



Government of Nepal
Ministry of Population and Environment



Strengthening National Capacity in Environment Data Sharing and Reporting

An Assessment of Environmental Data Needs National Report – Nepal

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Abbreviation

ADB	Asian Development Bank
AEPC	Alternative Energy Promotion Center
ANSAB	Asia Network for sustainable Agriculture and Bio-resources
BUR	Biannual Update Report
CBS	Central Bureau of Statistics
CIAA	Commission of Investigation of Abuse of Authority
CoPH	Census of Private Hospitals
DANIDA	Danish International Development Agency
DFTQC	Department of Food Technology and Quality Control
DHM	Department of Hydrology and Meteorology
DMG	Department of Mines and geology
DNPWC	Department of National Parks and Wildlife Conservation
DoA	Department of Archeology
DoFD	Directorate of Fisheries development
DoHS	Department of Health services
DoI	Department of Irrigation
DLS	Department of Livestock Services
DoR	Department of Road
DoTM	Department of Transport Management
EFLG	Environment Friendly Local Governance
EIA	Environmental Impact Assessment
EMIS	Environment Management Information System
EdMIS	Education Management Information System
EPA	Environment Protection Act
EPR	Environment Protection Regulations
ENPHO	Environment and Public Health Organization
ESSAT	Environment Statistics Self-Assessment Tool
FDES	Framework for the Development of Environment Statistics
GDP	Gross Domestic Product
GHG	Green House Gases
GLOF	Glacier Lake Outburst Flood
GNI	Gross National Income
HMIS	Health Management Information Systems
ICIMOD	International Center for Integrated Mountain Development
ICT	Information and Communication Technology
INGO	International Non- Government Organization
IUCN	International Union for Conservation of Nature
KMC	Kathmandu Metropolitan City
LAPA	Local Adaptation Plan of Action
LDC	Least Developed Countries
LEAD	Leadership for Environment and Development
MDAC	Ministerial Development Action Committee
MDG	Millennium Development Goal
MEA	Multinational Environmental Agreement
MOAD	Ministry of Agricultural Development
MOCTCA	Ministry of Culture, Tourism and Civil Aviation
MOFALD	Ministry of Federal Affairs and Local Development
MOFSC	Ministry of Forest and Soil Conservation

MOI	Ministry of Industry
MOH	Ministry of Health
MOHA	Ministry of Home Affairs
MOIT	Ministry of Industry and Trade
MOPE	Ministry of Population and Environment
MOST	Ministry of Science and Technology
NAPA	National Adaptation Programme of Action
NAAQS	National Ambient Air Quality
NatCom	National Communication
NBSM	Nepal Bureau of Standards and Meteorology
NCCIS	National Climate Change Impact Survey
NDAC	National Development Action Committee
NDC	Nationally Determined Commitments
NESS	Nepal environmental scientific services
NGO	Non-Government Organization
NLCDC	National Lake Conservation Development Committee
NPC	National Planning Commission
NSC	Nepal Seed Corporation
NSC	National Statistical Council
NSDC	National Strategy for the Development Committee
NSO	National Statistical Organizations
PDNA	Post Disaster Needs Assessments
PPD	Plant Protection Directorate
PRMS	Pesticide Registration and Management Sections
PSIR	Pressure-State-Impact-Response
SDG	Sustainable Development Goal
SEEA	System of Economic and Environment Accounts
SoE	State of the Environment
SWMTSC	Solid Waste Management Technical Support Center
SWOT	Strength Weakness Opportunities Threats
TSP	Total Suspended Particles
TYP	Three Year Plan
UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNSD	United Nations Statistics Division
VEC	Veterinary Epidemiology Centre
WECS	Water and Energy Commission Secretariat
WHO	World Health Organization

1. Introduction

“Strengthening National Capacity in Environment Data Sharing and Reporting”, is a project of The Ministry of Population and Environment (MOPE) conducted with the technical support of United Nations Environment Programme (UNEP) and Leadership for Environment and Development (LEAD) Nepal and financial assistance from European Union under the EC-UNEP Strategic Cooperation Agreements signed under the EC Thematic Programme for Environment and sustainable Management of Natural Resources including Energy (ENRTP). The aim of this report is to assess environmental data availability and gaps related to Nepal’s national and sub-national policy and planning needs and reporting requirements, as well as international reporting obligations under the multilateral environmental agreements (MEAs) ratified by the Government of Nepal, including environmental goals and targets of the UN 2030 Agenda for Sustainable Development (the SDGs). The Report also reviews the institutional and systemic dimensions of environmental data management, sharing and reporting and offer recommendations to overcome existing challenges.

Methodology

The preparation of the assessment report was guided by the report structure adopted by the national Focal Points of project beneficiary countries during the project inception workshop held on 25-27 January 2017 in Bangkok.

A technical committee¹ with six members was formed chaired by the Joint Secretary of MOPE that guided the entire implementation process. Secondary information was collected through review of policy papers, legal documents, publications, plans and programmes of the ministries and departments within the government. Group discussions and consultation meetings were held with key stakeholders along the supply and users of the environment statistics. Further interviews were conducted with the policy makers within MOPE and the Central Bureau of Statistics (CBS) that also validated the information collected. A team of technical staff from Leadership for Environment and Development (LEAD) Nepal visited the different ministries and departments and interviewed focal point allocated by MOPE and filled in the Environment Statistics Self-Assessment Tool (ESSAT) and the questionnaires. LEAD Nepal as the implementing partner of UNEP supported the coordination between MOPE, UNEP, CBS and different line ministries and INGO and NGOs.

MoPE organized a half-day national workshop aiming to share and validate the data and information that is included in the report. Fifty participants from different Ministries and INGOs attended the review sharing and discussion workshop where by the team validated the contents of the report and added some more suggestions. UN Environment and LEAD Nepal supported the event and MoPE moderated the workshop. The list of participants is in annex 2 (D). The assessment was conducted by Mr. RudraSuwal, principal consultant, with the assistance of the technical staff of LEAD Nepal, and the support of the Technical Committee and Mr. Robert Steele, Project Regional Advisor, under the direct supervision of Ms. Aisha Khatoon, CEO Lead Nepal.

1.1 National Context

Nepal is predominantly a mountainous country with an area of 147,181 square kilometers and an estimated population of 26.5 million². It borders with India on three sides- south, east and west and China to the north. The altitude differs according to the terrain, ranging from 90 to 8848 meters from North to South, and is divided into three major ecological regions from North to South - the Mountains, the Hills and the Terai (plains).

¹Ms. LaxmiKumariBasnet, Joint Secretary (MOPE), RituPantha, Director (MOPE), SurendraThapa, Under Secretary (MOPE), SushilSharma, Director (CBS), ShreejanaBhusal, Section Officer (MOPE) and Aisha Khatoon, CEO, LEAD Nepal

²CBS (2016), 2015 Statistical Year Book Nepal, Central Bureau of Statistics, Government of Nepal, Kathmandu.

Nepal is rich in bio-diversity with many endemic species of flora and fauna. Nepal is home to threatened species of 65,146 vertebrates, 1,305,250 invertebrates, 307,674 plants and 51,623 fungi and protists³. Further, watersheds contributed by major river basins like the Koshi, Gandaki and Karnali and their tributaries cover more than two-thirds of the land area of Nepal⁴.

Over the years, the growing population and the resultant increased consumption and use of the natural environment have resulted in over exploitation of natural resources. Further, various development activities that were implemented without adequate consideration of the impact on the environment have added additional pressure to the already deteriorating environment quality. The environmental risks include the fragile conditions of human settlements, soil erosion, air pollution, soil and water contamination, climate change, species losses, ecological imbalances and disaster events such as earthquakes, landslides, floods, etc. In the long run these risks will impact severely on the loss of biodiversity, water scarcity, food scarcity, global warming and diseases breakout which Nepal is already experiencing.

Population Growth: According to CBS Report 2014, the annual population growth rate has been more than 2 percent over the period of four decades⁵. High population growth and internal migration (from rural to urban) is considered as the major causes of environmental degradation. It is globally accepted fact that these two factors contribute to the high level of natural resources deterioration and increase in urban service utility, which ultimately has resulted in the growth of unmanaged urban settlement. In the case of Nepal, unmanaged settlement is largely the reason behind environment degradation in urban centers, particularly Kathmandu⁶.

Infrastructure Construction: Roads in Nepal are critical life links throughout the country, but are highly sensitive to impacts by hazards as well as being a key-contributing factor in triggering landslides, particularly in the hilly and mountainous regions. According to the Department of Roads, there were 4,740 km of roads documented in 1998, which increased sharply to over 12,493 in 2014, only half of which were well-engineered, paved roads⁷. It can be said that an important factor contributing to mortality from road accidents has been a combination of an increase in poorly constructed roads with no plans that incorporate bioengineering techniques, and the effects of more intense monsoon rains due to climate change.

Water: Watersheds that contain the major rivers cover two-thirds of the land area in Nepal, with 14 percent of the nation's watershed suffering from severe land degradation. The withdrawal of underground water and the low recharge potential, especially in Kathmandu valley, is another concern. There is an intense pressure on the water resources in Nepal, both in time and space, with respect to demand.⁸ Also the quality of water is degrading because of the illegal settlements along the riverbanks and wetland areas, exacerbated by improper management of sanitation, lack of sewerage facilities, and improper waste management practices. In most areas raw untreated sewage is channeled into the river along with solid and liquid waste that is thrown directly into the river, often that can be highly toxic in nature. Further, due to the population growth there is increasing and intense pressure on the water resources⁹.

³CBS (2013), Environment Statistics of Nepal 2013, Central Bureau of Statistics, Government of Nepal, Kathmandu.

⁴Jha (2007). Banko Janakari. Banko Janakari: A journal of forestry information for Nepal Vol.17(1) 2007 pp.39-45.

⁵CBS (2014), Population Monograph of Nepal Volume 1 (Population Dynamics), Central Bureau of Statistics : Kathmandu.

⁶MOPE (2000), State of the Environment Report 2000, Ministry of Population and Environment, Government of Nepal: Kathmandu.

⁷Nepal Road Networks, (2017).

<http://dlca.logcluster.org/display/public/DLCA/2.3+Nepal+Road+Network;jsessionid=A24AF5E8F06B55FA093D7524336C960E>

⁸CBS (2015), Compendium of Environment Statistics Nepal 2015, Central Bureau of Statistics : Kathmandu

⁹CBS (2015), Compendium of Environment Statistics Nepal 2015, Central Bureau of Statistics : Kathmandu.

Land use: The use of land has changed noticeably in Nepal over the last five decades. The conversion of agricultural land and forests to settlement areas has changed productive land to unproductive land, thus reducing the amount of land available for food and timber production. Further, inorganic farming practices, over grazing, encroachment of forestland for resettlement, soil erosion, salinization and desertification have reduced the quality of soil and natural resources¹⁰. Loss of biodiversity and the increase incidences of landslides and floods are additional impacts that are observed.

Waste Management: Nepal has witnessed an increase of urban population from 0.238 million in 1954 to 4.53 million in 2011, coupled with poor waste management systems by the municipalities, and the lack of awareness amongst the general public on waste management and its impacts, have all combined to intensify environmental problems in Nepal.¹¹ Based on the ADB Report of 2013¹², it is estimated that 5,975 tons of waste is generated per day and 2.18 million tons per year. Further, it states that from the total waste generated, 50-75 percent is organic waste whereby 50 percent of the waste is dumped, 40 percent burned, and 10 percent recycled. The increase of waste has had a negative impact on health and security, contributing to the overall environment pollution (air, water, soil), including the emissions of greenhouse gases and loss of biodiversity. Moreover, it has become a strain on financial resources as it cost more to manage uncontrolled waste management practices and is an indirect financial loss involving the cost associated with the environmental damage.

Further, disposal of hazardous wastes generated mainly from health care institutions and from various industries are major challenges. Currently, Nepal does not have a treatment facility for hazardous waste and the application of 3Rs for municipal waste is negligible. In addition to this, the waste generated from the earthquake of 2015 is estimated to be 14 million tons (4 million tons alone from the valley), which is equal to the amount of waste generated overall in 11 years (PDNA 2015). The GHGs emissions as well as soil contamination from the landfill site are another concern.

Nepal is blessed with ten World's Heritage sites, two of which are natural heritage sites, and eight cultural heritage sites. Mt. Everest (the highest peak in the world), along with other mountains and natural beauty attract tourists, which is one of the major sources of revenue for the country. Unfortunately, the growing influx of tourists is also considered as one of the contributing factors to the solid waste management problem, particularly in the higher mountain regions of Nepal¹³.

Energy: The energy demand in Nepal is mostly met by traditional biomass energy sources. About two thirds of the total households (about 64 percent) rely on firewood as source for cooking, cow dung (10.3 percent) and biogas (2.43 percent)¹⁴. Similarly, about one third of the household still use traditional source of lighting, i.e., kerosene and bio-gas. Excessive dependence on forests for firewood results in depletion of forest resources and a major cause of indoor air pollution as it emits excessive smoke. According to a report published by World Health Organization (WHO) in 2012, about 7,500 people die in Nepal annually due to different diseases caused by the indoor air pollution.

Air pollution: Air pollution has become a serious environmental and health concern in most of the urban areas of Nepal. Studies have shown the concentration of PM10 and PM2.5 of Kathmandu valley exceeds National Ambient Air Quality Standards (NAAQS) ($120 \mu\text{g}/\text{m}^3$) and World Health Organization (WHO) guidelines ($70 \mu\text{g}/\text{m}^3$). The most common airborne pollutants in the valley are sulphur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM10 and PM_{2.5}), non-

¹⁰Jha (2007). Banko Janakari. Banko Janakari: A journal of forestry information for Nepal Vol.17(1) 2007 pp.39-45.

¹¹Shrestha. M.E.I., Sartohadi. J., Ridwan. M.K & Hizbaron. D.R., (2014), Converting urban waste into energy in Kathmandu valley: barriers and opportunities. Journal of Environmental Protection, %, 772-779.

¹²ADB (2013), Solid Waste Management in Nepal: Current Status and Policy Recommendation. Mandaluyong City, Philippines: Asian Development Bank, 2013.

¹³NPC (2015), Sustainable Development Goals 2016-2030, National Planning Commission 2015 (National (Preliminary) Report : Kathmandu.

¹⁴CBS (2012) National Population and Housing Census 2011, Central Bureau of Statistics: Kathmandu

methane volatile organic compounds (NMVOC), ammonia (NH₃), ozone, and heavy metals. Vehicular exhaust and re-suspended road dust from unpaved and poorly maintained roads are some of the major sources of air pollution in Kathmandu valley. Further the industries established in the valley are also responsible for generating stack and fugitive emissions, which are among the primary sources of air pollution.¹⁵

The Ministry of Population and Environment, with support from the Danish International Development Agency (DANIDA), has established six permanent air quality monitoring stations in the valley viz: Putalisadak, Patan, Thamel, Bhaktapur, Kirtipur and Matsyagaun in 2002 till 2006. Two additional roadside stations were established in 2016. Currently, the Department of Environment (DoE) monitors air quality for 10 different stations in Kathmandu valley namely: Bhaktapur, Godawari, Ghantaghar, Budhanilkantha, Thamel, Lagankhel, Chabahil, Mid Baneshwor, Sanepa and Kalanki. The monitoring record in 10 different stations in May 2017 shows highest concentration of Total Suspended Particles (TSP) and PM₁₀ in Chabahil i.e. 4749 µg/m³ and 2928 µg/m³ respectively. The highest PM_{2.5} concentrations were recorded in Mid Baneshwor i.e. 226 µg/m³. These concentrations exceed the NAAQS for Nepal by several times.

Climate Change: Nepal is one of the most vulnerable countries to climate change, water-induced disasters and hydro-meteorological extreme events such as droughts, storms, floods, landslides, debris flow, soil erosion and avalanches. Based on National Adaptation Programme of Action (NAPA) 2010, out of 75 districts, 29 districts are highly vulnerable to landslides, 22 districts to drought, 12 districts to GLOFs, and 9 districts to flooding.

Nepal has experienced changes in temperature and rainfall pattern. The country, with the exception of some isolated pockets, has become warmer. Data on trends from 1975 to 2005 showed 0.06°C rise in temperature annually whereas mean rainfall has significantly decreased on an average of 3.7 mm (-3.2%) per month per decade. Under various climate change scenarios, mean annual temperatures are projected to increase between 1.3-3.8°C by the 2060s and 1.8-5.8°C by the 2090s. The numbers of glacier lakes increased by 11 percent and mountain glaciers have receded on an average by 38 km² per year during the same period. Hence, climate change has visible and pronounced impacts on snowfields and glaciers that are likely to increase the possibilities of Glacier Lake Outburst Floods (GLOFs). Nepal has suffered from the impacts of increased frequency of extreme weather events, such as landslides, floods and droughts, resulting in the loss of human lives as well as additional social and economic costs¹⁶.

Despite all the above challenges, Nepal has made progress on achieving the Millennium Development Goals (MDGs) and also the human development indicators (HDI). Nepal has made substantial progress on reducing poverty and hunger (declined poverty from 41.8 in 1995 to 25.2 in 2010). However, still a lot more needs to be done in order to meet Nepal's Nationally Determined Commitments (NDC) to mitigate GHG emissions, minimizing the release of methane and by 2025 decrease air pollution through proper monitoring at sources e.g. wastes, old and unmaintained vehicles, industries etc. Also to envision the country's future plan to promote economic development through low carbon emission, particular focus has been given to seven sectors: (i) energy; (ii) agriculture and livestock; (iii) forests; (iv) industry; (v) human settlements and wastes; (vi) transport; and (vii) commercial.

¹⁵International Centre for Integrated Mountain Development [ICIMOD]. (2012), *Rapid urban assessment of air pollution of Kathmandu, Nepal*: Author

¹⁶Government of Nepal, Ministry of Population and Environment, Intended Nationally Determined Contributions (Indc) Communicated to the UNFCCC Secretariat in February 2016.

1.1.1 Environment Related Laws Regulations and Policy

Constitutional Provision

Nepal has recently formulated its new constitution in 2015. The constitution has given high priority to the protection and conservation of natural resources and the environment as one of its principles. While recognizing the importance of the natural resources, it has emphasized the utilization of the resources on a sustainable basis for national development through judicious management and protection of the country's natural resources. In other words, the Constitution envisages the sustainable utilization of natural resources for the national development by the judicious management of the available resources. The constitution states that environmental protection and conservation is the common goal at the federal, provincial and local government, and work has to be carried out towards this goal in a coordinated manner.

