering, and other food service activities are also included in this sector.

Output for Star Hotels

The financial statements of four-star and five-star hotels are used to estimate the output and other aggregates. Information from the benchmark survey is used for the rest of the other star hotels to estimate their output and intermediate consumption. Then the output is interpolated and extrapolated using the volume indicators. Number of international tourist arrivals has been used as a volume indicator.

Tourism and Non-Tourism Standard Hotels

The estimates of output and intermediate consumption of tourism and non-tourism standard hotels are based on the survey on Hotels and Lodges, 2003. The estimates of the tourism standard hotels are, thus,

extrapolated by the tourism arrival data. Similarly, the estimate of the non-tourism standard hotel is extrapolated by the annual household growth.

Camping Grounds, Recreational Vehicles, Trailer Parks and other Accommodations

The estimates of camping grounds, recreational vehicles, trailer parks, and other accommodation have been obtained from the information provided by NEC 2018. The output and other aggregates are estimated and validated using the special studies conducted in the FY 2018. The estimates, obtained in the reference year are then interpolated using the appropriate volume index.

Beverage and Mobile Service Activities

The beverage and mobile service activities are based on the information of the Restaurant Survey 2005 conducted by NSO. The estimates and aggregates are then validated using the information of NEC 2018. The reference period estimates and other aggregates are then extrapolated using the composite volume indicator using the tourist arrival and household information.

Catering and other Beverage Service Activities

The estimates of the catering and other beverage activities are derived using the information from the NEC 2018. The values so obtained are validated using the special studies conducted separately for every activity. The estimated value for

the reference period is then interpolated and extrapolated using the appropriate volume indicator.

Informal Hotels and Restaurants

The NLSS II and NEC 2018 are the key data sources for the unincorporated hotels and restaurant activities. The estimates of output and other aggregates for the unincorporated hotels and restaurants are derived from the NEC 2018. The figures are validated using the information from NLSS II. The constant price estimates for hotels and restaurant activities are obtained deflating current price value by the relevant component of CPI – restaurant meals.

Regionalization Methodology

NEC 2018 provides number of engaged persons in hotels and restaurants by district and province. The ratio of engaged persons at the provincial level is used for provincial estimation. Province wise food CPI is used to estimate the aggregates at constant price.

Data Source

Annual financial statements are used to estimate the output and aggregate of four- and five-star hotels. Similarly, other periodic surveys such as Hotels and Lodges Survey (2003), NEC 2018, Restaurant Survey (2005) and NLSS are used to estimate the output and aggregate of other accommodation and beverage services. The Hotel and Restaurant CPI, NRB is used.



J. Information and Communication

Information and communication sector includes publishing, motion picture, video, and television programme production, sound recording and music publishing, programming and broadcasting, telecommunications, computer programming and its consultancy and related activities and Information service activities.

Publishing Activities

Publishing activities consists of books publication, newspapers and periodicals as well as brochure publications. The NEC 2018 data has been used to estimate the output and IC of the publishing activities. Special studies (2018) have been carried out by NSO for the various publishing activities to validate the existing figures. Backward extrapolation to 2010/11 has been done using the estimates of the reference period. The value added at the current price is calculated as the difference between the output and intermediate consumption. The CPI for recreation and culture has been used as a deflator to come up with constant estimates.

Motion Picture

Motion picture includes the creation, editing, distributing, and projecting of motion images. The output and IC of the motion pictures have been estimated

using data from the NEC 2018. To verify the estimates derived from the NEC 2018, specific investigations into a range of motion picture endeavours have been conducted. Backward extrapolation to 2010/11 has been done using the acquired and validated estimations for the reference period. The value added at the current price is calculated as the difference between the output and intermediate consumption. The CPI for recreation and culture has been used as a deflator to come up with constant estimates.

Broadcasting Activities

Broadcasting activities includes radio and television broadcasting activities. For the radio broadcasting activities, information from the FM Radio Survey (2012) has been used to compute the estimates for the reference year. The reference year value is then extrapolated and interpolated by the appropriate indicators. The value added at current price is derived as a difference between the output and intermediate consumption. Similarly, for the television broadcasting activities, the information as provided by NEC 2018 has been used. The current value added is then deflated by recreational and culture component of CPI to convert into constant estimates.

Telecommunications

Telecommunication includes wired, wireless, satellite and others. The estimated output and intermediate consumption for the reference period is estimated using the Cable TV Operator

Survey and then extrapolated and interpolated using the information obtained from the NEC 2018. The estimates of satellite and other telecommunication are based on the information from NEC 2018. The output is then backward extrapolated to the year 2010/11. The wireless telecommunication includes voice telecom operators and internet service providers. The financial accounts of the telecom and internet service providers are obtained through Nepal Telecommunication Authority (NTA) and used for output and intermediate consumption for the wireless telecommunication activities. The current value added is then deflated through the CPI of the communication sector.

Regionalization Methodology

NEC 2018 provides number of engaged persons in information and communication sector at district and provincial levels. The ratio of engaged persons at provincial level is used for the provincial estimation. Province-wise non-food CPI is used to derive constant price estimate.

Data Source

Annual financial statements of telecom and internet service providers and NTA are the major data sources. In addition, periodic data are obtained from the FM Radio Survey (2012), the Cable TV Operator Survey (2012), and NEC 2018. Non-food CPI is used for price adjustment.



K. Financial and Insurance Activities

This industry mainly covers financial transactions such as financial leasing, credit granting, insurance, and auxiliary to financial intermediation, pension benefits, capital market, and stock exchanges operated by different financial institutions. The production of this industry is generated by Financial Intermediation Services Indirectly Measured (FISIM), Central Bank - NRB's activities, insurance, and other financial intermediaries.

NRB, as the central bank, is primarily responsible for key monetary and financial functions that are essential for the country's economic stability. Banking activities of NRB is estimated like other banks' and regulating activities are calculated on the basis of the cost of production. The GVA and other NA estimates from the transactions of commercial banks, development banks, finance companies, and other credit granting agencies are compiled using the NRB data. Similarly, the GVA of saving and credit cooperatives is compiled using the data of the Department of Cooperatives. Moreover, the financial statements of the respective agencies are also processed and analysed to get more information required for preparing the accounts. The estimation of GVA and other related aggregates for insurance activities, financial statements of insurance companies are utilized. Similarly,

activities of auxiliary to financial intermediation – NEPSE, security brokers, capital markets, and mutual funds are compiled using their financial statements. Similarly, the financial statements of Citizen Investment Trust (CIT), Employees Provident Fund (EPF), and Social Security Fund (SSF) are analysed to estimate the GVA of pension funds.

In brief, estimation is gathered by collecting the revenues and their respective intermediate consumption for market activities and the cost of production approach is used for non-market activities. For other activities such as security brokerage and money changers, ad hoc survey has been conducted to estimate the output and other aggregates.

To estimate at constant prices, the double deflation method is used as a more reliable deflator in banking activities by adjusting the CPI and national salary and wage index. These indices are used for respective activities of auxiliary to financial intermediation.