Fourteenth Three Year Plan, 2016/17-2018/19

The Fourteenth three-year plan document has been built on the basis of previous achievements and provides continuity to the Poverty Reduction Strategy and Sustainable Development Goals (SDG), and also addresses issues related to post earthquake crisis management. Therefore, to meet the agenda of sustainable development, the plan prioritizes environment in the top order. It contains a separate sub-chapter on Disaster Management, Environment and Climate Change.

Table 1 below illustrates the list of key environment-relevant laws, regulations and policies with the responsible lead agencies.

Table 1: Laws, Regulations and Policies with the Responsible Lead Agencies

Act/Legislation	Key environmental data reporting functions	Lead Responsible Agency
Statistical Act 1958 and its Rule 1984	<p>The Statistical Act 1958 and Statistical Regulations 1984 are the main legal frameworks for operating statistical activities in the country.</p> <p>The 1958 Act established the Central Bureau of Statistics (CBS) as a central statistical agency to collect, analysis and report as per the requirement of the government.</p> <p>The Act has also protects the right of respondents through restriction on publication of information and details (confidentiality).</p> <p>The Statistics Rule 1984 elaborates the functions of CBS and the rights and responsibilities of the Director General. The Act has given a mandate to CBS for the collection, processing and dissemination of statistics required for the country.</p>	National Planning Commission (NPC)
Environmental Protection Act (EPA), 1996 and Environment Protection Rule (EPR), 1997	<p>EPA, 1996 and EPR 1997 contain several provisions to institutionalize the integration of environmental aspects in development programmemes. The highlights are.</p> <ul style="list-style-type: none"> Empowers MOPE to prohibit the use of any matter, fuel, equipment or plant, which has adverse effects on the environment, 	MOPE

Act/Legislation	Key environmental data reporting functions	Lead Responsible Agency
	<ul style="list-style-type: none"> • Act has provisions for polluters to compensate affected persons from polluting activities, • Empowers government to provide additional incentives to any industry, occupation, technology or process, which has positive impacts on environmental conservation, • Has extended power to inspect and monitor to mitigation, control of pollution or the acts required to be carried out in accordance with the Initial Environmental Examination or the Environmental Impact Assessment report of the industries and other infrastructures. • Has provision to establish an Environmental Protection Fund to be used for environmental protection, pollution control and heritage conservation, and • It gives the government authority to declare a specific area as environmentally protected area • It also has a provision to establish different laboratories as required, or may prescribe any existing laboratory to help in the activities related to environment protection and pollution control. 	
Climate Change Policy	<p>In the climate change policy, it has provisions to:</p> <ul style="list-style-type: none"> • Allocate at least 80 percent of the total budget directly at programme implementation level/areas ; • Establish a semi-autonomous climate change center to coordinate the programmes and projects ; 	MOPE
Soil and Watershed Act, 1982	<p>The Act empowers GoN to declare any area as a protected watershed area. Likewise, the act provides that a watershed conservation officer has the authority to implement the following works in protected watershed areas such as;</p> <ul style="list-style-type: none"> • Construct and maintain dam, embankment, terrace improvements, diversion channels and retaining walls • Protect vegetation in landslide-prone areas and undertake afforestation programmes, and • Regulate agricultural practices pertinent to soil and watershed conservation. • Inspect and regulate the activities in the conserved watershed area. 	Ministry of Forest and Soil Conservation (MOFSC)
Forest Policy, 2015	<p>It has the policy to:</p> <ul style="list-style-type: none"> • Conduct research on forest productivity and management and disseminate and adopt the results. • Classify the forest based on its sensitivity towards 	MOFSC

Act/Legislation	Key environmental data reporting functions	Lead Responsible Agency
	<p>steepness and erosion</p> <ul style="list-style-type: none"> • Identify, classify and prioritize the watershed area in terms of controlling the soil erosion, flood, landslide and desertification. • Develop soil and water conservation and agriculture forestry system which demands relatively less financial resources through research and transfer the same technology. 	
Agriculture Development Strategy, 2015	Various indicators were developed, and targets were set in the vision component of "A self-reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security leading to food sovereignty."	Ministry of Agricultural Development (MOAD)
Water Plan 2005	The plan envisioned improving the environmental database system; Map important, critical and priority watersheds and aquatic ecosystem; Develop and implement water and watershed quality, standards and regulations. Implement water conservation education programmes; Implement nationally important watershed and aquatic ecosystem protection, rehabilitation and management programmes; Develop strategic environmental assessment in water resource management; Promote community participation in the management of watersheds and aquatic ecosystems; Enhance institutional capacity and coordination and Develop a watershed management policy under the strategic output of hydropower, the plan puts emphasis on programmes, planning and implementation of new hydropower projects and calls for strengthening and capacity building of local level institutions in planning and project implementation.	Water and Energy Commission Secretariat (WECS)
Solid Waste Management Act 2011	<ul style="list-style-type: none"> • It delegates the responsibility to the local body for the management of solid waste by construction and operation of infrastructure like transfer station, landfill site, processing plant, compost plant, biogas-plant and also collection of waste, final disposal and processing • It emphasizes the solid waste reduction and segregation from source • It permits private sector for the construction and operation of landfill site • It has a provision to formulate Solid Waste Management Council (25 members) under the chairmanship of minister of MOFALD • To establish a Solid Waste Management Technical Cooperation Centre in order to extend the assistance to the local body for the management of solid waste, and to conduct research 	Ministry of Federal Affairs and Local development (MOFALD)

Act/Legislation	Key environmental data reporting functions	Lead Responsible Agency
	<ul style="list-style-type: none"> Offenses and Punishment ranging from 5000 to 15000 Nepali rupee, including the expenses incurred for loading the solid waste 	

1.1.2 Environment Management Decision Making Structure:

Environment is a cross cutting issue, therefore each of the different ministries have their own environment sections which compile and use data for their various Programme planning, implementation and monitoring activities. For example, MOPE is the focal ministry for the Environment Protection Report (EPR) and coordinates with other ministries such as Ministry of Health, Industry, MOFALD, etc. to ensure that all aspects of environment are reflected in the report. The Department of Hydrology and Meteorology (DHM) is the pioneer in collecting and analyzing meteorological and hydrological data and Department of Environment (DoE) for monitoring and regulating the environmental pollution (air, water and noise). The Departments are under MOPE and they are required to coordinate and share information with MOPE, likewise MOPE must do the same with the other ministries including NPC and office of the Prime Minister and Council of Ministries.

Annually, the different ministries will present their annual work plan and budget requirement to the National Planning Commission who will then share it with the Ministry of Finance. Upon approval of the annual plan and budget by the NPC the approved documents will be sent to the respective ministries. The respective ministries will execute their programmes and submit a quarterly based report on their achievements and challenges at the National Development Action Committee (NDAC) meeting. The Prime Minister will chair the NDAC, which will be held at the NPC office, with the participation of the different ministries. In addition, on a quarterly basis, there is a Ministerial Development Action Committee (MDAC) convened that is chaired by the Minister of the respective ministry.

In brief, the respective ministries will set their priorities and present their annual work plans to NPC and the Finance Ministry. After the work plan and budget is approved by the NPC, the respective ministries will report to NDAC and MDAC on a quarterly basis. Moreover, with the newly formed federal government, the provinces now have the equal authority for decision-making on environmental management. However, a decision-making structure has yet to be established, which is the current challenge facing the government in this regards.

1.1.3 Government Institutional Mandate for Environment:

There are several government bodies that have their mandate related to the environment. Within the majority of the ministries there is an environment section/department overseeing the environment related issues relevant to their ministry. The various ministries also have the authority to participate and sign 'Multilateral Environment Agreements' (MEAs) and coordinate with other government agencies to formulate environmental policies, plans and programmes as a nodal agency. The main agencies that are engaged in environment related plans, programmes and activities are as follows:

- Ministry of Population and Environment (MOPE)
- Ministry of Federal Affairs & Local Development (MOFALD)
- Ministry of Forest & Soil Conservation (MOFSC)
- Ministry of Agricultural Development (MOAD)

- Ministry of Livestock Development (MOLD)
- Ministry of Industry (MOI)
- Ministry of Health (MOH)
- Ministry of Science and Technology (MOST)
- Water & Energy Commission Secretariat (WECS)
- Department of Environment (DOE)
- Department of Forest Research and Survey (DFRS)
- Department of Hydrology and Meteorology (DHM)
- Department of National Park and Wildlife Conservation (DNPWC)
- Department of Plant Resources (DPR)
- Department of Mining and Geology (DMG)
- National Agriculture research Council (NARC)
- Alternative Energy Promotion Centre (AEPC)
- Solid Waste Management Technical Support Center (SWMTSC)
- International Centre for Integrated Mountain Development (ICIMOD)
- Asia Network for Sustainable Agriculture and Bio resources (ANSAB)

1.1.4 National Level Environmental Reporting Obligation:

The Statistics Act 1958 gave birth to the Central Bureau of Statistics (CBS) and the Statistics Rule 1984 gave directives to the CBS to conduct social, economic and demographic statistical surveys, conduct censuses, research, record statistics and provide advice to the government in statistical matters. The provision in the Act also protects the right of respondents through restriction on publication of information and details (confidentiality).

By virtue of the working procedure framework of CBS 2007, with its prime responsibility in generating and disseminating official statistics, three functional divisions and eighteen different sections with 33 statistics officers were established. The roles, responsibilities and their functions are all outlined in the CBS 'Working Procedures' 2007.

The Central Bureau of Statics published a compendium on Environment Statistics for the first time in 1994, followed by a second publication in 1998, with an analysis of data related to different aspects of environment issues. Realizing the importance of environmental statistics, CBS continues to publish 'Environment Statistics' in a biannual basis from 2000 and onwards. Also the Ministry of Population and Environment (MOPE) published a report on 'State of Environment' (SoE) for the first time in 1998 and again in 2000, after which MOPE has not been able to continue the report due to financial and technical constraints. Nevertheless, the goals and targets of the Five Year Plan on environment related issues are presented through their annual work plans, including through the NDAC and MDAC process specified in section 1.1.2., second and third paragraph. Having said this, the SoE is an important Report that is compiled by MOPE and shared to all, therefore, they have the intention of continuing this report provided some technical assistance is received to support this work.

Besides CBS, AEPC, DFRS, MOAD, DOL, DNPWC, DPR, NARC, WECS, DMG and SWMTSC are also engaged in producing the data.

1.1.5 Multilateral Environmental Agreements (MEAs) and International Environmental Reporting Obligation:

In the early seventies the national priority was to address the challenges of soil erosion, flood, landslide and deforestation. It was only in early 2000s that there was a shift of priority toward environment

protection, followed recently by adaptation and climate change, which is reflected in the thirteenth and fourteenth national plan.

Nepal is a member of numerous multilateral agencies and party to 21 Multilateral Environmental Agreements (MEAs) and declarations. By the virtue of ratifying the MEAs Nepal is obligated to comply with the reporting obligations for each convention and agreement. However, due to various challenges and constraints, including: (i) the lack of human resources, (ii) technical know-how, (iii) awareness, (iv) trainings, (v) limited equipment, (vi) limited budget, (vii) unclear roles and responsibilities, and (viii) the absence of a strategy and action plan for systematically collecting, reporting and sharing of data, the reporting obligations have not been met within the required timeframe. Also, during the interview process most of the respondents were not clear on the obligation reporting that is required. Table 2 below is a list of MEAs ratified with the focal institutions responsible and the reporting obligations dates.

Table 2: MEAs Ratified by Nepal, the Reporting Obligations and the Lead Agency

S.N	Name of Convention	Ratification	Enforcement Date	Lead Agency	Reporting Obligation	Gap and limitation in meeting the reporting obligation
1	UN Framework Convention on Climate Change	2 May 1994	31 Jul 1994	MOPE	Once in four year for NatComs (Nepal submitted Initial National Communication Report in 2004 and Second National Communication Report in 2014) and biannual reporting for BUR (Project Cooperation Agreement has just been signed) Nepal prepared National Adaptation Programmeme of Action (NAPA) in 2010 Nepal is preparing National Adaption Plan from 2016	As a non-annex I country there is no obligation. It is an optional to report back to the UNFCCC.
2	Kyoto Protocol	16 Sept 2005	14 Dec 2005	MOPE	Once in a four years for NatComs (Nepal submitted Initial National Communication Report in 2004 and Second National Communication Report in 2014) and biannual reporting for BUR (Project Cooperation Agreement has just been signed)	As a non-annex I country there is no obligation. It is an optional to report back to the UNFCCC.
3	Convention on Biodiversity May	23 Nov 1993	21 Feb 1994	MOFSC	<ul style="list-style-type: none"> Conservation, sustainable use of 	Nepal has almost met the

S.N	Name of Convention	Ratification	Enforcement Date	Lead Agency	Reporting Obligation	Gap and limitation in meeting the reporting obligation
	22, 1992 Bio-safety Protocol				<p>biodiversity resources of Nepal, and ensure equitable benefit sharing of genetic resources</p> <ul style="list-style-type: none"> • Preparation of National Biodiversity Report on periodic basis • Preparation and Implementation of National Biodiversity Strategic Plan following biodiversity decade and Aichi Targets • Implementation of Nagoya Protocol as accession by the Government of Nepal 	compliance
4	UN Convention to Combat Desertification in those Countries Experiencing Serious Drought and /or Desertification Particularly in Africa, 1994	10 Sept 1996	13 Jan 1997	MOPE	<ul style="list-style-type: none"> • Nepal submitted National Action Programme (NAP) on 2004 • Nepal submitted NAP based on UNCCD 10-year strategy on the occasion of World day to Combat Desertification (June 17, 2016) • Initial National Report on UNCCD submitted on 2000 • Second National report on UNCCD submitted on 2002 • Third National report on UNCCD submitted on 2006 • Performance Reviewed and Assessment of Implementation System (PRAIS) Fifth reporting cycle, 2014-2015 completed on July 25, 2014 	<p>To implement the NAP following are the limitation:</p> <ul style="list-style-type: none"> • Financial constraints • Absence of guiding strategic document

S.N	Name of Convention	Ratification	Enforcement Date	Lead Agency	Reporting Obligation	Gap and limitation in meeting the reporting obligation
5	London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (London Agreement), 1990	6 July 1994	4 Oct 1994	NBSM	Annual	Nepal has almost met the compliance
6	Montreal Protocol Substances that Deplete the Ozone Layer (Montreal Protocol), 1987	6 July 1994	4 Oct 1994	NBSM	Annual	Nepal has almost met the compliance
7	Basel Convention on the Control of Tran boundary Movements of hazardous Wastes (Basel Convention), 1989	05 May 1992	15 Oct 1996	MOPE	Annual	Nepal has almost met the compliance
8	Vienna Convention for the Protection of the Ozone layer, 1985	6 Apr 1994	4 Oct 1994	NBSM	Annual	Nepal has almost met the compliance
9	Rotterdam Convention in the Prior Informed Consent Procedures for Certain Chemicals and hazardous Pesticides in International Trade	24 Feb 2004	9 Feb 2007	MOPE	Annual	Nepal has almost met the compliance
10	Stockholm Convention on Persistent Organic Pollutants	6 March 2007	2007	MOPE	Initial National Implementation Plan (NIP) was prepared in 2007. Updated NIP was prepared in 2017.	Nepal has almost met the compliance
11	Minamata Convention on Mercury	Under Process	Under process	NBSM	No obligatory till date as it is under the process of ratification. The convention was signed on 10 Oct 2013	

S.N	Name of Convention	Ratification	Enforcement Date	Lead Agency	Reporting Obligation	Gap and limitation in meeting the reporting obligation
12	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) 1973	18 June 1975	16 Sept 1975	MOFE	<ul style="list-style-type: none"> • Implementation of CITES Act 2017 • Annual report preparation and submission • biannual update of CITES Appendix I, II and III • Regulation of international trade of wild fauna and flora • Law enforcement of wildlife crime related to wild fauna and flora 	Nepal has almost met the compliance
13	Convention on Wetlands of International Importance especially as Waterfowl habitat, 1971	17 Dec 1975	17 Apr 1988	MoFSC	<ul style="list-style-type: none"> • Development and Deposition of National Wetlands Policy 2013 • Formation of National Wetland Committee • Preparation and submission of National Report of Wetlands Conservation 	Nepal has almost met the compliance
14	12 International Agreement for Tropical Timber (ITTA), 1983	3 July 1990		MOFSC	<p>To comply with the agreement Nepal</p> <ul style="list-style-type: none"> • Cooperate to promote the attainment of the objectives of the Agreement • Conduct Research and development, market intelligence, further and increased wood processing and reforestation and forest management. 	Nepal has almost met the compliance
15	International Plant Protection Convention	5 Oct 2006		PPD	<ul style="list-style-type: none"> • Development and Regulation of policies and acts to prohibit the entry of restricted plants and plant products and to control the movement of 	Performance of the quarantine labs at the custom offices are not working needed because of old and out-

S.N	Name of Convention	Ratification	Enforcement Date	Lead Agency	Reporting Obligation	Gap and limitation in meeting the reporting obligation
					pests or any other biological control agents.	dated equipment, and insufficient human resources. Legal policy instruments are not efficient for enforcement and monitoring;
16	Plant Protection Agreement for Asia and Pacific Regions	12 Aug 1965		DOA	To comply with this agreement, <ul style="list-style-type: none"> Nepal has already brought into force of Plant Protection Act (2007) and Plant protection Regulation (2009) The Plant protection Bill (proposed in 2005 and passed in 2007) was developed to be in consistent with IPCC guidelines, Protocols and the WTO/SPS agreement Pesticides were registered and regulated under Pesticide Act, 1991 and Pesticide Rules, 1993. However, specific obligation is not mentioned in the agreement. 	The laboratories are not well equipped and lack advanced technology. Legal instruments are not efficient for compliance monitoring.
17	Agreement on the Network of Aquaculture Centers in Asia and the Pacific Region, 1998	4 Jan 1990	11 Jan 1990	MOAD	With compliance of this agreement: <ul style="list-style-type: none"> Government has developed Fisheries Perspective Plan in 1999 Established fisheries development centers producing fishes. Government has formulated the Agriculture Development Strategy, which also addresses the issue of aquaculture. National aquaculture 	There is a need to formulate the second phase for the Fisheries Perspective Plan and to develop an aquaculture development plan so as to effectively implement the aquaculture issues of Nepal. However due to resources constraint these are not in place up to present time.