Financial Intermediations Services Indirectly Measured (FISIM)

The banks, EPF, CIT, and saving/credit cooperatives are the key intermediaries between those who want to save – mainly households – and those who want to borrow – mainly firms. The national accounts measure the output at current prices of banks as the sum of their service income plus, approximately, the difference between the interest received from borrowers and the interest paid

to lenders. This difference, which forms the bulk of the total, is known as financial intermediation services. However, the intermediation services are not measured directly. It is therefore termed as financial intermediation services indirectly measured, or FISIM and is estimated by using reference rate as per the following formula:

FISIM = FISIM on loans + FISIM on deposits

$$\text{FISIM} = (r_l - r_r) \times L + (r_r - r_d) \times D$$

Where,

L = Stock of loan,

D = Stock of deposit,

r_l = Interest rate on loan,

r_r = Reference rate (SNA interest rate),

r_d = Interest rate on deposits

OR,

$$\text{FISIM} = r_r (D - L) + \text{total interest received} - \text{total interest paid}$$

In Nepal, the interbank rates provided by central bank is used as the reference rate

Regionalization Methodology

Nepal Insurance Authority (NIC) provides insurance premiums and claims at the provincial level. The ratio of this at the provincial level is used for regionalization. Province-wise non-food CPI is used to derive constant price estimates.

The central bank provides description of loans and deposits at the provincial level. GVA of other financial sectors is also included. The ratio of deposit

and loan at the provincial level is used for regionalization. Province wise non-food CPI is used to derive a constant price estimate.

Data Source

Annual financial statement of the NRB, Department of Cooperatives, NIA, Securities Board of Nepal (SEBON), Nepal Stock Exchange (NEPSE), EPF, CIT, capital markets, mutual funds, SSF, and Youth Self-Employment Fund are the main data sources of this sector. Monthly Banking and Financial Statistics of NRB are also used.



L. Real Estate Activities

Real estate activities are grouped into three major types: organized real estate, rural housing companies, and land developer companies. In addition, owner-occupied dwelling services are also included in this sector. These activities include those acting as leasers, agents and/or brokers in one or more types of real estate. The following activities are included in the real estate: purchasing, selling, renting, and other real estate services including property appraisals and escrow services. The activities of this sector can be completed for a fee or under a contract, on privately owned or leased land. Building structures and continuing to be the owner or tenant of such structures are also mentioned. This industry covers selling, buying, or renting

real estate (buildings or land) and actual and imputed services for owner-occupied dwellings. The industry includes two components in production: real estate and own occupied dwelling services. The portion of the population living in rented and owned dwellings varies across countries. To measure this accurately and for the purpose of GDP comparison across countries, estimates are measured inclusive of imputed rentals, as well as actual rentals.

Based on the study of Real Estate Service Providers (2018) and NEC 2018, data on output, input, fixed assets, and other transactions are estimated for the reference year. The benchmark estimates are moved backward and forward using the number of real estate agencies involved in the production of real estate services as a volume indicator and housing and utilities price index as a price indicator.

Similarly, actual and imputed rental values of owner-occupied dwellings are gathered from NLSS and imputed; a rental value for the dwelling is estimated by hedonic regression. NLSS provides information on the total value of rental (output) from owner occupied dwellings and maintenance cost (intermediate consumption) of such dwellings. The rental values for all dwellings are included, including dwellings owned and occupied by the government as well as dwellings offered by government enterprises or institutions to their employees. The benchmark estimates are moved forward or extrapolated using

projected population growth as a volume indicator and Housing and Utilities CPI as a price indicator. To arrive at the constant price estimates, Housing and Utilities CPI is used as a deflator.

Regionalization Methodology

NEC 2018 and Real Estate Census 2019 provide the number of engaged persons in real estate activities at the district and provincial levels. The ratio of engaged persons at the provincial level is used for provincial estimation. Similarly, the rental ratio of provincial imputed and actual rentals are used to derive provincial GVA from national GVA. Province wise Housing and Utilities CPI is used to derive a constant price estimate.

Data Source

Benchmark surveys were conducted in 2005, 2013, and 2018 to cover the activities of organized real estate. Based on this survey, data on output, input, and other transactions were obtained for the year 2010/11. The estimates of renting activities of the rental of owner-occupied dwellings are provided by NLSS.



M. Professional, Scientific, and Technical Activities

This industry includes the provision of specialized professional, scientific, and technical services such as legal and accounting, auditing, scientific research and development, advertising,

photographic activities, architectural services, veterinary services, and other professional, scientific, and technical activities. These activities require a high degree of training and make specialized knowledge and skills available to users.

Using the information available from surveys and studies, benchmark estimates are made for all these professional, scientific, and technical service activities. The values derived from the surveys are moved back and forward using the indicators – changes in the number of establishments engaged in the production of such services that were extracted and adjusted from NEC 2018 and the respective price indicators. To estimate NA aggregates at current prices, the estimated volume is inflated using the applicable components of CPI (adjusted CPI; services part) and the salary and wage indexes.

Regionalization Methodology

NEC 2018 provides the number of engaged persons in professional, scientific, and technical activities at the district and provincial levels. The ratio of engaged persons at the provincial level is used for provincial estimation. Province-wise non-food CPI is used to derive a constant price estimate.

Data Source

Benchmark surveys conducted in different periods are the major data sources for estimating NA estimates for these categories. Survey on legal service activities, accounting and cooperative services, auditing,

advertising, labour requirement agencies, and computer services were carried out to gather information on output, intermediate consumption, compensation of employees, financial transactions, capital formation, etc.



N. Administrative and Support Service Activities

This section includes a variety of activities that support general business operations. It covers the renting and leasing of tangible and non-financial intangible assets, including a wide array of tangible goods, such as automobiles, computers, consumer goods and industrial machinery and equipment to customers in return for a periodic rental or lease payment, the leasing of intellectual property and similar products, except copyrighted works, employment activities, travel agencies, tour operators, reservation service, and related activities, security and investigation activities, combined facilities support activities, cleaning activities, office administration and support, and other business support activities.

The benchmark estimates are obtained from different data sources mentioned above which are used as benchmark value and shifted back and forth using number of renting business activities obtained from the Economic Census as a volume indicator and price growth as

a price indicator for other years to get the estimates of GVA and other national accounts aggregates. The estimates at the current price are derived using house rent component of CPI as an inflator.

Regionalization Methodology

The NEC 2018 provides number of engaged persons in administrative and support service activities at the provincial level. The ratio of engaged persons of provincial level is used for provincial estimation. Province-wise non-food CPI is used to derive a constant price estimate.

Data Source

Ad hoc surveys and studies are carried out by NSO to provide information on this sector. The NEC 2018 also gives some data to estimate GVA of this sector.



O. Public Administration and Defence: Compulsory Social Security

This section covers the enactment and judicial interpretations of laws and their pursuant regulations, as well as the administration of programs based on them, legislative activities, taxation, national defence, public order and safety, immigration services, foreign affairs, and the administration of government programs. This section also includes compulsory social security activities. This sector engages in non-market production activities.

For the estimation of this sector, cost of production approach is used. Output at production costs is the sum of: a) Intermediate consumption, b) Compensation of employees, c) Consumption of fixed capital.

Regionalization Methodology

Ministry of Federal Affairs and General Administration (MoFAGA) provides number of employees for this activity at province level. The ratio of number of employees at the provincial level is used for provincial estimation. Province-wise non-food CPI is used for the constant price estimation.

Data Source

The source of data for the compilation of National Accounts aggregates is the administrative records of FCGO / MOF and MoFAGA. FCGO provides data on government expenditure by COFOG¹⁵ classification by province while MoFAGA provides data on number of employees by province.



P. Education

This section includes education at any level or for any profession, oral or written as well as by any means like radio and television or other means of communication. It includes education by the different institutions in the regular school system at its different levels as well as adult education,

literacy programs, etc. This sector also includes military schools and academies, prison schools, etc. at their respective levels. The section includes public as well as private education.

Education sector estimates are calculated by summing up the estimates of public education, private education, coaching and education consultancy. Further, the estimates of public and private educations are calculated by summing the estimates of Primary, Lower Secondary, Secondary and Higher Secondary education separately.

Public Education

The cost of production method is applied for the estimation of this sub-sector. For this, output and IC are compiled from FCGO data, which is available in COFOG.

Private Education

Output and IC for the year 2012/13 are estimated from the data collected in Private Education Survey (2014). Then they are extrapolated using number of students in respective sector. Constant price estimates are computed using CPI of education sector.

Coaching Centre

Output and IC for 2017/18 are compiled from Study on Coaching Centre and NEC (2018).

Then they are extrapolated using number of students in respective sector. Constant price estimates are computed using CPI of education sector.

Consultancy

Output and IC for 2017/18 are compiled from NEC 2018.

Then they are extrapolated using number of students in respective sector. Constant price estimates are computed using CPI of education sector.

Regionalization Methodology

The CEHRD, Education Management Information System (EMIS) provides the number of students at the provincial level. The number of students in the province is used to estimate provincial GVA from National GVA. Province wise education CPI is used to derive constant price estimates.

Data Source

The FCGO provides the data for public sector expenditure on education and for private education service activities information are taken from the Private Educational Survey, 2014. Similarly, Flash Report published by Centre for Education and Human Resource Development (CEHRD), Small Study Survey on Tuition/Coaching Centres and NEC 2018 also provide data for this sector.



Q. Human Health and Social Work Activities

This section includes the provision of health and social work activities. Activities include a wide range of activities, starting from healthcare

provided by trained medical professionals in hospitals and other facilities, over residential care activities that still involve a degree of healthcare activities to social work activities without any involvement of healthcare professionals.

The health estimate is derived by summing up the estimates of public health, radiology/pathology, private health and care activities.

Public Health

Cost of Production Method is applied to estimate the output, intermediate consumption of public health activities. Public health output is calculated by adding CE and IC expended by the government in health sector.

Private Health

Output and IC for the year 2011/12 are compiled from Private Health Census (2013). Number of in-patients and out-patients including their expenses on health services is used to construct a composite volume indicator and the indicator is used for extrapolation to estimate the output and intermediate consumption for the private health services in subsequent years. Health CPI is used to estimate them at constant price.

Radiology and Pathology

Output and IC for the year 2017/18 are estimated from study of health facilities providing radiology and pathology services. Number of in-patients and out-patients including their expenses on health service is used to construct a composite volume indicator and the indicator is used for extrapolation to

estimate the output and intermediate consumption for the private health services in subsequent years. Health CPI is used to estimate them at constant price.

Care Centres

Output and IC for 2017 is calculated from NEC 2018. Constant price of 2010/11 number of in-patients and out-patients including their expenses on health service is used to construct a composite volume indicator and the indicator is used for extrapolation to estimate the output and intermediate consumption for the private health services in subsequent years. Health CPI is used to estimate them at constant price.

Regionalization Methodology

Department of Health, Health Management Information System (HMIS) provides the number of out-patient and in-patient at the provincial level. Total GDP at the current price on health activities is divided by the number of out-patients and in-patients at the provincial level. Province-wise health CPI is used to estimate at constant price.

Data Source

FCGO, annual report of the Department of Health Services provides data for this sector. The other periodic censuses and surveys such as NLSS, NEC 2018, and Private Hospital Census (2013) also provide the necessary data for this sector. Small Study on Pathology and Radiology Services, Dental Services, and Clinics are ad hoc studies used in the estimation process for the respective sub-sectors.



R-T. Other Service Activities

Section R “Art, Entertainment and Recreation”, S “Other Services Activities”, and T “Activities of Households as Employers; Undifferentiated Goods and Services Producing Activities of Households for Own Use” are included within other service activities.

Arts, Entertainment and Recreation

This section includes a wide range of activities to capture various cultural, entertainment, and recreational interests of the public, including live performances, operation of museum sites, gambling, sports, and recreation activities.

The Cost of Production Method is applied to estimate the GVA of this sector. Output, and IC are estimated from COFOG data provided by FCGO.

Other Service Activities

This section (as a residual category) includes the activities of membership organizations, the repair of computers, personal and household goods, and a variety of personal service activities not covered elsewhere in other classifications.

The activities of membership organizations, the repair of computers, personal and household goods are estimated from NEC 2018. Using the volume indicator, the series is extrapolated for the subsequent years. Adjusted consumer price index is used for constant price estimates.

Activities of Households as Employers: Undifferentiated Goods and Services Producing Activities of Households for Own Use

This class covers the activities of households as employers of domestic personnel and undifferentiated goods and services producing activities of private households for own use.

The benchmark values of household production and own account consumptions are estimated from NLSS and using the volume indicator, the series is extrapolated. Adjusted consumer price index is used for constant price estimates.

Regionalization Methodology

FCGO provides the province grant. Share of this grant is used for provincial estimation. Province-wise non-food CPI is used to estimate at constant price.

Data Source

National Economic Census and FCGO are the main data sources for this sector.



CHAPTER **4**

**STRENGTHENING
OF PROVINCE
LEVEL NATIONAL
ACCOUNT**



STRENGTHENING OF PROVINCE LEVEL NATIONAL ACCOUNT

The Provincial GDP estimation practice in Nepal has started since 2018/19 despite of ample data limitations. It is realized that the provincial GDP estimates are very important policy inputs especially for the provincial governments. The central government also uses the provincial GDP, especially for resource allocation. Therefore, Nepal undertakes Provincial GDP estimation exercise as a priority initiative and aims to strengthen its process and inputs.

Undertaking a Provincial GDP estimation exercise is a significant step as it aligns with the country's efforts to strengthen its economic planning and development processes. This initiation has provided practical insights into provincial GDP estimation. The following is a summary of the improvements that can be made to enhance its effectiveness. Essentially, enhancing province-level national accounts requires some activities to be undertaken immediately, while others need be pursued over a long term, as detailed below:

Reforms to be undertaken in the short run

- Incorporate appropriate indicators to divide the national value-added for each sector to develop a composite index with an appropriate weight
- Establish a coordination mechanism between the NSO and Provincial Ministry of Financial Affairs to collect the relevant indicators on a regular basis
- Develop a portal to collect provincial GDP related indicators to report NSO on a regular basis
- Coordinate with line ministries and other government agencies to receive data regularly
- Initiate provinces to pilot PGDP estimation with the support from NSO
- Develop capacity of the District Coordination Statistics Offices with the support from NSO
- Develop the system for maximum utilization of administrative data for producing accurate and on-time high-quality estimates

- Develop a strong mechanism between data collection and data producing organizations
- Conduct periodic reviews of regionalization-suitable methods based on data availability and institutional setup
- Adopt a bottom-up approach, at least for the production approach and for some components of the expenditure and the income approaches
- Implement a centralized system for compiling national accounts to guarantee that estimates for provincial accounts are consistent and standardized
- Formulate suitable Producer Price Indices (PPIs) to adjust the CGVA of various economic sectors for inflation and calculate constant estimates for each sector as there is a pressing need for PPIs for service sectors to adjust current values at the both the national and provincial levels
- Coordinate with NRB for Provincial CPI and other indices
- Request NRB to prepare CPI and other Price Index at the province level
- Build capacity of personnel involved in data compilation to maintain quality and reliability of provincial GDP estimates
- Ensure that all surveys conducted by NSO are representative at the provincial level
- Develop coordination between NSO and the Provincial Chief Minister's Office to identify the dynamic indicators for PDGP