S.N	Name of Convention	Ratification	Enforcement Date	Lead Agency	Reporting Obligation	Gap and limitation in meeting the reporting obligation
					policy is currently in the process of approval	
18	Convention for the Protection of the World Cultural and natural Heritage, 1972	21 Jun, 1978	20 Sep, 1978	Department of Architecture (DoA)	<ul style="list-style-type: none"> Report on the adopted legislative and administrative provisions and other action which is taken for the application of this convention. To maintain the status of the cultural and natural heritage sites ensuring that the sites do not fall into the "List of World Heritage in Danger". 	The existing legislation does not fully support to hire specific company to construct the partially collapsed heritages and engage community people in the process of construction and renovate the cultural heritages.
19	Convention on the High Sea, 1958	28 Dec 1962	30 Sept 1962	NBMS	Cooperate in the effective search and rescue service as well as preventing and punish the transport of salvages.	As a mountainous landlocked country, it is not a priority for Nepal
20	United Nations on the Law of the Sea, 1982	02 Nov 1998		NBMS	As it is landlocked country, it mostly complies with the requirements, as it does not have direct implication of the convention.	It is not a priority for Nepal due to geography (i.e. landlocked country).
21	South Asia Wildlife Enforcement Network (SAWEN)	2015	2015	MOFSC and DNPWC	<p>Being a signatory country each country is subject to fulfill following objectives:</p> <ul style="list-style-type: none"> To take initiatives for bringing harmonization and standardization in laws and policies of member countries concerning conservation of wild fauna and flora; To document the trend of poaching and illegal wildlife trade, and related threats to the natural biodiversity within and across countries in the region; To strengthen institutional responses to combat wildlife crime by promoting partnership with relevant institutions for research and information sharing, training and capacity 	Coordination with other South Asian countries i.e. Afganistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka on wildlife crime.

S.N	Name of Convention	Ratification	Enforcement Date	Lead Agency	Reporting Obligation	Gap and limitation in meeting the reporting obligation
					building, and technical support; and <ul style="list-style-type: none"> To encourage member countries to prepare and implement their National Action Plans to combat wildlife crime and to collaborate towards effective implementation of such plans. 	

2. Key Environmental Data and Data Users

2.1 Primary Environmental Data Users:

Governments, international organizations, civil society, private sectors and the general public are the primary users of environmental statistics data in Nepal. These data are mostly required for programme planning, report and proposal writing, tracking progress, research and educational purposes. For the purpose of this report, the primary users of environmental data are classified into three groups: a) Policy makers and Planners, b) International Organizations and Civil Society, c) Researchers and Academia.

2.1.1 Policy makers and planners:

In Nepal, some key agencies like NPC and the various Ministries and Departments are the key users of environmental data in the Government. Environment data are required to formulate national policy and priorities, identifying challenges and defining goals, targets, objectives, programmes, strategies, in addition to monitoring and evaluation and tracking progress. Similarly, environment statistics are also required at the province and local level for planning and policy making. Nepal has ratified many international conventions for which they are obligated to report periodically; therefore, the use of statistics is crucial.

2.1.2 International Organisations:

Based on the Right to Information Act 2007, everyone has the responsibility to classify and update information and make them available to the public, so as to uphold the right to information to the citizens in an open and transparent manner. INGOs, UN Organization and Embassies are the primary users of the environment data. The INGOs and UN organizations require the data to know the existing situation of the country and support in the area which needs to be strengthened.

2.1.3 Civil Society:

Civil Society including NGO is considered as the pool to bridge the gap between the government and the public. As stated above in the section 2.1.2 every citizen has right to access the information and can use to fulfill their need. The public, media houses, NGOs and business houses are the primary data users. They require official data for research and development and pressure the government on their development decisions.

2.1.4 Analysts, Researchers, and Academia:

Environmental issues are of interest to analysts, researchers, and academia. Researchers and academicians require data for their research and academic work. Some universities such as Tribhuvan

University and Kathmandu University conduct different research work in their faculties of 'Environmental Science' in addition to the academic courses. Therefore, environmental data is also essential to validate the findings of the researcher or statements they have made.

2.2 Environmental Data Needs for Institutions:

Environment related plans and programmes are reflected in the annual and periodic plans (five years and three-year plans) of Nepal. Starting from the Sixth Five Year Plan, policies and programmes related to environment have been introduced to make environmental management an integral component of development programmes.¹⁷ Environmental data from each sector is needed to establish benchmark for different development indicators and set targets. These set targets will guide to allocate resources in different sectors. Likewise, periodic update of the data will help to monitor progress and also indicate if there are any modifications needed in the planning and implementation process.

The Environment Protection Act 1997 is the core law to protect the environment.¹⁸ The act lays out the terms of condition to protect the environment, including the prevention and control of pollution, protection of national heritage, establishment of laboratory, establishment and operation of environment protection fund. This act is a guiding principal for all the environmental policies and Programmes in the country. It also defines the requirements of Environment Impact Assessment (EIA). EIA guideline specifies to assess the possible environmental effects and impacts that the specific infrastructure development project will cause. However, it lacks directives to specify the basic or standard environmental indicators that every company has to comply with.. Nepal has introduced the National Adaptation Programme of Action (NAPA)¹⁹ and Local Adaptation Plans for Action (LAPA),²⁰ a strategic tool to assess climate vulnerability and climate change. LAPA is more specific to planning and implementation of adaptation programmes at the local level so there is need for local level (district level, municipality level and rural municipality level) environmental data. In the present context, there is no availability of disaggregated local level environmental data. Most of the local level prepare a periodic plans with priority on socio-economic sector.

By 2022 Nepal has set agendas to graduate from Least Developed Countries (LDC) status, meeting the criteria on Gross National Income (GNI) human assets and economic vulnerability. Moreover, as an active member of the United Nations, Nepal has already signed and followed the global initiatives of the 2030 Agenda for Sustainable Development (i.e. the SDGs) as a future development agenda of the country. Nepal has ratified many international conventions or MEAs for which they are obliged to report. Hence, environment related data are needed in formulating plans and Programmes, providing baseline information and used for midterm evaluation and performance appraisal progress reports. Moreover, the government has categorized environment protection as one of the key priorities while also achieving the SDGs, thus environment related data is increasingly in demand both nationally and by the international community.

Based on the analysis of the survey questionnaire collected, environment statistics are used mainly by researchers for education purposes (92 percent), secondly for preparing project proposals (85 percent), thirdly to publish national reports (78 percent), fourthly for climate change adaptation (69 percent) fifth to design and assess national policies (69 percent), sixth to develop environmental economic accounts (38 percent), seventh for climate change mitigation (38 percent) and finally to build environmental and sustainable development indicators (15 percent). The figure 1 below illustrates the priorities data users.

¹⁷ NPC (2013) Various Three years and Five years Planning documents, National Planning Commission, Kathmandu

¹⁸ GoN (1997), Environment Protection Act 1997, Government of Nepal

¹⁹ MoE (2010), National Adaptation Programme of Action (NAPA), Ministry of Environment: Kathmandu

²⁰ MOSTE (2011), Local Adaptation Plan for Action (LAPA), Ministry of Science Technology and Environment: Kathmandu

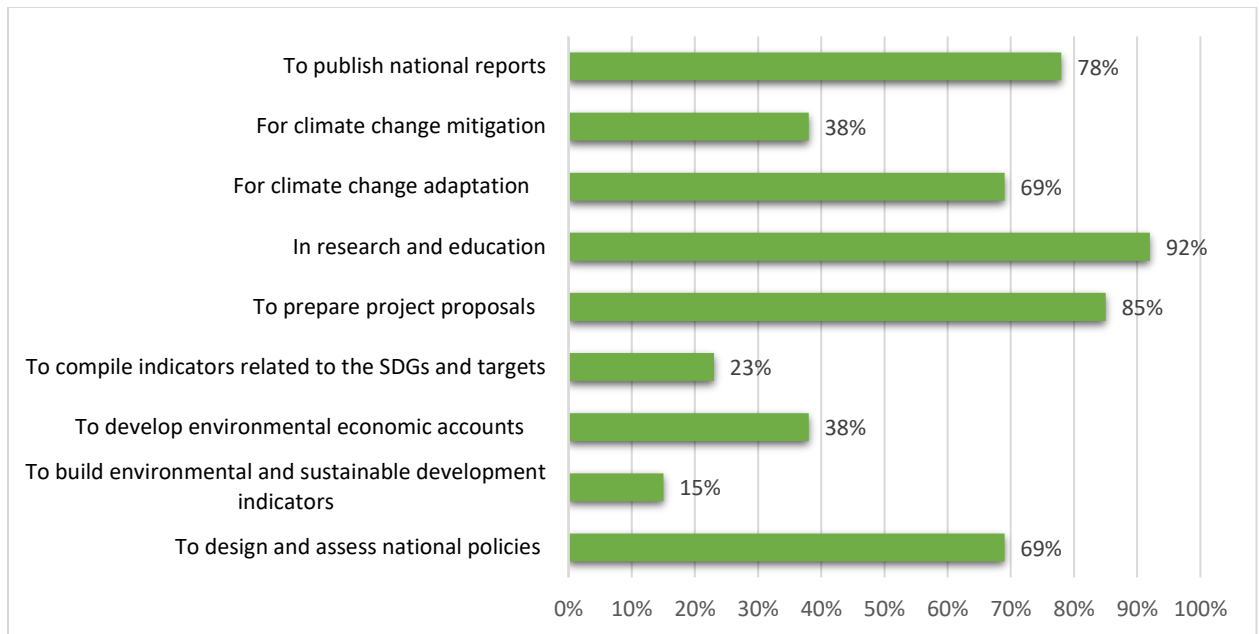


Figure 1: Environmental Statistics Data Used in Nepal

2.3 Challenges for Environmental Data Users:

There are some limitations within the different ministries, including the National Statistical Organisation, to produce environmental data on a regular basis. The CBS and other line ministries do not have a statistical calendar. The government as of this time has not developed a national data quality assurance framework and data verification mechanism for data. Based on the field observation, the data providers and users are not aware of the importance of the environment data as they should be, therefore environmental statistics advocacy and awareness programmes are very much needed to reduce non-response and enhance the collection and sharing of data. The awareness and advocacy programmes could be based on simple language that the community can understand, describing the important role statistics play in environment science/protection; to make all understand the fragility of our environment and the importance of its protection; how each of us can participate in environment protection; expand environment education in homes community's schools and universities. Have role-play sessions or street dramas; develop pamphlets, brochures, documentary and so on.

According to the results from the survey questionnaire administered for this report, the main challenges faced by environmental data users are: a) lack of human resources b) budgetary resources, c) legal framework d) institutional setup e) technical and trainings and f) unclear indicators. Figure 2 illustrates the percentage and types of challenges that exists for the data users.

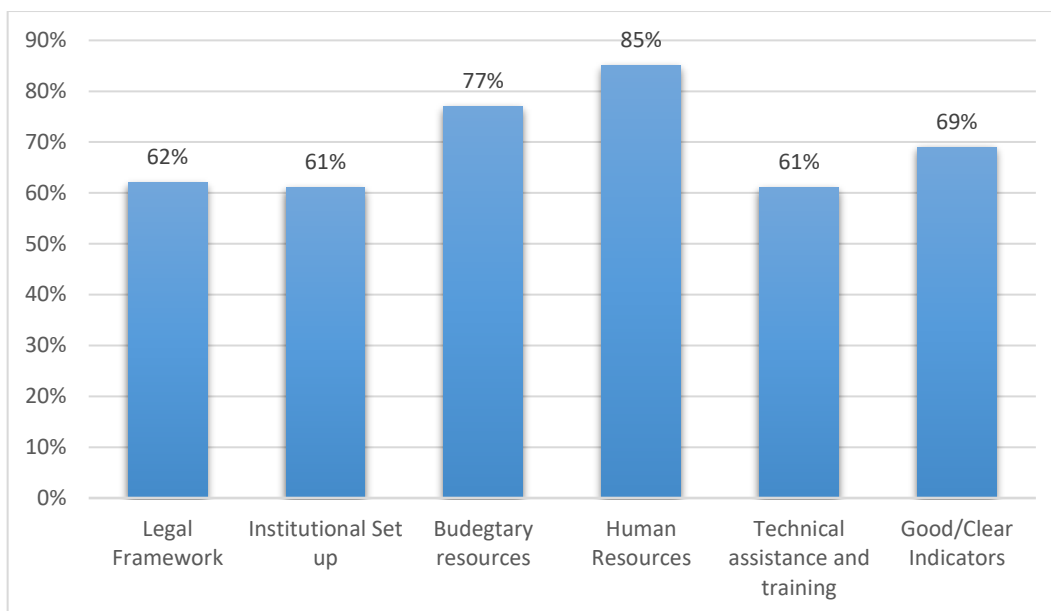


Figure 2: Main challenges in collecting environmental statistics in Nepal

2.4 Environmental Data Gaps:

The collection and use of environment statistics is relatively new in the statistical system of Nepal. A Compendium of Environment Statistics was published for the first time in 1994 and later in 1998. These publications present some statistics on some environmental topics with some degree of analysis. Similarly, the Ministry of Population and Environment published two series of State of the Environment (SoE) reports, in 1998 and the last in 2000. The publication of SoE report could not be continued in later years as a result of political instability over the past decade, cascading down to frequent change of institutional structure and leadership. Ministry of Population and Environment was established in 1995. It later merged with the Ministry of Science and Technology and became the Ministry of Science, Technology and Environment in 2005. Later in 2009, the government declared to separate the Environment Ministry and it started working as a standalone agency. The merger of the ministry also continues in 2012 and became Ministry of Science, Technology and Environment. Finally, since 2015 December, the ministry is named as the Ministry of Population and Environment again. The change in the structure of MOPE has occurred five times since 2000.

Traditionally, statistical agencies have been producing statistics mainly on socio-economic areas through surveys, censuses and administrative records. Less priority has been given to environmental data. As a result, there is a large data gap in the core field of environment. Moreover, there is minimal practice of the compilation of environment statistics through an integrated approach (i.e. the 'National Environmental Information System'). Hence, data gaps exist in many sectors of environment related fields and indicators. The data gaps and its analyses of the SDG National Preliminary Report 2016-2030 is presented in section 9.1 and the Environment Statistics Self-Assessment Tool (ESSAT) gaps and its analyses in section 9.2 of this report.

2.5 Emerging environmental data users and data used:

The scope and coverage of data collection and compilation needs to be considered as per the demand of newly emerging data, especially in relation to climate change and resulting pressures on ecosystems and ecosystem services. It is obvious that the generation of data and estimates of indicators related to the environment for monitoring SDGs is a challenging task. It requires a profound level of effort and resources.

Considering the data needs of the planners and other concerned agencies, a survey on climate change was conducted by CBS in 2015 and used widely by different quarters of the environment sector. There is also the demand for disaster statistics in recent years, especially after the earthquake of 2015. The data collected as a result of the Earthquake Housing Reconstruction Programme is used as the baseline for the sustainable reconstruction programme. Environment sections/units of the related Ministries, Departments of the government and academic institutions have also been using environment statistics/indicators in their works and programmes.

3. Description of environmental indicator availability:

3.1 National Environment Indicators:

The 14th Three Year Plan, 2016/17-2018/19 of the government prioritized 3 goals, 23 working policies and 8 major programmes on Forest and soil conservation, 1 goal, 11 working policies and 7 major programmes on Disaster management and 3 goals, 19 working policies and 8 major programmes on Environment and climate change. Disaster risk reduction indicators are basically guided by the Disaster Management Act policy and plan, including institutional set up on the disaster forecasting, strengthening emergency rescue and relief; public awareness; establishment of the information center for province and local level disaster management, emergency rescue and relief, weather forecasting and water level measurement system.

Under the auspices of environment and climate change, focus is given to a green economy framework; an amendment of the environment protection act and rule; to address mountainous and climate change issues, administrative survey; and the strengthening of institutional capacity and human resources development.

The National Planning Commission (2015) has prepared a National (preliminary) Report on Sustainable Development Goals 2016-2030. It has 137 targets and indicators to meet the 17 broad goals. Out of this, 68 are environment related targets and indicators under different environmental issues. This includes 2 indicators for Disaster management, 8 for Agriculture, 10 for Water and Sanitation, 2 for air emissions and air quality, 14 for energy, 6 for sustainable consumption and production, 6 for chemical and waste and finally 20 indicators for land management. Annex 1 (A) of the report deals with the environment related indicators of the SDGs of Nepal. In addition, it shows the detail of the Nepal specific index with defined targets. It also indicates the data collection methodology, data source, data collection frequency and responsible agency to work on it.

3.2 Primary System for Managing / Reporting Environmental Indicators:

The State of the Environment (SoE) report for Nepal (MOPE 2000) has identified 5 key environmental issues: forest depletion, soil degradation, solid waste management, and water quality and air pollution as the priority themes. This report was prepared based on four indicators - Pressure- State- Impacts-Response (PSIR) framework as used by the United Nations Environment Programme (UNEP). For these key environmental issues, the report has identified population, tourism, roads, health services status and pattern of accessibility to basic facilities as the social and economic driving forces.

The MOFALD is using Environment-Friendly Local Governance (EFLG) Framework in order to stress on environmental friendly concept, thus encouraging local bodies to develop indicators based on the EFLG framework. Based upon this framework the municipalities have prioritized basic and advanced indicators at the household, tole, ward and municipal levels. The Village Development Committee (VDC) have also prioritized basic and advanced indicators at the household, ward and VDC level. Similarly, the districts have prioritized basic and advanced indicators at the district level. The themes of the framework are classified into sanitation and health, renewable energy, greenery/urban beautification, drinking water, disaster risk management and forest and soil conservation.