Reforms to be undertaken in the long run

- Restructure the seven Province Coordination Offices with strong authority to establish a mechanism for improvement of the statistical system
- Establish a committee tasked with designing a framework for compiling provincial accounts that shall consider the institutional capabilities, data availability, and the specific needs of both federal and provincial governments
- Enhance coordination between central and province for strengthening the statistical system and developing the Statistics Coordination Office as a nodal office
- Initiate compilation by institutional units after rebasing
- Pursue province's initiation in compiling PGDP using a production approach as an important milestone for the strengthening of PGDP
- Organize a validation workshop to finalize the estimates once the provinces estimate the PGDP

- Develop a reporting mechanism using some online portals from major private establishments such as hotels, manufacturing industries, and others to collect data on a regular basis
- Develop suitable indicators to allocate the output of provincial enterprises and activities
- Harmonize data from various sources and ensure consistency across provinces by addressing the complexity of data availability, quality, infrastructure, etc.
- Develop a mechanism to define and measure the informal economic activities as it comprises a significant portion of the economy
- Standardize data collection methodologies and ensure data consistency for inter-provincial and national comparisons
- Develop a mechanism to regularly produce all types of Price Indices (CPI, PPI, WPI, PICS, MPI, etc.) at the provincial level

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GLOSSARY OF MAIN TERMS

Terms	Concepts/Definitions in Use
Accrual accounting	Accrual accounting records flows at the time economic value is created, transformed, exchanged, transferred, or extinguished, so flows which imply a change of ownership are entered when ownership passes, services are recorded when provided, output at the time products are created and intermediate consumption when materials and supplies are being used.
Assets	Assets are entities that must be owned by units like machinery, equipment, furniture, buildings and other durable reproducible goods, stocks of non-durable goods, land, monuments and other non-reproducible tangible assets, copy-rights, leases, financial claims on other parties and other intangible assets using them over a period.
Assets, fixed	Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly or continuously in other processes of production for more than one year.
Assets, Financial	Financial assets are assets in the form of financial claims, monetary gold, Special Drawing Rights (SDRs) allocated by the International Monetary Fund (IMF), shares in corporations, and certain of the instruments called derivatives.
Balance of payments	The economic transactions on current account between the residents of Nepal and the rest of the world, involving the export and import of goods, rendering of services and exchange of gifts.
Balance of primary incomes	The balance of primary incomes is the total value of the primary incomes receivable by an institutional unit or sector less the total of the primary incomes payable.
Balance sheet	Account showing the assets, liabilities and net worth of an institutional unit, or class of such units, as of a given date.
Balancing item	A balancing item is an accounting construct obtained by subtracting the total value of the entries on the left-hand side of an account from the total value for the right-hand side (i.e., resources less use, or liabilities less assets).
Barter transactions	Barter transactions involve two parties, with one party providing a good, service or asset other than cash to the other in return for a good, service or asset other than cash.
Base period	The period that provides the weights for an index is described as the base period.
Basic price	The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, on that unit as a consequence of its production or sale; it excludes any transport charges invoiced separately by the producer.
Capital formation, gross and net	Gross capital formation includes gross fixed capital formation and change in stocks. Net capital formation is gross capital formation less consumption of fixed capital.
Capital formation Gross fixed	Gross fixed capital formation is measured the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period and plus certain additions to the value of non-produced assets (such as land or subsoil assets) realised by the productive activity of institutional units.
Capital stock - gross	Gross capital stock is the value of all fixed assets still in use when a balance sheet is drawn up, at the actual or estimated current purchasers' prices for new assets of the same type, irrespective of the age of the assets.

Capital expenditure	Expenditure for new capital equipment and structures including expenditure which extend the normal life of the asset or raise its productivity are included in capital expenditure. Thus major alterations, renovations, and rebuilding are capital expenditure. Routine care such as oiling, adjusting, cleaning and the replacement of short-lived parts are current expenditure.
Central Bank	A central bank is the public financial corporation which is a monetary authority; that is, which issues banknotes and sometimes coins and may hold all or part of the international reserves of the country.
Central government	Central government is the body whose political authority extends over the entire territory of the country and which has the authority to impose taxes on all resident and non-resident units engaged in economic activities within the country.
Central Product Classification (CPC)	The Central Product Classification (CPC) is a classification based on the physical characteristics of goods or on the nature of the services rendered.
Centre of economic interest	An institutional unit is said to have a centre of economic interest within a country when there exists some location within the economic territory of the country on, or from, which it engages, and intends to continue to engage, in economic activities and transactions on a significant scale, either indefinitely or over a finite but long period of time.
Change in real national net worth	The change in real national net worth is the sum of changes in net worth of all resident institutional sectors less the neutral holding gains/losses (that is, in proportion to the general price level); it is also equal to the sum of saving and capital transfers, other changes in volume of assets and real holding gains or losses.
Changes in inventories (including work-in-progress)	Changes in inventories (including work-in-progress) are measured by the value of the entries into inventories less the value of withdrawals and the value of any recurrent losses of goods held in inventories.
Classification of individual consumption by purpose (COICOP)	The classification of individual consumption by purpose (COICOP) is a classification used to identify the objectives of both individual consumption expenditure and actual individual consumption.
Classification of outlays of producers by purpose (COPP)	The classification of outlays of producers by purpose (COPP) is a classification used to identify the purposes of expenditures by producers (i.e. intermediate consumption, compensation of employees, other taxes less subsidies on production, consumption of fixed capital and gross fixed capital formation).
Classification of the functions of government (COFOG)	The classification of the functions of government (COFOG) is a classification used to identify the socio-economic objectives of current transactions, capital outlays and acquisition of financial assets by general government and its sub-sectors.
Classification of the purposes of non-profit institutions (COPNI)	The classification of the purposes of non-profit institutions (COPNI) is a classification used to identify the socio-economic objectives of current transactions, capital outlays and acquisition of financial assets by non-profit institutions serving households.
Consumer durables	Consumer durables are durable goods acquired by households for final consumption (i.e. those that are not used by households as stores of value or by unincorporated enterprises owned by households for purposes of production); they may be used for purposes of consumption repeatedly or continuously over a period of a year or more.
Consumption	Consumption is an activity in which institutional units use up goods or services; consumption can be either intermediate or final.
Consumption good or service	A consumption good or service is one that is used (without further transformation in production) by households, NPISHs or government units for the direct satisfaction of individual needs or wants or the collective needs of members of the community.

Consumption of fixed capital	Consumption of fixed capital represents the reduction in the value of the fixed assets used in production during the accounting period resulting from physical deterioration, normal obsolescence or normal accidental damage.
COPP (classification of outlays of producers by purpose)	COPP (classification of outlays of producers by purpose) is a classification used to identify the purposes of expenditures by producers (i.e. intermediate consumption, compensation of employees, other taxes less subsidies on production, consumption of fixed capital and gross fixed capital formation).
Corporation	A corporation is a legal entity, created for the purpose of producing goods or services for the market, that may be a source of profit or other financial gain to its owner(s); it is collectively owned by shareholders who have the authority to appoint directors responsible for its general management.
CPC (Central Product Classification)	The CPC (Central Product Classification) is a classification based on the physical characteristics of goods or on the nature of the services rendered.
Current accounts	Current accounts record the production of goods and services, the generation of incomes by production, the subsequent distribution and redistribution of incomes among institutional units, and the use of incomes for purposes of consumption or saving.
Current transfers	Current transfers consist of all transfers that are not transfers of capital; they directly affect the level of disposable income and should influence the consumption of goods or services.
Disposable income	Disposable income is derived by adding to the balance of primary incomes all current transfers, except social transfers in kind, receivable by a unit or sector and subtracting all current transfers, except social transfers in kind, payable by that unit or sector.
Dividends	Dividends are a form of property income to which shareholders become entitled as a result of placing funds at the disposal of corporations.
Domestic output	Domestic output is output produced by resident enterprises.
Double deflation	Double deflation is a method whereby gross value added is measured at constant prices by subtracting intermediate consumption at constant prices from output at constant prices.
Economic interest - centre of	An institutional unit is said to have a centre of economic interest within a country when there exists some location within the economic territory of the country on, or from, which it engages, and intends to continue to engage, in economic activities and transactions on a significant scale, either indefinitely or over a finite but long period of time.
Economic production	Economic production is an activity carried out under the control and responsibility of an institutional unit that uses inputs of labour, capital, and goods and services to produce outputs of goods or services.
Economic territory (of a country)	The economic territory of a country consists of the geographic territory administered by a government within which persons, goods, and capital circulate freely.
Economically active persons	Economically active persons are persons engaged in production included within the boundary of production of the SNA.
Economically significant prices	Prices are said to be economically significant when they have a significant influence on the amounts the producers are willing to supply, and on the amount purchasers wish to buy.
Employee	An employee is a person who enters an agreement, which may be formal or informal, with an enterprise to work for the enterprise in return for remuneration in cash or in kind.

Exports of goods	Exports of goods consist of exports of the following items from residents to non-residents, generally with a change of ownership being involved: general merchandise, goods for processing, repairs on goods, goods procured in foreign ports by domestic carriers, and non-monetary gold.
Final consumption	Final consumption consists of goods and services used by individual households or the community to satisfy their individual or collective needs or wants.
Final consumption expenditure of government	Government final consumption expenditure consists of expenditure, including imputed expenditure, incurred by general government on both individual consumption goods and services and collective consumption services.
Final consumption expenditure of households	Household final consumption expenditure consists of the expenditure, including imputed expenditure, incurred by resident households on individual consumption goods and services, including those sold at prices that are not economically significant.
Final consumption expenditure of NPISHs	Final consumption expenditure of NPISHs consists of the expenditure, including imputed expenditure, incurred by resident NPISHs on individual consumption goods and services.
Financial account	The financial account records the net acquisition of financial assets and net incurrence of liabilities for all institutional sectors by type of financial asset.
Financial corporations	The financial corporations sector consists of all resident corporations or quasi-corporations principally engaged in financial intermediation or in auxiliary financial activities which are closely related to financial intermediation.
Financial derivatives	Financial derivatives are financial instruments which are linked to a specific financial instrument or indicator (foreign currencies, government bonds, share price indices, interest rates, etc.) or to a particular commodity (gold, coffee, sugar, etc.).
Financial enterprises	Financial enterprises are enterprises that are principally engaged in financial intermediation or in auxiliary financial activities which are closely related to financial intermediation.
Financial intermediaries	Financial intermediaries are units which incur liabilities on their own account on financial markets by borrowing funds which they lend on different terms and conditions to other institutional units.
Financial intermediation	Financial intermediation is a productive activity in which an institutional unit incurs liabilities on its own account for the purpose of acquiring financial assets by engaging in financial transactions on the market.
Financial intermediation services indirectly measured (FISIM)	Financial intermediation services indirectly measured (FISIM) is an indirect measure of the value of financial intermediation services provided but for which financial institutions do not charge explicitly.
Financial lease	A financial lease is a contract between lessor and lessee whereby the lessor purchases a good that is put at the disposal of the lessee and the lessee pays rentals that enable the lessor, over the period of the contract, to cover all, or virtually all, costs, including interest.
Financial transactions	Financial transactions between institutional units and between institutional units and the rest of the world cover all transactions involving change of ownership of financial assets, including the creation and liquidation of financial claims.
Foreign direct investment	Foreign direct investment is the category of international investment that reflects the objective of obtaining a lasting interest by a resident entity in one economy in an enterprise resident in another economy; foreign direct investment is defined as ownership of 10 per cent or more of the ordinary shares or voting power (for an incorporated enterprise) or the equivalent (for an unincorporated enterprise).

Full-time equivalent employment	Full-time equivalent employment is the number of full-time equivalent jobs, defined as total hours worked divided by average annual hours worked in full-time jobs.
Functional classifications	Functional classifications provide a means of classifying, by purpose or socio-economic objective, certain transactions of producers and of three institutional sectors - namely households, general government and non-profit institutions serving households (NPISH)s.
GDP - expenditure based	Expenditure-based GDP is total final expenditures at purchasers' prices, less the f.o.b. value of imports of goods and services.
GDP - income based	Income-based GDP is compensation of employees, plus taxes less subsidies on production and imports, plus gross mixed income, plus gross operating surplus.
GDP - output based	Output-based GDP is the sum of the gross values added of all resident producers at producers' prices, plus taxes less subsidies on imports, plus all non-deductible VAT (or similar taxes).
GDP at market prices	GDP at market prices is the sum of the gross values added of all resident producers at producers' prices, plus taxes less subsidies on imports, plus all non-deductible VAT (or similar taxes).
General government	The general government sector consists of the totality of institutional units which, in addition to fulfilling their political responsibilities and their role of economic regulation, produce principally non-market services (possibly goods) for individual or collective consumption and redistribute income and wealth.
GNI (gross national income)	GNI (gross national income) is the aggregate value of the balances of gross primary incomes for all sectors; (GNI is identical to gross national product (GNP) as hitherto understood in national accounts generally).
Goods	Goods are physical objects for which a demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets.
Government final consumption expenditure	Government final consumption expenditure consists of expenditure, including imputed expenditure, incurred by general government on both individual consumption goods and services and collective consumption services.
Gross domestic product - expenditure based	Expenditure-based gross domestic product is total final expenditures at purchasers' prices, less the f.o.b. value of imports of goods and services.
Gross domestic product - income based	Income-based gross domestic product is compensation of employees, plus taxes less subsidies on production and imports, plus gross mixed income, plus gross operating surplus.
Gross domestic product - output based	Output-based gross domestic product is the sum of the gross values added of all resident producers at producers' prices, plus taxes less subsidies on imports, plus all non-deductible VAT (or similar taxes).
Gross domestic product at market prices	Gross domestic product at market prices is the sum of the gross values added of all resident producers at producers' prices, plus taxes less subsidies on imports, plus all non-deductible VAT (or similar taxes).
Gross national disposable income	Gross national disposable income may be derived from gross national income by adding all current transfers in cash or in-kind receivable by resident institutional units from non-resident units and subtracting all current transfers in cash or in kind payable by resident institutional units to non-resident units.
Gross saving	Gross saving is gross disposable income less final consumption expenditure.
Gross value added	Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry or sector.