The CBS latest issue of 'Environment Statistics of Nepal' is based on an earlier version of the FDES (1993). This framework includes the core set of Environment Statistics in line with the environmental dimensions of sustainable development. Consequently, it is not fully compatible with the new version of FDES (2013) and thus there are a number of data/indicator gaps under a number of topics. Therefore, the prescribed format of FDES (and ESSAT) is not fully applied in compiling environment statistics in Nepal. The Environment Statistics of Nepal, includes statistics/indicators based on 9 themes – economic issues, social and demographic issues, air and climate extremities, land and soil, water, biological resources, solid waste management, human settlements and disaster management systems, all of which are listed in Annex 1 (B) of the report. The Annex 1 (B) is a compilation of data/indicators from different suppliers or focal agencies structured on the nine themes as reflected in the Environment Statistic, of the CBS with the frequency of reporting and methodologies used to acquire the data/indicators.

Besides this, other organizations are using different indicator frameworks as per their needs, which are mostly project driven and thus not synchronized. Therefore, these organisations structure the indicators based on their functional requirements.

3.3 Methodology for Environment Indicator Management/ Reporting:

The available environmental data is limited and spread out through different ministries and other institutes, with each adopting different frameworks and methods for data collection and compilation. Some data are shared through different reports that each ministry publishes, while some is used in planning and policy structuring, some published on website and other online media, etc.), and others stored in administration file records and forgotten after some time.

This is particularly due to the fact that data is often collected for a specific project that is conducted in the country by various international and national organizations, thus resulting in different data methodology (which is not standardized). Basically, the data collection in many cases is project driven rather than nationally mandated data collection - when the project ends, the collection of specific types of data also ends and there is no policy and mechanism that exist for these projects to share or report their data with MOPE or the CBS. Therefore, there are big gaps in data in relation to specific issues, indicators and time horizons.

The CBS is using the old version of the FDES framework (1993)), while MOPE is using PSIR and MOFALD is using EFLG, which seems as an effective method to get environment data/indicator structured from the local level to support policy decisions. In order to do a detailed study of their management methodology and study their data/indicators structuring alone would be a project in itself. However, in this report we have also incorporated these broader concerns.

3.4 Internet/ web based portal for environmental indicators reporting:

Despite the fact that data collection, compilation and dissemination is a challenge, as mentioned in section 3.3, nevertheless, in the attempt to uphold the right to information for all, environment statistics and reports are shared online and are found available on websites of the different organizations and ministries some of which are listed in table 3. Further, environment statistics are compiled and disseminated through official publications/hard copies and websites of the respective organizations, which is reflected in table 4 of this report. At times, data are disseminated to participants participating in a seminar/workshop. However, there is a clear need to strengthen the collaboration mechanism between producers and users of environment statistics.

Table 3: Environment Statistics & Reports based on Themes by National Institutions & Ministries

S/N	Institutions	Theme/ Area of Statistics	Website
1	Ministry of Population and Environment	Environment and climate change	http://MOPE.gov.np
2	Department of Environment	Environment	http://doenv.gov.np/en
3	Central Bureau of Statistics	Socio-economic/ Human settlements	www.cbs.gov.np
4	Alternative Energy Promotion Centre	Renewable Energy	http://www.aepc.gov.np/
5	Department of Forest Research and Survey	Data sharing protocol, reports, leaflets, books,	http://www.dfrs.gov.np/
6	Department of Hydrology and Meteorology	Temperature and Precipitation/ Meteorology	http://www.dhm.gov.np/
7	Ministry of Agriculture Development	Agriculture	http://www.MOAD.gov.np/en
8	Ministry of Livestock Development	Livestock and livelihood	http://www.mold.gov.np/index.php
9	Department of National Park and Wildlife Conservation	Biodiversity	http://www.dnpwc.gov.np/
10	Department of Plant Resources	Plant resources	http://www.dpr.gov.np/
11	National Agriculture Research Council	Crops/Agriculture	http://narc.gov.np/narc/index.php
12	Water and Energy Commission Secretariat	Water and Energy	http://www.wecs.gov.np/
13	Department of Mining and Geology	Mineral resources	http://www.dmgnepal.gov.np/
14	Municipalities	Municipal wastes	http://www.kathmandu.gov.np/en http://lalitpurmun.gov.np/en
15	Ministry of Home Affairs (MOHA)	Disasters	http://www.moha.gov.np/
16	Universities	Tribhuvan University (Central Department of Environmental Science) Kathmandu University	http://www.cdes.edu.np/ http://www.ku.edu.np/env/
17	INGOs/ NGOs(IUCN, ICIMOD)	Thematic maps/ spatial data	http://geoportal.icimod.org/?q=21298 http://www.icimod.org/?q=17913

Table 4: Officially Published Environment Statistics

Name of the publication	Year	Agency	Web-link
A Compendium on Environment Statistics	1994	CBS	(hard copy publication)
A Compendium on	1998	CBS	(hard copy publication)

Name of the publication	Year	Agency	Web-link
Environment Statistics			
State of the Environment	1998	MOPE	(hard copy publication)
State of the Environment	2001	MOPE	http://www.sacep.org/pdf/Reports-Technical/2001-State-of-Environment-Report-Nepal.pdf
Environment Statistics of Nepal	2002	CBS	(hard copy publication)
Environment Statistics of Nepal	2003	CBS	(hard copy publication)
Environment Statistics of Nepal	2004	CBS	(hard copy publication)
Environment Statistics of Nepal	2005	CBS	(hard copy publication)
Environment Statistics of Nepal	2006	CBS	(hard copy publication)
Environment Statistics of Nepal	2008	CBS	(hard copy publication)
Environment Statistics of Nepal	2011	CBS	(hard copy publication)
Environment Statistics of Nepal	2013	CBS	http://cbs.gov.np/image/data/2015/Environment%20Statistics%20of%20Nepal%202013.pdf
A Compendium on Environment Statistics	2015	CBS	http://cbs.gov.np/image/data/2016/Compendium%20of%20Environment%20Statistics%20Nepal%202015.pdf
Environment Atlas of Nepal	2016	ICIMOD	http://geoportal.icimod.org/?q=21298

4. Description of Environmental Dataset Availability and Management Methodologies

4.1 Existing Environmental Datasets:

As described in section 3.3, the environmental data are sparsely available and scattered within the different government agencies, with the quality of the available data on the whole being fairly poor. Annex 1 (B) shows the details of the data availability in the various sectors from the agencies authorized to collect and manage. Along with this, some government organisations have established a data portal and data management information system, which is shown in the table 5. However, most of the information in the portal and MIS are not publicly available for external users, requiring special permission and password to access.

Table 5: Data Portals and Management Information Systems available in National Statistics System of Nepal

Databases/ Data portals			Management Information System (MIS)		
Name	Full Name & web link	Holding Agency	Name	Full Name & Web link	Holding Agency
NepalInfo	Nepal Info http://cbs.gov.np/	Central Bureau of Statistics (CBS)	HMIS	Health MIS http://dohs.gov.np/information-systems/health-management-information-section/	Department of Health Services (DoHS)
CensusInfo	Population Census Info http://dataforall.org/dashboard/nepalcensus/	Central Bureau of Statistics (CBS)	EMIS	Education MIS http://www.doe.gov.np/content/search.html	Department of Education (DoE)
NADA	National Data Archive http://cbs.gov.np/nada/index.php/	Central Bureau of Statistics (CBS)	VERSS	Vital Event Registration and Social Security MIS http://docr.gov.np/	Department of Civil Registration (DoCR)
GDDS (Economic)	General Data Dissemination System http://nrb.org.np/red/gdds/gdds.php	Nepal Rastra Bank (NRB)	AMIS	Agriculture MIS http://www.namis.gov.np/ne/	Ministry of Agriculture Development (MoAD)
OGD	Open Government Data Portal http://nic.gov.np/en	National Information Commission (NIC)	LMIS	Labour MIS http://www.dol.gov.np/site/cms/14	Department of Labour (DoL)
NDRR (DRR)	Natural Disaster Risk Reduction Portal http://drrportal.gov.np/	Ministry of Home Affairs (MoHA)	HMIS	Highway MIS http://www.dor.gov.np/hmis/index.php	Department of Roads (DoR)
WATSAN	Water and Sanitation Portal http://dwss.wat-san.com/	Department of Water Supply and Sewerage	IEMIS	Environmental MIS http://doenv.gov.np/	Department of Environment (DoE)
Industrial Data	Industrial Data http://dcsi.gov.np/en/site/industrialdata	Department of Cottage and Small Industries (DoCSI)	PMIS	Prison MIS http://www.dopm.gov.np/en/content.php?id=120	Department of Prison Management (DoPM)
Climate Portal	Climate Data Portal http://www.dhm.gov.np/dpc/	Department of Hydrology and Meteorology (DoHM)	WCD MIS	WCD MIS http://dwd.gov.np/mis/login.php	Department of Women and Children (DoWC)
Taxpayer Portal	Taxpayer Portal http://it.ird.gov.np/taxpayer/app.html	Inland Revenue Department (IRD)	BMIS	Building MIS http://dudbc.gov.np/	Department of Urban Development and Buildings

Databases/ Data portals			Management Information System (MIS)		
Name	Full Name & web link	Holding Agency	Name	Full Name & Web link	Holding Agency
IIS	Industrial Information System http://doind.gov.np/index.php/notice/172-industrial-information-system	Department of Industry (DoI)	Tourism MIS	Tourism MIS http://tourism.gov.np/np/category/tourism/tourism_mis	Ministry of Culture, Tourism and Civil Aviation (MOCTCA)
NNFSP	Nepal Nutrition and Food Security Portal http://www.nnfsp.gov.np/NNPMap/DataDV.html	National Planning Commission (NPC)	SAMARTHA MIS	SAMARTHA MIS http://project.focusone.com.np/samarth/auth/login	Ministry of Industry (MoI)
DIS_DEV	Visualizing Development Portal http://www.npc.gov.np/en/page/visualizing_development	National Planning Commission (NPC)	PPIS	Project Performance Information System http://ppis.gov.np/	National Planning Commission (NPC)
LMBIS	Line Ministry Budgetary Information System http://lmbis.gov.np/	Ministry of Finance (MoF)	DPMAS	District Planning Monitoring and Analysis System http://202.45.144.173/DPMAS/Account/Login.aspx	Ministry of Federal Affairs and Local Development (MoFALD)

Source: CBS (2017): A Compendium of National Statistical System of Nepal

There is very limited use of geospatial and remote sensing data except for forestry, land, meteorology and hydrology and mines and geology. ICIMOD is the knowledge management hub, and it has been utilising geospatial remote sensing and GIS for their trans-boundary landscape conservation and river basin management and to ensure the programmes are informed by the latest and most extensive data. Amongst the line Ministries, the Department of Forestry Research and Survey (DFRS), the Survey Department under the Ministry of Land Reform and Management and the Department of Mines and Geology under the Ministry of Industry are using or have used geospatial, remote sensing and GIS for data collection and analyses; however it is not to the same rigor and standards as that of ICIMOD. In addition, CBS is using GIS to analyze data on the above sectors. In regards to socio-economic data collection and analysis, CBS is using GIS for cartography work and developing enumerating areas by CBS, which is hoping to expand their knowledge in this field.

4.2 Reporting Time Intervals:

CBS has been conducting different periodic socio-economic censuses and surveys, including: Population and Housing Census, Agriculture Census, Manufacturing Census, Living Standard Measurement Survey, Labor Force Surveys etc. The National Climate Change Impact Survey (NCCIS) 2016' was conducted for the first time by the CBS and is currently under discussion as to whether NCCIS will be continued independently or be integrated into their regular survey programmes. Other ministries and departments also release data on both a regular and occasional basis, which is shown in Annex 1. (B).

4.3 Availability/Accessibility of Environmental Datasets and others:

Environment statistics are compiled and disseminated through official publications/hard copies and website of respective organizations. Sometimes data are disseminated for the purpose of a particular seminar/ workshop. As described in the 3.4, environment statistics and reports are shared online and are found available on websites of the different organizations and ministries. Further, environment statistics are compiled and disseminated through official publications/hard copies and websites of the respective organizations. At times, data are disseminated to participants participating in a seminar/workshop. However, there is currently no mechanism as such to collaborate producers and users of environment statistics.

There is a series of publications - 'Official Environment Statistics'- published by the government (Table 4) and online data portals and information management systems (Table 5)

4.4 Criteria and Standards for Dataset Design and Management:

The CBS collects official data from the line ministries and other institutes and verifies it before incorporating it into their database for publication. However, no specific criteria or standards exist for all ministries and agencies to comply with to ensure quality and alignment of environment related data. Hence, measures need to be taken to address this issue so that a sound methodology/ standard are adopted to ensure the alignment, relevance and quality of data, particularly in looking to produce more integrated data sets.

4.5 Quality Assurance Method Used:

There are no specific criteria developed and standards used to assure the quality of environment related data. Further, there are limited numbers of persons who have knowledge and expertise in this field. Capacity development of staff working in CBS and other line agencies is crucial, but overall lacking. Priority should be given to increase the number of trained staff through appropriate trainings based on identified needs and gaps (refer to Table 7, Section 5.3 for identified capacity needs and gaps).

Resources Available: Some resources are allocated to collect and compile statistics in CBS and other respective ministries and departments of the government, but this is on a case basis and the budgets and resources are not permanently allocated. Moreover, some donor agencies provide technical/ financial resources for specific purposes on an occasional basis e.g., currently UNESCAP has provided financial support (through a project fund) and technical assistance to work on SEEA, land and forest accounts. Similarly, line ministries and departments produce statistics as a byproduct of their work in the form of administrative records and use them in their reports and publications.

5. Technical – Data Analysis, Processing and Reporting Capacity

The Statistical Act 1959 provides the legal basis for the collection, compilation and dissemination of official statistics in Nepal. The Act has authorized CBS to collect data as required by the government. In the act, there is a provision that respondents –either citizens and institutions - are responsible for providing information/data as required by the nation. However, confidentiality of individual information needs to be maintained. In principal, other agencies that produce sectoral official statistics are bound by this clause and should follow the same standards; norms (reliability, accuracy and timeline) with sound scientific methodologies to assure quality data but this is not enforced.

The CBS tries to follow internationally accepted concepts, classifications, and standards as best as possible. Additionally, the national level standard manuals and classifications are prepared following international guidelines and reference such as the United Nations Statistics Development (UNSD) and others. The Structured questionnaire is generally used in data collection standards.

The 33 CBS field officers are fully engaged in data collection from primary and secondary sources. National level census and surveys are executed by CBS head office and data processing of large scale statistical activities are done from the center. In addition, data are also generated from administrative

sources, especially in government line Ministries and Departments. During large-scale census and survey operations, fresh enumerators are recruited or other government agency staff is called to assist. In some specific cases, statistical activities are outsourced, e.g., the data processing work of Population and Housing Census.

The CBS has been conducting different periodic socio-economic censuses and surveys- Population and Housing Census, Agriculture Census, Manufacturing Census, Living Standard Measurement Survey, Labor Force Surveys etc. A survey on environment ' National Climate Change Impact Survey (NCCIS) 2016' was conducted for the first time and there are plans to continue this monitoring on a regular basis. Similar with NCCIS, data collection and data management has been initiated in some other surveys - Civil Registration and Vital statistics, Nepal LabourForce Surveyand NCCISusing mobile technology/CAPI.²¹ A National Strategy for the Development of Statistics (NSDS) has been prepared by CBS and currently it is with the cabinet for approval.

Data are derived from different sources- censuses, surveys, special studies and administrative records. The sources are dispersed over a variety of data producers, and similarly numerous methods are applied in their compilation.²²Most of the data sources come from official sources of the respective institutions in the form of official statistics. For those official data sources, their methodologies and metadata are also made available. Published official data are checked and verified at the CBS office while compiling them to bring in to the form of a publication. However, the existence of specific criteria development,or standards, to ensure the quality of environment related data is not found. Hence, measures need to be taken and sound methodology developed for assuring the quality and alignment of data and indicators.

Most of the line ministries have their regional or district offices. Some offices collect data only for internal consumption and some publish it at a regional and local level regularly. For example, the ministries for health, education and agriculture, have their regional level statistical activities located where the data is generated.

The ministries and departments have different data collection framework/techniques. Most of the data comes from administrative records; some from sample surveys, focus group discussions and appraisal. However, the statistical functioning at local level and central level suffers from many shortcomings- lack of trained human resources, financial resources, Information and Communication Technology, improper record keeping system, weak statistical knowledge, low capacity of data users and awareness etc. Also some from the central level have similar issues.

²¹Computer-assisted personal interviewing

²²CBS (2017), A compendium of National Statistical System of Nepal 2017, Central Bureau of Statistics, Kathmandu.

5.1. Capacity Strengths, Weaknesses, Gaps and Needs:

Based on the consultation and survey questioners a Strength Weakness Opportunities Threats (SWOT) analyses was prepared which is given below in table 6.

Table 6: SWOT Analyses

<p>Strengths</p> <ol style="list-style-type: none"> 1. Legal provisions are in place (existence of law/regulation to operate/regulate statistical activities); 2. Human resources are in place (recruited) with assigned job description; 3. Skilled human resources are available; MOST officers possess a Master's Degree in Statistics or Demography or Economics; many of them have acquired international training as well. 4. A statistical human resource (cadre system) is in place in Civil Service; 5. Monitoring and evaluation system is established in various government institutions 6. International principles and guidelines are generally followed, 7. Government ownership of the statistical activities is accepted, 8. Environment Statistics of Nepal is published regular (biannual) basis, 9. There is a global partnership in statistical activities; 10. Financial and physical resources are available for statistical activities; and 11. Sub-national statistical offices are in place 12. New 'Statistical Act' with current updates has been proposed 	<p>Weaknesses</p> <ol style="list-style-type: none"> 1. Insufficient trained human resources, particularly at the local government 2. Financial resource constraints 3. FDES not fully applied 4. Poor statistical infrastructure 5. Sporadic and insufficient supply of environment statistics. 6. Lack of a statistical calendar (operation calendar) including environment statistics 7. Poor data quality control mechanism. 8. Limited disaggregation in published data, 9. Inadequate coordination mechanism within the agencies. 10. Inadequate data/information sharing policy 11. Limited use of geospatial & Remote Sensing Data and GIS tool 12. Limited use of administrative data/records. 13. Insufficient and sporadic surveys/ research on scientific subjects of environmental field. 14. Implementation of some provisions in the Statistical Act
<p>Opportunities</p> <ol style="list-style-type: none"> 1. Establishment of strong statistical infrastructure 2. Development of the statistical calendar 3. Establishment of strong data quality control mechanism 4. Establishment of strong data sharing mechanism 5. Increase in use of ICT in the statistical activities 6. Amendment of new statistical Act incorporating the weaknesses. 7. Public awareness programme on the importance of environmental and statistics. 8. Establishment of good record keeping systems in various government agencies, 9. Sensitization to the Government in the international agreements and convention in regard to the need of environmental statistics. 10. Establishment of an EMIS 	<p>Threats</p> <ol style="list-style-type: none"> 1. Policy constraints 2. New innovation of ICT in EMIS; 3. Overwhelming of the Respondents' due to increased extent of surveys/censuses, 4. Frequent update of the GIS software

5.2 Budget Situation

In the government sector, supporting resources for data collection and management mostly comes from the annual government programme, which is produced by each Ministry and submitted to the NPC. Ministries involved in producing official statistics must allocate adequate resources based on their annual programme priorities, where by collecting and disseminating statistics and trainings can be included. Like other field of statistics, environment statistics is one for which a nominal budget is allocated. The Central Bureau of Statistic in Nepal is the mandated institution under NPC for the compilation and sharing of national statistics and their fiscal year budget is 492.12 Million Nepali Rupees (Nrs.). Out of the total programme budget Nrs. 170.18 Million is for staff salary and managerial cost. Only 2 percent of the budget is for environmental statistics. In MOPE and other line ministries there is no budget allocated specifically for statistics, and the department usually allocates a certain budget if they feel there is a need to work on statistics, therefore it not a priority but done on a random bases.