Gross value added at basic prices	Gross value added at basic prices is output valued at basic prices less intermediate consumption valued at purchasers' prices.
Gross value added at producers' prices	Gross value added at producers' prices is output valued at producers' prices less intermediate consumption valued at purchasers' prices.
Holding gains	Positive or negative holding gains may accrue during the accounting period to the owners of financial and non-financial assets and liabilities as a result of a change in their prices (holding gains are sometimes referred to as "capital gains").
Homogeneous production unit	A unit of homogeneous production is a producer unit in which only a single (non-ancillary) productive activity is carried out.
Household	A household is a small group of persons who share the same living accommodation, who pool some, or all, of their income and wealth and who consume certain types of goods and services collectively, mainly housing and food.
Household actual final consumption	Household actual final consumption consists of the consumption goods or services acquired by individual households by expenditures or through social transfers in kind received from government units or non-profit institutions serving households (NPISHs).
Household final consumption expenditure	Household final consumption expenditure consists of the expenditure, including imputed expenditure, incurred by resident households on individual consumption goods and services, including those sold at prices that are not economically significant.
Illegal production	Illegal production is the production of goods or services whose sale, distribution or possession is forbidden by law; and production activities which are usually legal but which become illegal when carried out by unauthorised producers.
Import duties	Import duties consist of customs duties, or other import charges, which are payable on goods of a particular type when they enter the economic territory.
Imports of general merchandise	Imports of general merchandise consist of most movable goods imported by residents from non-residents and that, with a few specified exceptions, undergo changes in ownership (actual or imputed).
Imports of goods	Imports of goods consist of imports of the following items from non-residents to residents, generally with a change of ownership being involved: general merchandise, goods for processing, repairs on goods, goods procured in foreign ports by domestic carriers, and non-monetary gold.
Imports of services	Imports of services consist of the following services purchased by residents from non-residents: transportation; travel; communications; construction; insurance; financial; computer and information; royalties and licence fees; other business services; personal, cultural, and recreational services; and government services n.i.e.
Indirect taxes	As traditionally understood, indirect taxes are taxes that supposedly can be passed on, in whole or in part, to other institutional units by increasing the prices of the goods or services sold but the term "indirect taxes" is not used in SNA93; rather taxes are specifically identified by their purpose (e.g. taxes on products).
Institutional sectors	Institutional units are grouped together to form institutional sectors, on the basis of their principal functions, behaviour, and objectives.
Institutional unit	An institutional unit is an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities.

Insurance	The activity of insurance is intended to provide individual institutional units exposed to certain risks with financial protection against the consequences of the occurrence of specified events; it is also a form of financial intermediation in which funds are collected from policyholders and invested in financial or other assets which are held as technical reserves to meet future claims arising from the occurrence of the events specified in the insurance policies.
Intermediate consumption	Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital.
ISIC	ISIC is the United Nations International Standard Industrial Classification of All Economic Activities; the third revision of ISIC is used in the 1993 SNA.
Local government	Local government units are institutional units whose fiscal, legislative and executive authority extends over the smallest geographical areas distinguished for administrative and political purposes.
Machinery and equipment	Machinery and equipment consist of transport equipment and other machinery and equipment other than that acquired by households for final consumption.
Margin (trade)	A trade margin is the difference between the actual or imputed price realised on a good purchased for resale (either wholesale or retail) and the price that would have to be paid by the distributor to replace the good at the time it is sold or otherwise disposed of.
Market establishments	Market establishments produce mostly goods and services for sale at prices which are economically significant.
Market non-profit institutions serving businesses	Market non-profit institutions serving businesses are created by associations of the businesses whose interests they are designed to promote and usually financed by contributions or subscriptions from the group of businesses concerned; the subscriptions are treated not as transfers but as payments for services rendered.
Market output	Market output is output that is sold at prices that are economically significant or otherwise disposed of on the market, or intended for sale or disposal on the market.
Market prices	Market prices for transactions are the amounts of money willing buyers pay to acquire something from willing sellers.
Market price equivalents	Market price equivalents are proxies, or substitute measures, for market prices in those cases for which no actual market prices have been set; a customary approach is to construct such prices by analogy with known market prices established under conditions that are considered essentially the same.
Market producers	Market producers are producers that sell most or all of their output at prices that are economically significant.
Mixed income	Mixed income is the surplus or deficit accruing from production by unincorporated enterprises owned by households.
Monetary gold	Monetary gold is gold owned by the monetary authorities or others subject to their effective control that is held as a financial asset and as a component of foreign reserves.
National income	At the level of the total economy, national income is the total value of the primary incomes receivable within the economy less the total of the primary incomes payable by resident units.
Non-financial assets	Non- financial assets are entities, over which ownership rights are enforced by institutional units, individually or collectively, and from which economic benefits may be derived by their owners by holding them, or using them over a period of time, that consist of tangible assets, both produced and non-produced, and most intangible assets for which no corresponding liabilities are recorded.

Non-financial corporations	Non-financial corporations are corporations whose principal activity is the production of market goods or non-financial services.
Non-monetary gold	Non-monetary gold covers exports and imports of all gold not held as reserve assets (monetary gold) by the authorities.
Non-monetary transactions	Non-monetary transactions are transactions that are not initially stated in units of currency, barter is an obvious example.
Non-produced assets	Non-produced assets are non-financial assets that come into existence other than through processes of production.
Non-profit institutions (NPIs)	Non-profit institutions (NPIs) are legal or social entities created for the purpose of producing goods and services whose status does not permit them to be a source of income, profit or other financial gain for the units that establish, control or finance them.
Non-profit institutions controlled and mainly financed by government	Non-profit institutions controlled and mainly financed by government must be properly constituted legal entities which exist separately from government but over which government exercises control.
Non-profit institutions engaged in market production	Non-profit institutions engaged in market production consist of those NPIs which charge fees determined by their costs of production and which are sufficiently high to have a significant influence on the demand for their services, but any surpluses such institutions make must be retained within those institutions as their status as "Non-profit institutions (NPIs)" prevents them from distributing them to others.
Non-profit institutions engaged in non-market production	Non-profit institutions engaged in non-market production are NPIs that are incapable of providing financial gain to the units which control or manage them, and which must rely principally on funds other than receipts from sales to cover their costs of production or other activities.
Non-profit institutions serving households (NPISHs)	Non-profit institutions serving households (NPISHs) consist of NPIs which are not financed and controlled by government and which provide goods or services to households free or at prices that are not economically significant.
Operating surplus	The operating surplus measures the surplus or deficit accruing from production before taking account of any interest, rent or similar charges payable on financial or tangible non-produced assets borrowed or rented by the enterprise, or any interest, rent or similar receipts receivable on financial or tangible non-produced assets owned by the enterprise; (note: for unincorporated enterprises owned by households, this component is called "mixed income").
Output	Output consists of those goods or services that are produced within an establishment that become available for use outside that establishment.
Output produced for own final use	Output produced for own final use consists of goods or services that are retained for their own final use by the owners of the enterprises in which they are produced.
Outworker	An outworker is a person who agrees to work for a particular enterprise or to supply a certain quantity of goods or services to a particular enterprise, by prior arrangement or contract with that enterprise, but whose place of work is not within any of the establishments which make up that enterprise; the enterprise does not control the time spent at work by an outworker and does not assume responsibility for the conditions in which that work is carried out.
Own-account producers	Own-account producers consist of establishments engaged in gross fixed capital formation for the enterprises of which they form part or unincorporated enterprises owned by households all or most of whose output is intended for final consumption or gross fixed capital formation by those households.
Own-account workers	Own-account workers are self-employed persons without paid employees.
Price	The price of a good or service is the value of one unit of a particular good or service.

Principal activity	The principal activity of a producer unit is the activity whose value added exceeds that of any other activity carried out within the same unit (the output of the principal activity must consist of goods or services that are capable of being delivered to other units even though they may be used for own consumption or own capital formation).
Produced assets	Produced assets are non-financial assets that have come into existence as outputs from processes that fall within the production boundary.
Producer's price	A producer's price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any VAT, or similar deductible tax, invoiced to the purchaser; it excludes any transport charges invoiced separately by the producer.
Producers for own final use	Producers for own final use produce mostly goods and services for final consumption or fixed capital formation by the owners of the enterprises in which they are produced.
Production	Production is a physical process, carried out under the responsibility, control and management of an institutional unit, in which labour and assets are used to transform inputs of goods and services into outputs of other goods and services.
Production account	The production account records the activity of producing goods and services as defined within the SNA.
Production boundary	The production boundary includes all production actually destined for the market, whether for sale or barter, all goods or services provided free to individual households or collectively to the community by government units or NPISHs, all goods produced for own use, own-account production of housing services and services produced by employing paid domestic staff.
Public corporations (non-financial and financial)	Public corporations are resident corporations and quasi-corporations that are subject to control by government units, with control over a corporation being defined as the ability to determine general corporate policy by choosing appropriate directors, if necessary.
Purchaser's price	The purchaser's price is the amount paid by the purchaser, excluding any deductible VAT or similar deductible tax, in order to take delivery of a unit of a good or service at the time and place required by the purchaser; the purchaser's price of a good includes any transport charges paid separately by the purchaser to take delivery at the required time and place.
Purchasing power parity (PPP)	A purchasing power parity (PPP) is a price relative which measures the number of units of country B's currency that are needed in country B to purchase the same quantity of an individual good or service as 1 unit of country A's currency will purchase in A.
Quasi-corporations	Quasi-corporations are unincorporated enterprises that function as if they were corporations, and which have complete sets of accounts, including balance sheets.
Real gross domestic income (real GDI)	Real gross domestic income (real GDI) measures the purchasing power of the total incomes generated by domestic production (including the impact on those incomes of changes in the terms of trade).
Reference rate (of interest)	The reference rate (of interest) is the pure cost of borrowing funds (i.e. a rate from which the risk premium has been eliminated to the greatest extent possible and which does not include any intermediation services).
Rest of the world	The rest of the world consists of all non-resident institutional units that enter into transactions with resident units, or have other economic links with resident units.

Rest of the world account	The rest of the world account comprises those categories of accounts necessary to capture the full range of transactions that take place between the total economy and the rest of the world.
SAM (social accounting matrix)	A SAM (social accounting matrix) is a means of presenting the SNA accounts in a matrix which elaborates the linkages between a supply and use table and institutional sector accounts.
Satellite accounts	Satellite accounts provide a framework to accommodate elements which are included in the central accounts, explicitly or implicitly, plus complementary elements (either monetary or in physical quantities) and possibly alternative concepts and presentations.
Saving	Saving is disposable income less final consumption expenditure (or adjusted disposable income less actual final consumption).
SDRs (Special Drawing Rights)	SDRs (Special Drawing Rights) are international reserve assets created by the International Monetary Fund and allocated to its members to supplement existing reserve assets.
Social accounting matrix (SAM)	A social accounting matrix (SAM) is a means of presenting the SNA accounts in a matrix which elaborates the linkages between a supply and use table and institutional sector accounts.
Special drawing rights (SDRs)	Special drawing rights (SDRs) are international reserve assets created by the International Monetary Fund and allocated to its members to supplement existing reserve assets.
Tangible fixed assets	Tangible fixed assets are non-financial produced assets that consist of dwellings; other buildings and structures; machinery and equipment and cultivated assets.
Tangible non-produced assets	Tangible non-produced assets are natural assets - land, subsoil assets, non-cultivated biological resources and water resources - over which ownership may be established and transferred.
Tax on a product	A tax on a product is a tax that is payable per unit of some good or service, either as a specified amount of money per unit of quantity or as a specified percentage of the price per unit or value of the good or service transacted.
Total final consumption	Total final consumption is the total value of all expenditures on individual and collective consumption goods and services incurred by resident households, resident NPISHs serving households and general government units.
Total hours worked	Total hours worked consist of the aggregate number of hours actually worked during the period in employee and self-employment jobs.
Trade credits and advances	Trade credits and advances are trade credit for goods and services extended directly to corporations, to government, to non-profit institutions, to households and to the rest of the world and also advances for work that is in progress (if classified as such under inventories) or is to be undertaken.
Trade margin	A trade margin is the difference between the actual or imputed price realised on a good purchased for resale (either wholesale or retail) and the price that would have to be paid by the distributor to replace the good at the time it is sold or otherwise disposed of.
Trading gains and losses	Trading gains and losses arise from changes in a country's terms of trade; for example, if the prices of a country's exports rise faster (or fall more slowly) than the prices of its imports (i.e. if terms of trade improve) then an increased volume of imports of goods and services can be purchased by residents out of the receipts generated by a given level of exports.

Transaction	A transaction is an economic flow that is an interaction between institutional units by mutual agreement or an action within an institutional unit that it is analytically useful to treat like a transaction, often because the unit is operating in two different capacities.
Transfer	A transfer is a transaction in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset in return as counterpart.
Uses	The term uses refers to transactions that reduce the amount of economic value of a unit or sector (for example, wages and salaries are a use for the unit or sector that must pay them); by convention, uses are put on the left side of the account.
Valuables	Valuables are produced assets that are not used primarily for production or consumption, that are expected to appreciate or at least not to decline in real value, that do not deteriorate over time under normal conditions and that are acquired and held primarily as stores of value.
Value added - gross	Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry or sector.
Value added - net	Net value added is the value of output less the values of both intermediate consumption and consumption of fixed capital.
Valuation of Imports and Exports	Valuation basis is f.o.b. at the custom frontier of the exporting country for exports and c.i.f. at the customs frontier of the importing country for imports. f.o.b. value: The value in the market at the customs frontier of a country of her exports of merchandise and other goods including all costs of transporting the goods to the custom frontier, export duties and the cost of loading the goods on the carrier unless the latter cost is borne by the carrier. c.i.f. value: The value in the market at the custom frontier of a country of her imports of merchandise, other goods, etc. including all charges for transporting and insuring the goods from the country of export and the given country but excluding, the cost of unloading from ship, aircraft, etc., unless it is borne by the carrier.
Value added tax (VAT)	A Value added tax (VAT) is a tax on products collected in stages by enterprises.
Wages and salaries	Wages and salaries consist of the sum of wages and salaries in cash and wages and salaries in kind.
Wages and salaries in cash	Wages and salaries in cash consist of wages or salaries payable at regular weekly, monthly or other intervals, including payments by results and piecework payments; plus, allowances such as those for working overtime; plus amounts paid to employees away from work for on holiday; plus ad hoc bonuses and similar payments; plus commissions, gratuities and tips received by employees.
Wages and salaries in kind	Wages and salaries in kind consist of remuneration in the form of goods and/or services that are not necessary for work and can be used by employees in their own time, and at their own discretion, for the satisfaction of their own needs or wants or those of other members of their households.