International Donor agencies are other sources and means of funding, and Ministries can request for funding provided for specific purposes on an occasional basis e.g., currently, the United Nation Economic and Social Commission for Asia and the Pacific (UNESCAP) has provided technical support to work on SEEA, land and forest accounts. In order to further improve on data collection and sharing, FDES 2013 or ESSAT framework and indicators training is crucial, therefore sufficient budget allocation is necessary, including from Overseas Development Assistance (ODA). Additional budget is also required to strengthening the statistical sections in respective agencies and build awareness in the local government and the community on the importance and impact on environment and data collection and sharing.

The National Strategy for the Development of Statistics (NSDS) is under an endorsement process, which is a milestone achievement for Nepal. Consequently, Nepal has demonstrated its commitment on the SDG targets as well as other MEAs. Therefore, there is attention and work to be done to achieve the goals and targets set, and there is a need for an extraordinary amount of data collection, processing, analyzing and dissemination at all level within the government and other institutes. Further, human capacity development is another part of an investment not to mention the new technologies that need to be in place. Consequently, the national budget must be expanded to stand by our national commitments. Further, internal and external resource mobilization has to be initiated towards this cause.

5.3. Capacity Building/Training

CBS is mandated to conduct different training Programmes in the area of statistical knowledge and skills. Occasionally, UNSD/UNESCAP/UNEP organises trainings on statistics whereby the Environment Statistics Section from the CBS and MOPE are invited to participate. However, more training is required as environment is a cross cutting issue and environment statistics are maintained in all the line ministries, including at the province and municipality level. Further, the community also needs to be aware of the importance of environment and statistics in order to get them involved and made accountable for the environment, thus making them part of the solution. Therefore, priority has to be given to training whereby an external entity, for example an NGO or INGO, jointly with a focal government line agency could be groomed to be trainers with the capacity to grow and update the latest technology and tools required. Apart from trainings, equipment's and tools are also important to apply what has been learnt.

Table 7: Capacity Building Needs

SN	Institution	Capacity Building Programme
1	MoPE	<ol style="list-style-type: none"> 1. Importance of data needs for environment and climate change and its use in policy planning. 2. Development of the country specific action plans to improve the quality and use of their data to track progress towards environment related Sustainable Development Goal. 3. Importance of Addressing Data Needs for Climate Impacts, Adaptation, and Vulnerability 4. Training on handling and managing the environment information management system and sustainable financial resources 5. Training on the methodologies on short -ived climate pollutants emission calculation 6. Proper collection and analysis of data using statistical techniques 7. Importance of sampling and experimental design in conducting rigorous environment science. 8. Monitoring impact assessment, risk assessment, correlated and censored data analysis, spatial data analysis, data quality objectives, generalized linear models. 9. The use of Geospatial data, GIS and remote sensing 10. EMIS application
2	CBS	<ol style="list-style-type: none"> 1. Training on the use of latest FDES/ESSAT and how to integrate it in the national system. 2. Training on the use of Geospatial data, GIS and remote sensing in census and survey and during their analysis. 3. Training on handling and managing the environment information management system and sustainable financial resources 4. Importance of Addressing Data Needs for Climate Impacts, Adaptation, and Vulnerability 5. Monitoring impact assessment, risk assessment, correlated and censored data analysis, spatial data analysis, data quality objectives, generalized linear models. 6. EMIS application
3	Other line agencies	<ol style="list-style-type: none"> 1. Awareness on the importance and need of data for the regular work and policy planning. 2. Training on handling and managing the environment information management system and sustainable financial resources 3. Proper collection and analysis of data using statistical techniques 4. Importance of sampling and experimental design in conducting rigorous environment science. 5. Monitoring impact assessment, risk assessment, correlated and censored data analysis, spatial data analysis, data quality objectives, generalized linear models.

6. Implementation of the System of Environmental Economic Accounts

The implementation of System of Environmental and Economic Accounts (SEEA) has been initiated in CBS starting with Land and Forest Accounts. For this initiation, UNESCAP has provided some financial and technical support. To carry this forward, a task force has been formed under the coordination of the Deputy Director General, CBS.

Other relevant agencies, including the Ministry of Agriculture, Ministry of Land Reform, Department of Cadastral Survey, Department of Forest Research and Survey and CIMOD, are working together to produce a land and forest account of SEEA. CBS is mainly responsible for compiling and publishing. The land account is still under process and hopefully will be completed mid-2018.

7. Policy – Institutional Governance and Cooperation Mechanisms

7.1 Institutional Infrastructure

As a national statistical organisation given by the Statistical Act 1958, CBS has an authority to collect, process and disseminate all types of official statistics. However, CBS has not been fully successful in coordination of all stakeholders, and one of the reasons for this is its relatively low status in institutional setup compared with the Ministries and Commissions/Councils. Further there are no such policy or directive mandating line ministries to cooperate with the CBS on environmental data collection and sharing. The statistics law and regulation mandates CBS to conduct national census, collect environmental statistics and publish reports periodically, and while doing so, the public and institutes will have to cooperate and share information with the CBS. Thus, a policy for data collection and sharing is essential. The CBS has drafted a new Act, which is meant to address this issue including many other shortfalls. Currently, this act is with the Cabinet for the approval procedure.

A permanent technical committee on environment statistics has been established to prepare an annual report on Environment Statistics of Nepal, which is chaired by the Director General of CBS. Furthermore, another task force is formed to facilitate the programme activities for the implementation of the SEEA. In addition, there is a high-level Environmental Protection Council, Climate Change Council and National Population Council chaired by the Prime Minister. The major function of these councils is to coordinate with the line ministries on issues related to environment, climate change and population management. Likewise, the National Statistical Council (NSC) is also in place, which is chaired by the Vice-Chancellor of the NPC to formulate statistical policies and coordinate statistical activities. However, NSC has no legal authority to work, and functions as an advisory body. In addition, some ministries and departments have their own coordination mechanism for specific purposes, e.g., Health Management Information System (HMIS) and Educational Management Information System (EMIS). Despite the formation of all the committees and task force coordination mechanism is still not functioning, as it should.

Some government Ministries and Departments produce statistics and reproduce them into the form of a publication. One can say that no much priority has been given to environmental statistics; a case for example, the statisticians found in the various ministries is led by a gazette second-class officer (senior statistician) and in some cases no statisticians are deputed for statistical job.

Some offices do not publish their statistics and use them only for their internal purposes. However, they do share their data, with reluctance, upon an official request made by a written letter giving details of how the data will be used. Nevertheless, there is no binding national law that obligates these agencies to generate, publish or share statistics. It is assumed that the Statistical Act 1958 applies to all aspects of statistics, though this is not the case in practice. Therefore, clear directives need to be phrased into the Act, and because of the gray areas of the existing Statistical Act, coordination among different agencies CBS and line ministries is disheartening.

It can be observed that coordination is achieved through the formation of committees (steering committees and technical committees) to some extent. However, committees are formed for specific purposes alone and get dissolved after completion of the project/task. Therefore, a provision needs to be established for the coordination of environment related data flow/management mechanism. The Statistical Act 1958 and Statistical Regulation 1986 does not address the environment statistic specific issues, therefore it is required to reviewed and suggest amendments. The amendment should cover the coordination among agencies and designate concerned organisations to make the supply of environment statistics obligatory.

7.2 Institutional Capacity & Needs:

According to the organisation and management chart of the MOPE, it has three divisions viz Planning, Monitoring and Administration Division, Climate Change Management Division and Population and Environment Management division. Two divisions are responsible for formulating and implementing the policies and plans in the climate change and environmental sector. In addition, these two divisions monitor and regulate the environmental and climate change initiatives that have been conducted by other agencies. In regard to the human resources, MOPE comprises 45 officials (29 Male and 11 Female) above and equivalent to officer level. Out of this total, 13 are from technical background viz engineering, agriculture, forestry, botany, statistics and chemist and rest have an administrative background.

The Central Bureau of Statistics (CBS) is the department working under the National Planning commission and solely responsible for collecting the socio-economic data through census, sample survey and administrative records. It has one central office and 33 district statistical offices. The responsibility of the district offices is to mobilize the human resources to enumerate the statistical data during census and surveys. The CBS is comprised of 532 officials (43 Male and 22 Female), including 287 technical and 245 administrative officials.

7.3 Future Developments

In 2017 CBS proposed a new Statistics Act that ensures a legal framework that is fully supportive of statistical operations and development. This act, once endorsed, will enhance statistical system and create more favorable situation for CBS and line ministries and departments to work professionally. It is also compatible with the international standards and recommendations for a global statistical system.

The National Strategy for the Development of Statistics (NSDS) is in the process of getting approval from the cabinet. This document encompasses the policies enshrined in the five-year plan of the nation and will establish policies, practices and capacities to support statistical operations development in a cost-effective manner. The implementation of NSDS, along with other field of statistics, will enhance the 'environment statistics' in the country.

Having said this, a Statistic Act amendment is necessary to ensure that data is collected and shared amongst line ministries in an organised manner including other relevant clause that supports the statistics operation and development process. Therefore, with this in mind a new Statistics Act was drafted and is in the process of being endorsed by the parliament.

The methodology used for the data needs assessment included a combination of group discussions, consultation meetings, survey questionnaires and filling in the Environment Statistics Self-Assessment Tool (ESSAT), including the assessment of the SDG 2016-2030 Preliminary Report prepared by NPC. The SWOT analyses in table 6 and the gaps and recommendation mentioned below are the result of the above mentioned assessment process.

8. Analyses

8.1 The Analyses for Annex 1 (A): SDG Environment Indicators of Nepal

The National Planning Commission (NPC) in 2015 published a preliminary national report on Sustainable Development Goals 2016-2030. It has 137 targets and indicators to meet 17 broad goals and have tried to contextualize global indicators into the national context.

The Annex 1 (A) highlights the SDG targets and their respective global with national indicators related to environment featuring measurement units, baseline year, baseline data, data collection frequency, data source and responsible agency for the set indicators. Along the document one can see that some national indicators are not aligned with the global indicators and one of the reasons could be that the national indicators are set based on country specific needs and priorities.

There are a few cases where the national indicators are yet to be established in order to address the overall target and others that do not specify methodologies and targets to address the set indicators. Also, in a number of cases the data collection frequency is not mentioned along with identification of the lead focal agencies to drive the targeted themes. Therefore, a number of gaps have been identified which is listed in table 6 below.

The SDG Report is the document where the government has prioritized and applied their resources and expertise in developing national indicators and data compilation etc. Still many gaps are seen therefore, statistics in Nepal has to be priorities, refined, standardized, authenticated and shared voluntarily to bring a meaningful change. In another word the availability of data, the quality of the data and the alignment of indicators require substantial upgrading in order to achieve the specific SDG targets. Also, to note is that the SDG 2016-2030, National Report is a preliminary document and currently NPC has drafted a Baseline Report on Nepal Sustainable Goals which when finalized hopefully might narrow the gaps.

Table 8: Gaps - SDG 2016-2030 National Report (Preliminary)

Theme	Global Indicator	National Indicator	Gaps
Disaster	11.5.2 Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters	11.5.a. Houses fully damaged due to earthquake (to be reconstructed in number) (,000)	The targets for 2030 is not set for these indicators.
		11.5b. Houses partially damaged due to earthquake (to be reconstructed, in number)	
	11.5e. Central, district, municipal and village structures fully or partially damaged due to earthquakes (to be reconstructed, in number)	11.5g. Deaths due to other natural disaster 11.5i. Injuries due to other natural disaster	Missing baseline data, baseline year and target to meet the indicators set.
	13.1.2 Number of countries that adopt and implement national disaster risk reduction strategies	13.1c GHG emitted by transport sector (%) 13.1d GHG emitted by industrial sector (%)	Missing data source, data collection frequency

Theme	Global Indicator	National Indicator	Gaps
		13.1e GHG emitted by commercial sector (%) 13.1g GHG (in CH4) from agriculture (Gg) 13.1h GHG (in N2O) from agriculture (Gg) 13.1i GHG (in CO2) from agriculture (Gg) 13.1j GHG (in CO2) from industrial sector (lime and cement) (Gg) 13.1k GHG (in CO2) from energy sector (Gg)	& responsible agency
Agriculture	2.4.1 Proportion of agricultural area under productive and sustainable agriculture	2.4 c Soil erosion (metric tonnes per hectare) 2.4d Pesticides used in agriculture production 2.4e Bio-fertilizers used in agriculture production	Missing baseline data, year and the target to meet the indicators set.
Water and Sanitation	2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium- or long term conservation facilities	2.5a Establish DNA bank for variety of seeds 2.5b Establish DNA bank for variety of plants	Missing baseline data, year and the target to meet the indicators set.
	Proportion of local breeds classified as being at risk, not at risk or at unknown level of risk of extinction	2.5c Establish DNA bank for endangered animal species	Missing baseline data, year and the target to meet the indicator set
	6.3.1 Proportion of wastewater safely treated	Indicators yet to be developed	Indicators yet to be developed
	6.3.2 Proportion of bodies of water with good ambient water quality	Indicators yet to be developed	Indicators yet to be developed
	6.4.1 Change in water-use efficiency over time	6.4a Wastage of water while using it (per person/day in liters)	Missing baseline data, year and the target to meet the indicator set.
	6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	6.4b Availability of freshwater (per person/day) 6.4c Availability of freshwater (per person/day) within 30 minutes of walk in rural areas	Missing baseline data, year and the target to meet the indicator set.
	6.5.1 Degree of integrated water resources management implementation (0–100)	Indicators yet to be developed	Indicators yet to be developed

Theme	Global Indicator	National Indicator	Gaps
	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation	Indicators yet to be developed	Indicators yet to be developed
	6.6.1 Change in the extent of water-related ecosystems over time	Indicators yet to be developed	Indicators yet to be developed
	6.a.1 Amount of water- and sanitation-related official development assistance that is part of a government coordinated spending plan	Indicators yet to be developed	Indicators yet to be developed
	6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	Indicators yet to be developed	Indicators yet to be developed
	15.1.1 Forest area as a proportion of total land area	Indicators yet to be developed	Indicators yet to be developed
	15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type	Indicators yet to be developed	Indicators yet to be developed
Energy	7.a.1 International financial flows to developing countries in support of clean energy research and development and renewable energy production, including in hybrid systems	Indicators yet to be developed	Indicators yet to be developed
	7.b.1 Investments in energy efficiency as a proportion of GDP and the amount of foreign direct investment in financial transfer for infrastructure and technology to sustainable development services	Indicators yet to be developed	Indicators yet to be developed
Sustainable consumption and	12.1.1 Number of countries with sustainable consumption and production	Indicators are yet to be developed	Indicators yet to be developed

Theme	Global Indicator	National Indicator	Gaps
production	(SCP) national action plans or SCP mainstreamed as a priority or a target into national policies		
	12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP	Indicators are yet to be developed	Indicators are yet to be developed
	12.5.1 National recycling rate, tons of material recycled	12.5a Recycling of plastics 12.5b Reuse of glass and metal products	Missing baseline data, year and the target to meet the indicator set.
	12.a.1 Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies	Indicators yet to be developed	Indicators are yet to be developed
	12.b.1 Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools	Indicators are yet to be developed	Indicators are yet to be developed
	12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels material footprint per GDP	Indicators are yet to be developed	Indicators are yet to be developed
	12.4.2 Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement	Indicators are yet to be developed	Indicators are yet to be developed
	12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of	Indicators are yet to be developed	Indicators are yet to be developed

Theme	Global Indicator	National Indicator	Gaps
	treatment		
	12.6.1 Number of companies publishing sustainability reports	12.a Large and transnational companies adopting sustainable practices (number)	Missing baseline data, year and the target to meet the indicator in 2030
	12.7.1 Number of countries implementing sustainable public procurement policies and action plans	Indicators yet to be developed	Indicators are yet to be developed
	12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment	12.8a Population covered by awareness campaign (%)	Missing baseline data, year and the target to meet the indicator set
	6.3.1 Proportion of wastewater safely treated	6.3a Proportion of untreated domestic waste water (%)	Missing baseline data, year and the target to meet the indicators set.
	6.3.2 Proportion of bodies of water with good ambient water quality	6.3b Proportion of untreated industrial waste water	Missing baseline data, year and the target to meet the indicator set.
Climate Change	13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)	Indicators yet to be developed	Indicators yet to be developed
	13.3.1 Number of countries that have integrated	Indicators yet to be developed	Indicators yet to be developed

Theme	Global Indicator	National Indicator	Gaps
	mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula		
	13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions	Indicators yet to be developed	Indicators yet to be developed
	13.a.1 Mobilized amount of United States dollars per year between 2020 and 2025 accountable towards the \$100 billion commitment	Indicators yet to be developed	Indicators yet to be developed
	Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities	Indicators yet to be developed	Indicators yet to be developed
	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	Indicators yet to be developed	Indicators yet to be developed
	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies	Indicators yet to be developed	Indicators yet to be developed
Land	15.8.1 Proportion of countries adopting relevant national legislation and	15.8a Nationwide surveys and research on research on invasive alien plant species	Missing baseline data, year and the target to meet the

Theme	Global Indicator	National Indicator	Gaps
	adequately resourcing the prevention or control of invasive alien species		indicator set.
	15.7.1 Proportion of traded wildlife that was poached or illicitly trafficked	Indicators yet to be developed	Indicators yet to be developed
	15.a.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems	Indicators yet to be developed	Indicators yet to be developed
	15.b.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems	Indicators yet to be developed	Indicators yet to be developed
	15.c.1 Proportion of traded wildlife that was poached or illicitly trafficked	Indicators yet to be developed	Indicators yet to be developed

8.2 The Analyses for Annex 2 (A): Environment Statistics Self-Assessment Tool (ESSAT)

ESSAT is based on the Basis Set of Environment Statistics of the FDES 2013. It serves as a tool to assess the national relevance, importance, availability and sources of the individual statistics contained in the Basic Set of Environment Statistics. It also helps to identify relevant quantitative and qualitative data gaps and develop a plan for filling in the gaps and strengthening environment statistics according to national priorities, needs and available resources.

A team of technical staff from LEAD Nepal visited 20 ministries, departments and INGOs whereby only six institutes were able to provide data, namely, MOPE, DoE, DFRS, MOAD, DHM and DOC. Although MOPE had provided an official letter to the 20 ministries and INGOs, which was hand delivered, carried by the research team, it was still a challenging process in terms of accessing data as in the required format and getting time of the relevant official. Hence it would be simpler if a common portal can be developed so that data sharing is more transparent and easily accessible.

Most of the environment data was recorded in different formats, mainly in excel, requiring the research team had to manually transfer the data into ESSAT format, which was very time consuming. Further the data that were available had many features missing such as data collection methods, data calendar, agency responsible for the data and so on.

The high priority field of data collection was seen in the sectors of temperature, precipitation, air quality, ecosystems and biodiversity, forest, agriculture and air emission. The data collection of noise pollution, geological and information, land cover/land use, freshwater quality, mineral resources, disaster management sectors were given medium priority. Whereas the sectors of hydrographical characteristics, soil characteristics, soil pollution, forest land use, aquatic resources and generation and management of wastewater have low priority since no data were found in these sectors. The high priority field data are published annually, whereas the other data were published arbitrarily.

The Department of Hydrology and Metrology are updating data on temperature, precipitation, relative humidity, wind pressure on a daily basis and published in their website. Also, the Department of

Environment is currently in the process of updating air quality data of PM₁, PM_{2.5}, PM₁₀, air temperature, wind speed and wind direction on a daily basis and publishing it in their website.

Based on the survey the main reasons why the statistic is not compiled is largely because of poor collection and dissemination system, insufficient human resources available, unclear roles and responsibilities, budget constraints, lack of awareness in the community and all level within the government chain, insufficient coordination systems, lack in institutional set up, insufficient metadata, lack of data verification system and equipment or technologies.

Challenges experienced during ESSAT survey:

- As the statistic available does not follow FDES 2013 format collecting data and transferring it into ESSAT was time consuming.
- Due to absence of a standardized format many information is missing as per the requirement of the ESSAT framework.
- There is no legal mandate to compile and share data therefore only few institutions are collecting and recording the data in their websites.
- Certain departments such as Department of Hydrology and Metrology, who do update data quite frequently, have to purchase their data as they do not have sufficient capacity to collect on their own.
- Lack of coordination between data providers and data collectors.

Environmental data gaps form ESSAT

- Archiving system of the data base are unavailable, there is lack of previous data in the institutions.
- The data is managed in haphazard way, which indicates there is requirement of systematic management of environment statistics.
- The available data that exists is primarily from institutes or user groups who had prioritized statistics bases on their project needs.
- There is no public data available for hydrographical characteristics, soil characteristics, soil pollution, forest land use, aquatic resources and generation and management of wastewater due to low priority in the national level.
- Sectors such as hydrology and metrology, agriculture, livestock and customs are highly rich in statistics.

9. Gaps and Recommendation

9.1 Gaps

Based on the SWOT analyses in section 5.1, table 6 and analysis in section 8.1 and 8.2 the below gaps have been listed.

1. There is need to set up an institutional arrangement from central level to the province and to the local level in order to address the need of environmental data.
2. The institutional structure at the policy level is not functioning as it should.
3. The institutional structure at the province and local level is yet to be established.
4. There is absence of a designated responsible statistic division/section in all the line Ministries
5. There is no separate law to address the collection, compilation, sharing and dissemination of environment statistics in Nepal. The EPA, 1997 has provision on the collection of sample of the pollution data however it lacks in delegating the authority of establishing an environmental data bank. Likewise, the Statistical Act 1958 does not describe the need of environment

statistics as an official statistic. Moreover, the acts, policies and plans of Nepal lack in addressing the importance of data and its sustainable use.

6. There is an absence of policy and strategy on environmental statistics.
7. The current Statistics Act 1958 does not fully support the holistic efficiency of the statistic division
8. There is no policy and mechanism that exist for the projects to share their data with MoPE or the CBS.
9. Technical and financial capacity for SoE publication at MOPE is insufficient ;
10. Coordination mechanism needs to be strengthened for the supply and use of environment statistics in order to build team spirit, transparency, accountability, avoid duplication, save funds etc., and help generate wide range of environment statistics acceptance in the country.
11. Trained human resources to work in the field of environment statistics are insufficient within the government, national and international non-government agencies and private sectors given the area coverage and population. However, some trained and qualified officials are only available within the CBS.
12. The need of the environmental data is mounting with the rapid increase in development activities. However, budget allocation for the production of environmental statistics/ indicators is very minimal.
13. The government offices are still adopting the traditional data collection, compilation and dissemination methods. In addition, for the data management and sharing, Environment Information Management System (EIS) is not in place.
14. There is very limited use of geospatial and remote sensing data and the GIS tool in data generation, management and analysis by all the organisations that are responsible to collect, manage and analyze environment statistics.
15. There is a need for developing a statistical calendar to produce environment statistics on a regular basis. Due to which, most of the available statistics/ indicators are sporadic and insufficient.
16. To assure the quality of statistics, there is need to develop a quality check/assessment framework, which helps to assure the quality of data.
17. The use of administrative records is not efficient in generating and archiving the environmental statistics in sectorial line agencies.
18. The occasional scientific surveys/studies are not sufficient to meet the data needs.
19. There is absence of a separate budget for the statistic division within all line Ministries
20. EMIS application.
21. Gender representation is weak

9.2 Recommendations

The development of environment statistics is still at an infancy stage.²³ To enhance the status of statistics, some key efforts in legal, budgetary, capacity development, ICT, quality standards, methodology improvement, coordination mechanism needs to be taken into account. Based on the analysis in the earlier sections, and comments and suggestions provided by different stakeholders (suppliers and users), the following recommendations were made:

1. Capacity Building:
 - a. Importance of data needs for environment and climate change and its use in policy planning.
 - b) Development of the country specific action plans to improve the quality and use of their data to track progress towards environment related Sustainable Development Goal.

²³ CBS (2014) Environment Statistics of Nepal 2013

- c) Importance of addressing data needs for climate impacts, adaptation, and vulnerability
 - d) Training on handling and managing the environment information management system and sustainable financial resources
 - e) Training on the methodologies on short-lived climate pollutants emission calculation
 - f) Proper collection and analysis of data using statistical techniques
 - g) Importance of sampling and experimental design in conducting rigorous environment science.
 - h) Monitoring impact assessment, risk assessment, correlated and censored data analysis, spatial data analysis, data quality objectives, generalized linear models.
 - i) The use of geospatial data, GIS and remote sensing
2. Revisit institutional structure at the policy level on environment statistics
 3. Establish an institutional structure at the province and local level on environment statistics
 4. A new or amended Statistical Act is vital for incorporating the holistic aspect of the environmental statistics as the Statistical Act 1958 does not mention the scope of environment statistics. The concept of designated statistics should be applied in the production of relevant statistics by the concerned agencies through coordinated approach.
 5. Strategy and policy for the effective functioning of the statistic division/section with clear roles and responsibilities specified.
 6. A statistic division/section to be established in all line Ministries
 7. Budget allocation for the statistic division specified
 8. Budgetary provision and mobilization of funds to adopt internationally agreed standards for and reporting system including the purchase of appropriate equipment's.
 9. A strong coordination mechanism comprising between relevant stakeholders on environment statistics at all levels. Need to brainstorm on how to make the existing permanent technical committee for statistic more functional
 10. Technical and financial capacity for MoPE to compile and publish SoE publication in annual bases
 11. ICT integration in data collection, processing/ compilation and dissemination is inevitable to ensure availability of environment statistics/indicators more effective and efficient.
 12. Need appropriate equipment to upgrade to new technologies and frameworks for data collection and sharing including integration of different sources of data through partnership approach
 13. To maintain the standards and quality of statistics, a quality assessment framework should be developed and followed.
 14. A standard process/ structure of data compilation like FDES and ESSAT shall be fully adopted for compiling data/statistics to make data comparable and consistent.
 15. A system developed so that data stored in different administrative records can be easily accessed and shared.
 16. EMIS should be established in the nodal Ministries.

ANNEXES

Annex 1 (A): Sustainable Development Goals (SDG) Environment Indicators of Nepal with detail assessment

Availability of Environment Statistics/ Indicators of Nepal: SDGs - An Assessment										
	Selected Environment Global SDG Indicators	Selected Environment National SDG indicators (SDG 2016-2030 National Preliminary Report)	Units	Baseline (Year)	Baseline data	Target (2030)	Data Collection Methodology	Data Source	Data Collection Frequency	Responsible Agency
DISASTER										
Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.										
1.5.1	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	1.5a Loss of lives from disasters	Number	2014	415	104	Field data collection	District Administration office	Annual	MoHA
1.5.2	Direct economic loss attributed to disasters in relation to global gross domestic product (GDP)	1.5b Economic Vulnerability Index(EVI)	Index	2014	26.8	18.9	Estimation	NPC	Biannual	MoAD
1.5.3	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030									
Target 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and decrease by 100 percent the economic losses relative to gross domestic product caused by disasters, including water related disasters, with a focus on protecting the poor and people in vulnerable situations										
11.5.2	Direct economic loss in relation to	11.5.a. Houses	Number	499	2014	-	-	NPC	Occasion	

global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters	fully damaged due to earthquake (to be reconstructed in number) (,000)							al	
	11.5b. houses partially damaged due to earthquake (to be reconstructed, in number) (,000)	Number	257	2014	-	-	NPC	Occasional	
	11.5c. Health facilities fully damaged due to earthquake (to be reconstructed, in number) (,000)	Number	4904	2014	-	-	NPC	Occasional	
	11.5d. Health facilities partially damaged due to earthquakes (to be reconstructed, in number)	Number	1159	2014	-	-	NPC	Occasional	
	11.5e. Central, district, municipal and village structures fully or partially damaged due to earthquakes (to be reconstructed, in number)	Number	1711	2014	-	-	NPC	Occasional	
	11.5f. Deaths due to earthquake	Number	8790	2014	-	-	NPC	Occasional	

		disaster								
		11.5g. Deaths due to other natural disaster	Number	-	-	-	-	-	-	-
		11.5h. Injuries due to earthquake disasters	Number	22300	2014	-	-	NPC	Occasional	-
		11.5i. Injuries due to other natural disaster	Number	-	-	-	-	-	-	-
11.b.1	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030									
11.b.2	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies									
13.1.2	Number of countries that adopt and implement national disaster risk reduction strategies	13.1a Annual CO2 emissions (metric tonnes per capita)	metric tonnes per capita	2014	0.10	0.05		NPC	Occasional	NPC
		13.1b Consumption of ozone depleting substance (ODS tonnes)	ODS tonnes	2014	0.88	0.44		NPC	Occasional	NPC
		13.1c GHG emitted by transport sector(%)	%	2014	12	6	Estimation based on environm			

						ent data			
	13.1 d GHG emitted by industrial sector (%)	%	2014	12	6	Estimation based on environment data			
	13.1e GHG emitted by commercial sector (%)	%	2014	5	2.5	Estimation based on environment data			
	13.1f GHG emitted by agriculture sector (%)	%	2014	68	34		MoPIT	Occasional	MoPIT
	13.1g GHG (in CH4) from agriculture (Gg)	Gg	2014	614.1	795.8	Estimation based on environment data			
	13.1h GHG (in N2O) from agriculture (Gg)	Gg	2014	32.6	39.8	Estimation based on environment data			
	13.1i GHG (in CO2) from agriculture (Gg)	Gg	2014	23014.7	29063				
	13.1j GHG (in CO2) from industrial sector (lime and cement) (Gg)	Gg	2014	632	316	Estimation based on environment data			

		13.1k GHG (in CO2) from energy sector (Gg)	Gg	2014	7959	3979.5	Estimation based on environment data			
Agriculture										
2.3. By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment										
2.3.1	Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size	2.3a Land productivity	metric tonnes per ha	2014	3.6	6	Estimation	MoAD	Biannual	MoAD
		2.3b Fertilizer use	kg/ ha	2014	88	100		MoAD	Biannual	MoAD
		2.3c Access to finance for agriculture (ag loan as % of total bank loan)	%	2014	5	15		NRB	Biannual	NRB
		2.3d High yield seeds	kg/ ha	2014	2.8	5		MoAD	Biannual	MoAD
		2.3e Round the year irrigated land in total arable land	kg/ ha	2014	40	80		DoI	Biannual	DoI
		2.3f Agriculture insurance coverage		2014	0.5	25		NRB	Biannual	NRB
		2.3h Agriculture households with lands	%	2014	73.9	75		CBS	Decennial	CBS
2.3.2	Average income of small-scale food producers, by sex and indigenous status									

Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality										
2.4.1	Proportion of agricultural area under productive and sustainable agriculture	2.4a Agricultural land at the present level	Hectare	2014	2641	2641	-	MoFSC	-	CBS
		2.4c Soil erosion (metric tonnes per hectare)	metric tonnes per hectare	-	-	-	-	-	-	-
		2.4d Pesticides used in agriculture production		-	-	-	-	-	-	-
		2.4e Bio-fertilizers used in agriculture production		-	-	-	-	-	-	-
WATER AND SANITATION										
Target 2.5: By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed										
2.5.1	Number of plant and animal genetic resources for food and agriculture secured in either medium- or long term conservation facilities	2.5a Establish DNA bank for variety of seeds		-	-	-	-	-	-	-
		2.5b Establish DNA bank for variety of plants		-	-	-	-	-	-	-
2.5.2	Proportion of local breeds classified as being at risk, not at risk or at unknown level of risk of extinction	2.5c Establish DNA bank for endangered animal species		-	-	-	-	-	-	-
Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all										

6.1.1	Proportion of population using safely managed drinking water services	6.1a Households access to piped water supply	%	2014	60.1	95		CBS	Deceinial	CBS
		6.1b Basic water supply coverage	%	2014	83.6	99		MoFSC	Biannual	MoFSC
		6.1c Households with Escherichia coli (E.coli) risk level	cfu/100 ml	2014	82.2	0		CBS	5 years	CBS
		6.1d Households with Escherichia coli (E.coli) risk level	>=1cfu/100ml	2014	71.1	0		CBS	5 years	CBS
		6.1e Population using safe drinking water	%	2014	15	90			5 years	
Target 6.2: By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations										
6.2.1	Proportion of population using	6.2a Households	%	2014	60.1	95		CBS	5 years	CBS
		6.2b Proportion of population using toilets	%	2014	67.6	98		CBS	5 years	CBS
		6.2c Local authority areas that have declared open defecation free	%	2014	41	99		NMIP	annual	NMIP
		6.2d Sanitation coverage	%	2014	70.3	99		NPC	annual	NPC

		6.2e Urban households that have toilets connected to sewage system	%								
				2014	30	100			NPC	occasional	NPC
Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and sustainability increasing recycling and safe reuse treated											
6.3.1	Proportion of wastewater safely treated										
6.3.2	Proportion of bodies of water with good ambient water quality										
Target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity											
6.4.1	Change in water-use efficiency over time	6.4a Wastage of water while using it (per person/day in liters)		-	-	-	-	-	-	-	-
6.4.2	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	6.4b Availability of freshwater (per person/day)		-	-	-	-	-	-	-	-
		6.4c Availability of freshwater (per person/day) within 30 minutes of walk in rural areas		-	-	-	-	-	-	-	-
Target 6.5: By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate											
6.5.1	Degree of integrated water resources management implementation (0–100)	Indicators yet to be developed									
6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation	Indicators yet to be developed									
Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes											

6.6.1	Change in the extent of water-related ecosystems over time	Indicators yet to be developed								
6.a.1	Amount of water- and sanitation-related official development assistance that is part of a government coordinated spending plan									
6.b.1	Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management									
Target 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements										
15.1.1	Forest area as a proportion of total land area									
15.1.2	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type									
AIR QUALITY AND QIR EMISSIONS										
Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management										
11.6.1	Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities	11.6.j Private hospitals segregating wastes	%	2014	98	100	Survey	DoH	Occasional	DoH
		11.6.k Municipalities with sewage services	%	2014	45	100	Survey	CBS	Occasional	CBS
11.6.2	Annual mean levels of fine particulate	11.6a		2014	230	115	Field	DoE	occasion	DoE

matter(e.g. PM2.5 and PM10) in cities (population weighted)	Concentration of Total suspended Particulates (TSP) (averaging period 24 hours)					collection		al	
	11.6b Concentration of particulate matter 10 (PM10) (averaging period 24 hours)		2014	120	50	Field collection	DoE	Occasional	DoE
	11.6c Concentration of particulate matter 2.5 (PM10) (averaging period 24 hours)		2014	40	20	Field collection	DoE	Occasional	DoE
	11.6d Concentration of Sulphur dioxide (averaging period 24 hours)		2014	70	70		DoE	Occasional	DoE
	11.6e Concentration of nitrogen oxide (averaging period 24 hours)		2014	80	71		DoE	Occasional	DoE
	11.6f Concentration of carbon monoxide (averaging period 24 hours)		2014	10,000	10,000		DoE	Occasional	DoE
	11.6g		2014	0.5	0.5		DoE	Occasional	DoE