ANNEXES

Annex 1. Data Source, Availability, and Level According to Industries

Group	Industrial Classification	Data Source	Disaggregate Level	Data Availability
A	Agriculture, forestry and fishing			
	Cereal crop	Ministry of Agriculture and Livestock Development (MoALD)	Provincial	Yearly
	Vegetable	Ministry of Agriculture and Livestock Development	Provincial/ National	Yearly/ ad hoc
	Live stock	Department of Livestock Services	Provincial	Yearly
	Forestry	Ministry of Finance and NLSS	Provincial	Yearly/ 5 years
	Fishing	Central Fisheries Promotion and Conservation Centre	Provincial	Yearly
		Some Other Surveys	National	Ad hoc
B	Mining and quarrying			
	Mining of coal and lignite	Department of Mines & Geology	Provincial	Yearly
	Extraction of crude petroleum and natural gas, service activities			
	Mining of metal ores			
	Other mining and quarrying			
C	Manufacturing			
	Modern manufacturing	MPI and MPPI Manufacturing Census, Population Census, NLSS	Provincial	Yearly 10 Years 5 Years
	Small manufacturing			
	Unorganized manufacturing			
D	Electricity, gas, steam and air conditioning supply			
	Electric power generation, transmission and distribution	NEA, private power company, Alternative Energy Promotion Centre	National	Yearly
	Manufacture of gas; distribution of gaseous fuels through mains	Nepal Oil Corporation and surveys	National	Yearly/ ad hoc
E	Water supply, sewerage, waste management and remediation activities			
	Water collection, treatment and supply	KUKL, NDW, Consumer Groups, NLSS	National	Yearly

F	Construction			
	Permanent construction	Manufacturing census, FTS, Construction price index and survey	National	Yearly
	Temporary construction	Department of Road, Construction price index, NLSS	National	Yearly/5 years
G	Wholesale and retail trade; repair of motor vehicles and motorcycles			
	Wholesale and retail trade; repair of motor vehicles and motorcycles	MoALD, Custom, NRB, NLSS, Economic census, other Survey	National	Yearly/5 years/ad hoc
H	Transportation and storage			
	Transportation and storage	Transport MO, Airlines, Cable car, Nepal Transit & Warehousing Limited, Financial Comptroller General Office, NLSS and other Surveys	National	Yearly/ad hoc
I	Accommodation and food service activities			
	Accommodation and food service activities	MOCTCA, NRB, NTB, Economic census 2018, NLSS, HAN	National	Yearly/5 years/ad hoc
J	Information and communication			
	Information and communication	NTC, NCELL, NTA, NRB, Economic Census 2018 and other surveys	National	Yearly/5 years/ad hoc
K	Financial and insurance activities			
	Financial and insurance activities	NRB, SEBON, NEPSE, EPF, CIT, life insurance company, non-life insurance company, benchmark surveys of money exchangers, profit & loss accounts of capital markets and mutual funds	Province	Monthly
L	Real estate activities			
	Real estate business activities	Economic Census 2018, Real Estate census 2019	Province/National	5 years/ad hoc
M	Professional, scientific and technical activities			
	Professional, scientific and technical activities	Economic Census 2018	Province	5 years
N	Administrative and support service activities			
	Administrative and support service activities	Economic Census 2018	Province	5 years

O	Public administration and defence; compulsory social security			
	Public administration and defence; compulsory social security	Financial Comptroller General Office	Province	Monthly
P	Education			
	Education	EMIS, MoEST	Province	Yearly
Q	Human health and social work activities, other service activities			
	Human health and social work activities, other service activities	HMIS, Ministry of Health and Population	Province	Yearly
R-T	Other services	Financial Comptroller General Office	Province	Monthly

Annex 2. Methods, Currently Used and Suggested Indicators

Group	Activities	Method	Used Indicators	Suggested Indicators during the Workshops
A	Agriculture, forestry and fishing			
	Cereal crop	Top to Bottom	Production	Use agriculture price index
	Vegetable	Top to Bottom	Production	Use agriculture price index
	Live stock	Top to Bottom	Production	Use agriculture price index
	Fishing	Top to Bottom	Production	Use agriculture price index
	Forestry	Top to Bottom	Revenue and forest land	Use agriculture price index
B	Mining and quarrying			
	Mining and quarrying	Top to Bottom	Revenue	Royalties collected by local government
C	Manufacturing			
	Modern manufacturing	Top to Bottom	Wage and salary of employee	
	Small manufacturing	Top to Bottom	Wage and salary of employee	Producer price and production index
	Unorganized manufacturing	Top to Bottom	Wage and salary of employee	
D	Electricity, gas, steam, and air conditioning supply			
	Electricity	Top to Bottom	Revenue, number of hydropower	
	Micro hydro	Top to Bottom	Revenue, number of hydropower	Composite index should be updated regularly
	Bio gas	Top to Bottom	Number of bio-gas plant	
E	Water supply, sewerage, waste management and remediation activities			
	Water supply and water's user group	Top to Bottom	Household expenditure on water	Composite index should be updated regularly
	Waste collection unit and Material Recovery unit	Top to Bottom	Number of waste collection company	Revenues and royalties
F	Construction			
	Permanent construction	Top to Bottom	Engaged worker	Revenues and royalties
	Temporary construction	Top to Bottom		

G	Wholesale and retail trade; repair of motor vehicles and motorcycles			
	Wholesale trade	Top to Bottom	VAT and income	
	Retail trade	Top to Bottom	VAT and income	Province-wise VAT
	Repair of motor vehicles and motorcycles	Top to Bottom	Number of employees	
H	Transportation and storage			
	Mechanized land transport	Top to Bottom	Revenue (road tax, repair fee)	
	Services of airlines	Top to Bottom	Revenue	Province-wise air passenger
	Non-mechanized land transport and Water transport	Top to Bottom	Revenue, renewal fee	
	Ropeways	Top to Bottom	Revenue	
	Storage service	Top to Bottom	Number of employees	
I	Accommodation and food service activities			
	Star hotels	Top to Bottom	Number of employees	Occupancy rate
	Tourism standard and non-tourism standard hotels	Top to Bottom	Number of employees	Number hotels (province)
	Camping grounds, recreational vehicles, trailer parks and other accommodation	Top to Bottom	Number of employees	Number of parks
	Beverage and mobile service activities	Top to Bottom	Number of employees	
	Catering and other beverage service activities	Top to Bottom	Number of employees	Same as before
	Informal hotels and restaurants	Top to Bottom	Number of employees	
J	Information and communication			
	Publishing activities	Top to Bottom	Number of employees	
	Motion picture	Top to Bottom	Number of employees	Talk time, number of mobile users,
	Broadcasting activities	Top to Bottom	Number of employees	number movie hall, number of radio/TV stations
	Telecommunications	Top to Bottom	Number of employees	

K	Financial and insurance activities				
	Bank and other financial activities	Top to Bottom	Deposit and loan Bank sector and other financial activities	Deposit and loan for banking, and amount of contribution on other financial sector	
	Insurance activities	Top to Bottom	insurance premium and clam	Same as before	
L	Real estate activities				
	Real estate business activities	Top to Bottom	Number of employees	Revenue, number of land registration	
	Own occupied dwelling	Top to Bottom	Ratio of Provincial imputed and actual rents	Household growth	
M	Professional, scientific and technical activities				
	Professional, scientific and technical activities	Top to Bottom	Number of employee and ratio	Number of establishments by activities	
N	Administrative and support service activities				
	Administrative and support service activities	Top to Bottom	Number of employee and Ratio	Number of establishments by activities	
O	Public administration and defence; compulsory social security				
	Public administration and defence; compulsory social security	Top to Bottom	Number of employees	Government employees' salary(province-wise)	
P	Education				
	Public education	Top to Bottom	Number of students	Use PLIMBS of government, and Flash Report, private	
	Private education	Top to Bottom	Number of students		
	Coaching Center	Top to Bottom	Number of students		
	Consultancy	Top to Bottom	Number of students		
Q	Human health and social work activities, other service activities				
	Public health	Top to Bottom	Number of outpatient and inpatient	Use PLIMBS of government, and HMIS, private	
	Private health	Top to Bottom	Number of outpatient and inpatient		
	Radiology and pathology	Top to Bottom	Number of patients		
	Care center	Top to Bottom	Number of patients		
R-T	Other other services				
	Other other services	Top to Bottom	Province level donation		PLMBIS



Government of Nepal
Office of the Prime Minister and Council of Ministers
National Statistics Office
Thapathali, Kathmandu