		Concentration of lead (averaging period 24 hours)							al	
		11.6i Concentration of ozone (averaging period 24 hours)		2014	157	120		DoE	Occasional	DoE
ENERGY										
Target 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services										
7.1.1	Proportion of population with access to electricity	7.1a Per capita energy consumption	GL	2014	16	24	Admin records	MoFSC	Annual	MoFSC
		7.1d Proportion of population with access to electricity	%	2014	74	99	Census	CBS	Deceinal	CBS
		7.1e Electricity consumption (kWh per capita)	kWh	2014	80	630	Admin records	WECS	Occasional	WECS
7.1.2	Proportion of population with primary reliance on clean fuels and technology	7.1b Households using solid fuels as the primary source of energy for cooking	%	2014	74.7	10	Census	CBS	Deceinal	CBS
7.2.1	Renewable energy share in the total final energy consumption	7.2a Installed capacity of hydropower	MW	2014	818	10000	Admin records	NEA	Annual	NEA
		7.2b Grid connected to solar PV (MW)	MW	2014	0.1	200	Admin records	NPC	Occasional	NPC
		7.3c Share of	%	2014	11.9	50	Admin	AEPC	Occasion	AEPC

		renewable energy in total energy (final) consumption					records		al	
7.3.1	Energy intensity measured in terms of primary energy and GDP	7.3a Commercial energy use per unit of GDP (ToE/mRs)	ToE/mRs	2014	3.2	3.14	Estimation	NPC	Occasional	NPC
		7.3b Energy intensity per annum	%	2014	0.8	1.6	Estimation	NEA	Annual	NEA
		7.3c Use of efficient lighting systems-CFL (residential and commercial)	%	2014	20	0	Estimation	NEA	Annual	NEA
		7.3d Use of efficient lighting systems-LED (residential and commercial)	%	2014	0.1	100	Estimation	NEA	Annual	NEA
		7.3e Use of higher efficiency applications (residential and commercial)	%	2014	10	100	Estimation	NEA	Annual	NEA
		7.3f Use of higher efficiency thermal and motive power technologies in industry	%	2014	2	30	Estimation	NEA/AEPC	Annual	NEA/AEPC
		7.3g Electric vehicle in public	%	2014	1	100	Estimation	DoT	Annual	DoT

		transportation system								
7.a.1	International financial flows to developing countries in support of clean energy research and development and renewable energy production, including in hybrid systems									
7.b.1	Investments in energy efficiency as a proportion of GDP and the amount of foreign direct investment in financial transfer for infrastructure and technology to sustainable development services									
SUSTAINABLE CONSUMPTION AND PRODUCTION										
Target 12.1: Implement the 10-year framework of Programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries										
12.1.1	Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies	Indicators are yet to be developed								
12.2.1	Material footprint, material footprint per capita, and	12.2a Proportion of total water resources used	%	2014	10	20	Estimation	WECS	Occasional	WECS
		12.2b Per capita timber consumption	m ³ per year	2014	0.11	0.15	Estimation	DoF	Occasional	DoF
		12.2c Use of fossil fuel energy consumption (% of total)	%	2014	12.5	15	Estimation	WB	Occasional	WB
		12.2d Total	%	2014	2276	320	Estimation	DoF	Occasional	DoF

		carbon sink (tonnes) in forest area				0	n		al	
		12.2e Land use for agricultural production (cereal as % of cultivated land)	%	2014	80	90	Estimatio n	MoAD	Occasion al	MoAD
		12.2f Soil organic matter	%	2014	1	4	Estimatio n	MoAD	Occasion al	MoAD
12.2.2	Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP									
Target 12.5: By 2030, substantially reduce waste generation through prevention , reduction, recycling and reuse										
12.5.1	National recycling rate, tons of material recycled	12.5a Recycling of plastics	-	-	-	-	-	-	-	-
		12.5b Reuse of glass and metal products	-	-	-	-	-	-	-	-
Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle										
12.6.1	Number of companies publishing sustainability reports	12.a Large and transnational companies adopting sustainable practices (number)	-	-	-	-	-	-	-	-
Target 12.7: Promote public procurement practices that are sustainable, in accordance with national policies and priorities										

12.7.1	Number of countries implementing sustainable public procurement policies and action plans	Indicators yet to be developed									
Target 12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature											
12.8.1	Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment	12.8a Population covered by awareness campaign (%)	-								
Target 12 A: Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production											
12.a.1	Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies										
Target 12 B: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products											
12.b.1	Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools										
Target 12 C: Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities											
12.c.1	Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels material										

	footprint per GDP									
Target 12.4: By 2020, achieve the environmentally sound management of chemicals and all waste throughout their life cycle, in accordance with agreed international frameworks and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment										
12.4.1	Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement									
12.4.2	Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment									
CHEMICAL AND WASTE										
Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally										
6.3.1	Proportion of wastewater safely treated	6.3a Proportion of untreated domestic waste water (%)	-	-	-	-	-	-	-	-
6.3.2	Proportion of bodies of water with good ambient water quality	6.3b Proportion of untreated industrial waste water	-	-	-	-	-	-	-	-
Target 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with their respective capabilities										
9.4.1	CO2 emission per unit of value added	9.1a Road density	km/sq. km	2014	0.44	5	Admin records	MoPIT	annual	MoPIT
		9.1b Paved road	km/sq.	2014	0.006	0.11	Admin	MoPIT	Annual	MoPIT

		density	km			9	records			
		Industry share in GDP	%	2014	15	25	Estimation	Dol/CBS	occasional	Dol/CBS
		9.1c Tele density	%	2014	88.5	100	Admin records	NTA	annual	NTA
Target 11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage										
11.4.1	Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)	11.4a Budget allocated for the protection of natural and cultural heritage	Million Rs.	2014	1.15	2	Estimation	MoFSC	annual	MoFSC
		11.4b Earthquake damaged cultural and religious heritage to be reconstructed	Number	2014	2900	0	Admin records	NPC	occasional	NPC
CLIMATE CHANGE										
Target 13.2: Integrate climate change measures into national policies, strategies and planning										
13.2.1	Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national									

	adaptation plan, nationally determined contribution, national communication, biennial update report or other)									
Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning										
13.3.1	Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula									
13.3.2	Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions									
Target 13 A: Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible										
13.a.1	Mobilized amount of United States dollars per year between 2020 and 2025 accountable towards the \$100 billion commitment									
Target 13.B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities										

13.b.1	Number of least developed countries and small island developing States that are receiving specialised support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities									
11.b.1	Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030									
11.b.2	Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies									
LAND										
Target 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements										
15.1.1	Forest area as a proportion of total land area	15.1a Total land area covered by dense forest	%	2014	29	35.5	Survey	MoFSC	Occasional	MoFSC
		15.1b Total land area covered by bushes	%	2014	10.6	4.5		MoFSC	Occasional	MoFSC
15.1.2	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas,	15.1c Forests under community-based management as %	%	2014	39	45		MoFSC	Occasional	MoFSC

		of total dense forest								
		15.1d Conservation areas(including forest)	%	2014	23.23	25		MoFSC	occasional	MoFSC
		15.1e Conservation of lakes, wetlands, and ponds	number	2014	1727	5000		MoFSC	Annual	MoFSC
Target 15.2: By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally										
15.2.1	Progress towards sustainable forest management	15.2.a Rate of forest loss and degradation	%	2014	1.9	0.3		MoFSC	occasional	MoFSC
		15.2.c Handover of forests to leasehold forest groups(000hectres)		2014	42.8	43		MoFSC	occasional	MoFSC
		15.2.d Additional plantations(ha per annum)		2017	1200	2400		MoFSC	occasional	MoFSC
		15.2.d Additional plantations(millions seedlings) per annum		2017	24	40		MoFSC	occasional	MoFSC
Target 15.3: By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development										
15.3.1	Proportion of land that is degraded over total land area	15.3a Identifications and management of watersheds	Number of districts	2014	56	77		MoFSC	occasional	MoFSC

		15.3b Conservation of watersheds (number)	Number	2014	3346	500 0		MoFSC	occasional	MoFSC
		15.3c Reclaim flooded and other degraded land (in 000 ha)	000 ha	2014	14.3	45		MoFSC	Occasional	MOFSC
		15.3d Number of watersheds undergone adaptation practices for soil and water stress management	Number	2017	50	400		MoFSC	occasional	MoFSC
		15.3e Conservation of rivulets and river banks through bio-engineering	km	2014	1675	100 00		MoFSC	occasional	MoFSC
Target 15.4: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world										
15.4.1	Coverage by protected areas of important sites for mountain biodiversity	15.4a Potentially dangerous glacial lakes	%	2017	0.3	0		CBS	occasional	CBS
15.4.2	Mountain Green Cover Index	15.4b Mountain ecosystems covered by the protected areas	%	2017	68	70		MoFSC	occasional	MoFSC
Target 15.5: Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and by 2020, protect and prevent the extinction of threatened species										
15.5.1	Red List Index	15.5a Threatened flora (medicinal	%	2014	0.48	0		MoFSC	occasional	MoFSC

		and aromatic)plants								
		15.5b 1Threatened fauna (mammals, birds, reptiles, amphibians, fishes, insects Platyhelminthes, molluscus etc.)	%	2014	0.81	0		CBS	Biannual	CBS
		5.5c Wild tigers	Number	2014	198	250	Tiger census	MoFSC	Occasion al	MoFSC
		15.5d Rhino	Number	2014	645	700	Rhino census	MoFSC	occasion al	MoFSC
		15.5e Blackbucks	Number	2014	300	360		MoF	occasion al	MoF
Target 15.6: Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed										
15.6.1	Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits	15.6a Poaching of rhinos prevented to curb the wildlife trade	Number	2014	0	0	Rhino census	MoFSC	Occasion al	MoFSC
		15.6b Community led anti-poaching units mobilized	Number	2014	-	300	Estimatio n based on wild trade data esp. rhino	MoFSC	Occasion al	MoFSC
Target 15.7: Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products										
15.7.1	Proportion of traded wildlife that was poached or illicitly trafficked									

Target 15.8: By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species										
15.8.1	Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species	15.8a Nationwide surveys and research on research on invasive alien plant species	Number	-	-	-	1-	-	-	-
Target 15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts										
15.9.1	Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020	15.9a Plant (floral) species under conservation plans		2014	3	15		MoFSC	Occasional	MoFSC
		15.9b Animal (faunal) species under conservation plans		2014	5	15		MoFSC	Occasional	MoFSC
Target 15 A: Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems										
15.a.1	Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems									
Target 15 B: Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation										
15.b.1	Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems									

Target 15 C: Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities										
15.c.1	Proportion of traded wildlife that was poached or illicitly trafficked									

Annex 1 (B): Data/ Indicator Available by Data Supplier and Types

Data/Indicator	Data Supplier Agency	Types	Methodology	Frequency of data availability
ECONOMIC ISSUES				
Summary of Macro Economic Indicators of Nepal, 2000/01-2013/14	CBS	Economic	Administrative Record	Annual
Gross Value Added by Industrial Division (at current prices)	CBS	Economic	Administrative Record	Annual
Gross Value Added by Industrial Division (at constant 2000/01 prices)	CBS	Economic	Administrative Record	Annual
Production of Agricultural Commodities	MOAD	Economic	Administrative Record	Annual
Production of Livestock Products	MOAD	Economic	Administrative Record	Annual
Quarterly Manufacturing Production Index	CBS	Economic	Survey	Quarterly
Production of Various Minerals and Quarrying Products	DoMG	Economic/Natural	Administrative Record	Annual
Supply of Forest Products	DoF	Economic/Natural	Administrative Record	Annual
Food Consumption Pattern (NLSS Food Basket Composition)	CBS	Economic	Survey	5 Years
District Wise RETs Installed under Alternative Energy Promotion Centre	AEPC	Economic /Energy	Administrative Record	Annual
Primary Production and Import of Coal in Nepal, 1998/99-2012/13	DoC	Economic /Energy	Administrative Record	Monthly
Consumption of Petroleum Products in Nepal, 2000/01-2012/13	NOC	Economic /Energy	Administrative Record	Monthly
Energy Consumption by Sector, 2001/02-2011/012	WECS	Economic /Energy	Administrative Record	Annual
Energy Consumption by Sector and Type, 2001/02-2012/13	WECS	Economic /Energy	Administrative Record	Annual
Annual Production of Improved Seeds	NSC	Economic	Administrative Record	Annual
Crop Species Registered in Nepal	NARC	Economic	Administrative Record	Annual
Maximum Residual Limits (MRL) of Pesticides in Foodstuffs	Nepal Gazette	Economic/ Air and climate	Studies	Occasional
Small Scale Manufacturing Establishments by Region and Rural-Urban Area	CBS	Economic	Survey	5 years
Manufacturing Establishments by Region and Rural-Urban Area	CBS	Economic	Survey	5 years
Summary of Fish Production in Nepal, 2012/13	DoFD	Economic	Survey	Occasional
Environment Protection Expenditure of	CBS	Economic/	Administrative	Annual

Data/Indicator	Data Supplier Agency	Types	Methodology	Frequency of data availability
Nepal		cost	records	
SOCIAL/DEMOGRAPHIC ISSUES				
Social and Demographic Indicators	CBS/ NPC/ DoHS	Social	Census /Surveys and Adm. Records	Decennial/5 years/annual
Population Distribution and Composition, 1971-2011	CBS	Social	Census	Decennial
Population and Household	CBS	Social	Census	Decennial
Poverty Head Count Rate	CBS	Social	Survey	5 years
Poverty Gap in Rural and Urban, Nepal	CBS	Social	Survey	5 years
Status of Calorie Consumption and Malnutrition	CBS/ DoHS	Social	Survey	5 years
Percentage Distribution of Boys and Girls Enrolled in Different levels of Schools	DoE	Social	Administrative records	Annual
Gross Enrolment Rate (GER) in Different Levels of Schools	DoE	Social	Administrative records	Annual
Net Enrolment Rate (NER) in Different Levels of Schools 2001-2012.	DoE	Social	Administrative records	Annual
Inter-Zonal Life-Time Migrants, Nepal, 1971-2001	CBS	Social	Population Census	Decennial
Inter-Zonal Migrants for Both Sexes, Nepal, 2001	CBS	Social	Population Census	Decennial
Statistics on Crime, Corruption, Traffic Accidents in Nepal, 2001/02-2012/13	CIAA	Social	Administrative Records	Annual
Number of Hard Drug Users by Sex, Nepal, 2012	CBS	Social	Survey	Occasional
Number of Environment Related NGOs and INGOs Affiliated with Social Welfare Council	SWC	Social	Administrative records	Annual
Percentage distribution of labour underutilization (15 years and older)	CBS	Social	Survey	Annual
Current activity status of persons aged 15 years and older	CBS	Social	Survey	Annual
Nominal household mean consumption with distribution by categories	CBS	Social	Survey	Annual
Nominal per capita consumption by decile	CBS	Social	Survey	Annual
AIR/ CLIMATE				
Annual Mean Temperature by Stations	DHM	Climate	Administrative Record	Annual
Precipitation by District and Station	DHM	Climate	Administrative Record	Annual
Annual Rainfall by Station	DHM	Climate	Administrative Record	Annual
Average Sunshine Duration by Station	DHM	Climate	Administrative Record	Annual

Data/Indicator	Data Supplier Agency	Types	Methodology	Frequency of data availability
Average Wind Speed by Station	DHM	Air	Administrative Record	Annual
Air Quality Data Sheet Monitoring Parameter : (13th Feb 2014 - 14 Mar 2014)	DoEnv	Air	Administrative Records	Annual
Noise Level at Different Areas	NHRC/WHO	Air	Research/Study	Occasional
Average Indoor Radon Concentration (CRn) and annual effective dose in the Dwellings of Kathmandu Valley	NAST	Air	Research/Study	Occasional
PM10, TSP, SO2, NO2, Co and pb Measurements	NHRC/ NESS	Air	Research/Study	Occasional
Ozone Depleting Substance (ODS) Protection Status-Montreal Protocol, 1987	Nepal Gazette	Air	Administrative Record	Occasional
Physiographic and Bioclimatic Zones of Nepal	MOFSC	Climate	Administrative Record	Occasional
National Ambient Air Quality Standards for Nepal, 2012	MOPE	Air	Administrative Record	Annual
Average Rainfall and Temperature by Altitude	DHM	Climate	Administrative Record	Annual
National Indoor Air Quality Standard, 2009	MOPE	Air	Administrative Record	Annual
Standard on Emission for Industrial Boiler	MOPE	Air	Administrative Records	Occasional
Standard on Emission for Dust Particles in Air	MOPE	Air	Administrative Record	Occasional
Standard on Emission of Smoke in Air by New Diesel Generator (Import)	MOPE	Air	Administrative Records	Occasional
WHO Guideline Value on Air Quality	WHO	No data		
Ranges of Emission Reductions Required for Various Stabilization Level (Bali Declaration)	IPCC	No data		
LAND and SOIL				
Land use Pattern by Type, Nepal, 1978/79-2001	DFRS	Land	Survey	Occasional
Population - Land Ratio and Population Density by District , 2011	PHC and NSCA	Land	Census	Decennial
Land use, Nepal, 1961/62 - 2011/12	PHC and NSCA	Land	Census	Decennial
Land Use Pattern by District	NSCA	Land	Census and Surveys	Occasional
Change in Forest Covered Area in Tarai Districts (Excluding Protected Areas)	DoF	Land use	Surveys	Occasional
Estimated coverage by different types of wetlands in Nepal 64	DoF	Land use	Administrative Record	Occasional
Sediment Yield in Large Watersheds	WECS	Land use	Research/Study	Occasional
Sediment Yield in Small Watersheds	WECS	Land use	Research/Study	Occasional
Affected Land Area from Erosion	DoFRS	Soil	Research/Study	Occasional

Data/Indicator	Data Supplier Agency	Types	Methodology	Frequency of data availability
Estimated Soil Erosion Rate at Selected Sites in Nepal	DoFRS	Soil	Research/Study	Occasional
Area of Land made uncultivable due to flooding /Soil Erosion by Ecological Belt and Development Region, Nepal, 2011/12	NSCA, CBS	Soil	Agriculture Census	Decennial
Type and Color of Soil by Area of Holdings and by Development Region, Nepal, 2001/02	NSCA	Soil	Agriculture Census	Decennial
Livestock and Poultry Population in Arid and Semi-Arid Land	MOAD	Livestock	Survey	Annual
Number of Livestock by Type in Nepal,1981/82-2011/12	CBS	Livestock	Agriculture Censuses	Decennial
Area of Land made uncultivable due to flooding /Soil Erosion by Ecological Belt and Development Region, Nepal, 2001/02	NSCA	Land	Agriculture Censuses	Decennial
Irrigated Land by source of Irrigation, 2011/12	NSCA	Land	Agriculture Censuses	Decennial
Area under Permanent Crops	NSCA	Land	Agriculture Censuses	Decennial
Area Under Selected Temporary Crops	NSCA	Land	Agriculture Censuses	Decennial
List of Banned Pesticides in Nepal	PRMS	Chemical	Administrative record	
Classification of registered pesticides (WHO, 2004)	PRMS	Chemical	Administrative record	
Pesticides Registered in Nepal	Nepal Gazette, PRMS	Chemical	Administrative record	
Chemical Fertilizer Use in Nepal,1990/00 to 2012/13	MOAD	Chemical	Trade statistics	Annual
Pesticide Imported and Formulated in Nepal, 2006-2012	PRMS	Chemical	Administrative record	Annual
Farm population 1991/92 - 2011/12	CBS		Census	Decennial
WATER				
Supply of Drinking Water by Agency	DWSS/KUKL	Water	Administrative Record	Annual
Mineral Contaminants of Drinking Water, 2009/10 77	DoFTQC	Water	Research/Study	Occasional
Ground Water Quality of (Shallow Tube) Aquifers in the East Tarai, 2003 78	EPHO	Water	Research/Study	Occasional
Percentage Distribution of Households using Main Sources of Drinking Water, Nepal, 2011	CBS		Census	Decennial
Percentage Distribution of Households by Toilet Facility, Nepal, 2011	CBS		Census	Decennial
Summary of Known Arsenic Occurrence	DWSS	Water	Research/Study	Occasional

Data/Indicator	Data Supplier Agency	Types	Methodology	Frequency of data availability
in Tarai Districts, FY 2010/11				
River Water Runoff from Nepal	WECS	Water	Research/Study	Occasional
Deep Aquifer Depletion in Selected Locations During Dry Season of Kathmandu Valley	CEM	Water	Research/Study	Occasional
Glaciers and Catchments Areas having Meteorological and Hydrological Stations	ICIMOD	Water	Research/Study	Occasional
Famous Glacial Lakes in Himalaya	ICIMOD	Water	Research/Study	Occasional
Glaciers, Glacial Lakes and Major River Basins	ICIMOD	Water	Research/Study	Occasional
Water Quality of Different Water Sources in the Kathmandu Valley, 2005	WHO	No data		
Water Quality of Major Rivers During Dry Season, 1998	DHM	Water	Study	Occasional
Nepal's Drinking Water Quality Standards	Nepal Gazette	Water	No data	Occasional
Tolerance Limits for Different Industrial Effluents Discharged into Inland Surface Water	Nepal Gazette	Water	No data	Occasional
Generic Standard /Tolerance Limits for Different Industrial Effluents Discharged into Inland Surface Water 84	Nepal Gazette	Water	No data	Occasional
Nepal Water Quality Guidelines for Irrigation Water	Nepal Gazette DoIr	Water	No data	Occasional
Nepal Water Quality Guidelines for Aquaculture	Nepal Gazette DOIr	Water	No data	Occasional
Nepal Water Quality Guidelines for Livestock Watering	Nepal Gazette DOIr	Water	No data	Occasional
Nepal Water Quality Guidelines for Recreation	Nepal Gazette DOIr	Water	No data	Occasional
Nepal Water Quality Guidelines for Industries	Nepal Gazette DOI	Water	No data	Occasional
Nepal Water Quality Guidelines for the Protection of Aquatic Ecosystem	Nepal Gazette DOI	Water	No data	Occasional
Number of Lakes in Districts by various heights in Nepal, 2009	NLCDC	Water	Survey	Occasional
Potentially Dangerous Glacial Lakes in Nepal	MOPE- NAPA	Water	Survey	Occasional
OTHER NATURAL RESOURCES				
Numbers of Threatened Species by Major Groups of Organisms on the Red List, 1996- 2013	IUCN	Natural Resources	Research/ Study	Occasional
Change in numbers of species in the threatened categories for the major taxonomic groups on the Red list ,1996-2013 98	IUCN	Natural Resources	Research/ Study	Annual

Data/Indicator	Data Supplier Agency	Types	Methodology	Frequency of data availability
Ecosystems and Protected Areas in Nepal	DFRS	Natural Resources	Research/ Study	Occasional
Number of Plant and Animal Species in Nepal	DNPWC	Natural Resources	Research/ Study	Occasional
Number of Wildlife Species in Nepal	DNPWC	Natural Resources	Research/ Study	Occasional
Number of Cultivated and Wild Food Plant Species	MOFSC	Natural Resources	Research/ Study	Occasional
Distribution of community forests among the physiographic zones (as of June 2013) 100	MOFSC	Natural Resources	Research/ Study	Occasional
Changes in status of community forestry in between 2008 and 2013	MOFSC	Natural Resources	Research/ Study	Occasional
Vegetation Area by Type and Household Involvement in Community Forest of Nepal, 2011	MOFSC	Natural Resources	Research/ Study	Occasional
Endemic Fishes of Nepal, 2011	DoFD		Research/ Study	Occasional
Number and Status of Nepal's Fauna	ICIMOD/ DoFSC	Natural Resources	Studies	Occasional
Threatened Medicinal and Aromatic plants in Nepal 102	DoPR	Natural Resources	Research/ Study	Occasional
Threatened Species in the SAARC Member Countries (Taxonomic Group),	IUCN	Natural Resources	Research/ Study	Occasional
Protected Floral Species in Nepal	DoPR	Natural Resources	Research/ Study	Occasional
Protected Faunal Species included in the National Parks and Wildlife Conservation Act,1973	DNPWC	Natural Resources	Research/ Study	Occasional
National Parks, Wildlife Reserves and Conservation Area of Nepal	DNPWC	Natural Resources	Research/ Study	Occasional
Number of Districts and VDCs with Buffer Zone of Nepal	DNPWC	Natural Resources	Research/ Study	Occasional
Ramsar Site of Nepal	DNPWC	Natural Resources	Research/ Study	Occasional
World Heritage Sites of Nepal	DoA	Heritage		
Major Mountain Peaks of Nepal	MOCTCA	Natural Resources	Survey	Occasional
Animals in Central Zoo (SadarChidiyaKhana) of Nepal	Central Zoo	Natural Resources	Administrative Record	Annual
Major Botanical Garden of Nepal	DoPR	Natural Resources	Administrative Record	Occasional
Mineral Resources of Nepal	DoMG	Natural Resources	Research/Study	Occasional
Mineral Resources of Nepal	DoMG	Natural Resources	Research/Study	Occasional
WASTE				
Solid Waste Generation and Disposal Cost by Municipalities	CBS/ Municipalities	Waste	Survey	Annual

Data/Indicator	Data Supplier Agency	Types	Methodology	Frequency of data availability
Solid Waste Generation and Disposal Cost by Districts Headquarter of VDC	CBS/ DDCs	Waste	Survey	Annual
Daily Solid Waste Generation in Kathmandu Metropolitan City	KMC	Waste	Survey	Annual
Daily Average Solid Waste Generation in Municipalities of Kathmandu Valley by type of Waste	Related municipalities	Waste	Survey	Annual
Amount of Date Expired (Obsolete) Pesticides in Nepal	PRMS	Climate	Administrative Record	Occasional
Urban Sewerage Services by Municipality, 2013	MOFALD	Waste	Administrative Record	Occasional
Estimation of waste generation, based on waste categories	NHRC	Waste	Administrative Record	Occasional
Emission Guidelines for Hospital / Medical / Infectious Waste by Incinerator	WHO	No data		
Segregation of wastes on Private Hospitals	CoPH	Waste	Census	Occasional
Place of Private Hospital Waste Segregation	CoPH	Waste	Census	Occasional
Categories of hospital wastes segregated	CoPH	Waste	Census	Occasional
Final disposal locations/places of hospital waste products	CoPH	Waste	Census	Occasional
Number of Staff for Hospital Waste Product Management 119	CoPH	Waste	Census	Occasional
HUMAN SETTLEMENTS				
Areas and Population by Ecological Belt, Development Region and Place of Residence, Nepal, 2011	CBS	Human settlements	Census	Decennial
Population Size, Growth Rate and Doubling Time, 1911 – 2011	CBS	Human settlements	Census	Decennial
Population Growth Rates by Ecological Belt, Nepal, 1961-2011	CBS	Population	Census	Decennial
Area and Population Density by Ecological Belt & Development Region, Nepal, 1981-2011 124	CBS	Population	Census	Decennial
Households by types of Ownership of House/housing unit in used, Nepal, 2011	CBS	Population	Census	Decennial
Percentage distribution of Households by types of House, Nepal, 1991-2001	CBS	Population	Census	Decennial
Percentage distribution of Households by foundation of house/housing unit, Nepal, 2011	CBS	Population	Census	Decennial
Households by outer wall of house/housing unit, Nepal, 2011.	CBS	Population	Census	Decennial
Percentage Distribution of Households	CBS	Population	Census	Decennial

Data/Indicator	Data Supplier Agency	Types	Methodology	Frequency of data availability
by year of construction of house/housing unit, Nepal, 2011				
Percentage Distribution of Households by roof of house/housing unit Nepal, 2011 127	CBS	Population	Census	Decennial
Percentage Distribution of Households by number of floor of house/housing unit, Nepal, 2011	CBS	Population	Census	Decennial
Households by Type of Lighting facilities, Nepal, 2011	CBS	Population	Census	Decennial
Households by Type of Main Fuel Used for Cooking, Nepal, 2011	CBS	Energy	Census	Decennial
Distribution of House, Household and Average Household size, Nepal, 2011	CBS	Population	Census	Decennial
Percentage Distribution of House having Number of Households Residing in the house, Nepal, 2001	CBS	Population	Census	Decennial
Population, Households and Population Density of District in Nepal, 2011	CBS	Population	Census	Decennial
Area and Urban Population and Density by Municipality, 2011	CBS	Population	Census	Decennial
Distribution of district by size of Population,Nepal,1971-2011	CBS	Population	Census	Decennial
Distribution of Urban (Municipalities) by size of Population,Nepal,1971- 2011	CBS	Population	Census	Decennial
Number of Vehicles Registered, 1989/90 - 2012/13	DoTM	Vehicle	Administrative Records	Annual
Total Strategic Road Network (SRN) Length Influenced Population of District in Nepal, 2011	CBS, DoR	Road	Census/ Administrative records	Decennial
Number of Refugees in Nepal	MoHA	Population	Admin Records	Decennial
Urban Road by Municipality, 2013	MOFALD, CBS	Road	Census/ Administrative records	Decennial
Nepal National Building Code, 2003	DoHUD	No data		
DISASTERS				
Earthquake by Epicentre and Magnitude, 2008-2013	DoMG	Earthquake	Administrative Record	
Loss of Lives, Livestock and Other Effects by Type of Disaster,1983-2010	MoHA	Disaster	Administrative Record	Annual
MOST lethal disaster types and their impacts in Nepal(1971-2012)	MoHA	Disaster	Administrative Record	Annual
Human casualties due to major disasters in Nepal, 1983-2013	MoHA	Disaster	Administrative Record	Annual
Annual Livestock Disease Report, 2013	MoLD, VEC	Disease	Administrative Record	Annual
Infection Cases by Disease 147	DoHS	Disease	Administrative Record	Annual

Annex 2 (A): Environment Statistics Self-Assessment Tool Format

Component 1: Environmental Conditions and Quality																						
Statistics and Related Information	Category of Measurement	Potential Aggregations and Scales	Relevance of Statistic at the National Level (High /Medium /Low /Not Relevant/Not Available)	Priority for National Data Collection (High)	Availability of Statistic at the National Level (Identical/Similar/Not Available)	Primary Institution(s) Responsible for Collecting Statistic Check all that apply			Type of Data Source	Requirements or User Requests for Collection/Reporting on this Statistic Check all that apply				Periodicity (Annual/Monthly/Daily/Hourly/Other [specify])	Earliest Year Available	Latest Year Available	Format of Statistic (Publication/Excel/Database/Website/Individual)	Unit of Measurement	Main Reasons Why Statistic is not Available Check all that apply			
						NSO	Ministry of Environment or equivalent	Other (specify)		Sub-	Natio	Regio	Intern						Resource constraints	Methodological/Technical difficulty in data collection	Insufficient quality	Inaccurate
Bold Text - Core Set/Tier 1 Regular Text - Tier 2 Italicized Text - Tier 3																						
Sub-component 1.1: Physical Conditions																						
Topic 1.1.1: Atmosphere, climate and weather																						
a. Temperature	1. Monthly average	Degrees	National Sub-national																			
	2. Minimum monthly average	Degrees																				
	3. Maximum monthly average	Degrees																				
b. Precipitation (also in 2.6.1.a)	1. Annual average	Height	National Sub-national																			
	2. Long-term annual average	Height																				
	3. Monthly average	Height																				
	4. Minimum monthly value	Height																				
	5. Maximum monthly value	Height																				
c. Relative humidity	1. Minimum monthly value	Number	National Sub-national																			
	2. Maximum monthly value	Number																				
d. Pressure	1. Minimum monthly value	Pressure unit	National Sub-national By station																			
	2. Maximum monthly value	Pressure unit																				
e. Wind speed	1. Minimum monthly value	Speed	National Sub-national																			
	2. Maximum monthly value	Speed																				
f. Solar radiation	1. Average daily value	Area, Energy unit	National Sub-national																			
	2. Average monthly value	Area, Energy unit																				
	3. Number of hours of sunshine	Number		National Sub-national By month and per year																		
g. UV radiation	1. Maximum daily value	Area, Energy unit	National Sub-national																			
	2. Average daily value	Area, Energy unit																				
	3. Maximum monthly value	Area, Energy unit																				
	4. Average monthly value	Area, Energy unit																				

Annex 2 (B): Checklist for the discussion and Key Informant Interview:

1. What are the current needs and uses of environment statistics in Nepal?
2. What are the prospects of environment statistics?
3. What are the constraints and gaps ?
4. What could be done for the improvement of environment statistics in Nepal ?

Annex 2(C): Survey Questionnaire

Environment Statistics Self-Assessment Tool (ESSAT)

**In support of the Framework for the Development of Environment Statistics
(FDES 2013)**

- 1. Name and title of person and institution responsible for the completion of the ESSAT**

Name Position Name of the Institution Types of Institution	<ol style="list-style-type: none"> 1. Government 2. Business 3. Academic/ Research 4. INGO/NGO 5. Media and Civil Society 6. Analyst/ Researcher
Email	
Phone	
Website of the Institute	

2. Existing national policies relevant to the environment for your institute.

i. Please list some important specific environmentally-relevant policies or strategies in place, such as on environmental protection/sustainability, Land, Energy, Disaster, sustainable development, green economy/green growth, climate change etc. that are relevant to your agency?

Name of the Policy/ Strategy	Area of Environmental Theme	When it was introduced?

ii. **List the MOST important** Multilateral Environmental Agreements (MEAs), MOUs, Protocols such as on environmental protection/sustainability, Energy, Land, Disaster, sustainable development, green economy/green growth, climate change etc. that are relevant to your agency?

Name of MEA	Ratified date	Reporting obligations		If 'yes' . Frequency of Reporting
		1. yes	2. No	

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iii. Is there a legal mandate to produce/ disseminate / report on environment statistics from your office? What is it? i.e. what does it say?

3. Data Collect by or shared from your institute.

i. List the types of environmental related data available from your institute (E.g., Sustainable Development Goals, Land, Energy, Water, Climate, Emission, Disasters) and how are they published?

Data/Parameter	Publication Name?	Frequency of Reporting or Publication	Hard copy/ soft copy / Both?

ii. Do you have a website or online database platform to share data for other users?

YES – Web link/address:
NO

iii. Is there a Standard Protocol on Data Collection, Quality Control and Sharing that you follow?
Please explain
Yes _____ No _____
If answering yes, describe the protocol that you follow in the space below.

iii. What is the average annual budget available to your office for collection of Environment/Energy/Disaster related data? (e.g can be the budget from last FY for the activities).

Environment management/ protection	
Energy	
Disaster	

4. Environmental Data used by your institute.

i. How environment statistics are used by your institute? (tick all relevant answers), or list as necessary.

To design and assess national policies	Tick	To build environmental and sustainable development indicators	Tick
To develop environmental economic accounts		To compile indicators related to the SDGs and targets	
To prepare project proposals		In research and education	
For climate change adaptation		For climate change mitigation	
To publish national reports			

ii. Are there technical committees, inter-institutional groups or task forces focusing on specific themes/topics of environment statistics in your agency?

iii. What are the main challenges at your institute in collection of Data? Number them in order of their importance for your agency / institute to function well in this regards, if applicable or list.

Manpower		Technical Skills	
Budget		Lack of clear mandate	
Equipment		Other... describe	
Lack of good or clear indicators			

iv. What are the main barriers to collaboration among institutions for the production of environment statistics? (select from the following options)

- Lack of resources for regular meetings (infrastructure, transportation)
- Lack of time
- insufficient visibility of benefits of collaborating
- Not a priority for institutions
- Lack of political will
- Overlapping responsibilities of institutions
- Lack of an organized committee
- Confidentiality of data
- Other(specify)

5. Future Plans of your institute.

i. Are there any on-going or proposed project or proposal to set up or start new or enhance environmental data collection by your office? Please list.

Data/Parameter	Publication Name and Frequency Planned	Source of Funding	Hard copy/ soft copy/website

ii. In which areas are there plans to strengthen and develop environment statistics Programmes, units and/or activities in your institute?

Legal framework(describe)	
Institutional set up(describe)	
Budgetary resources (describe)	
Human resources (describe)	
Technical assistance and training(describe)	
Advocacy(describe)	
Other(describe)	

- iii. What are the MOST important areas where your agency / institute needs technical assistance and capacity building to more effectively develop and use environment statistics? [e.g., water, energy, disasters, natural resources, emissions and concentration of pollutants, environmental surveys, geographic information systems] Specify:

Comments:

Annex 2(D): List of Participants of the National Workshop

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50	Karuna Thapa	LEAD Nepal	-	-

