

Forest, Environment and Climate Change Sectors of Nepal
Achievements, Lessons Learning and Reform Agenda

Exit Report

By

Pem Narayan Kandel, PhD

Secretary

Ministry of Forests and Environment Nepal

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1 Introduction

Ministry of Forests and Environment (MOFE) has extensive mandate and scope comprehends forest, environment and climate change. Forestry sector itself is multi-pronged approach includes conservation and management of forest, watershed, biodiversity, wildlife and plant resources. Environment and climate change are even wider-ranging, complex and cross sectoral.

Although the environment sector is extremely diverse, scopes of sector comprises environmental assessment, air quality, environmental science and sustainable development. Mandates related to energy (except renewable bio energy), water quality, waste management and corporate social responsibilities have been segregated and responsibilities given to other sectors such as local level municipalities, industrial, energy and water resource management sectors.

Anthropogenic climate change has become the principal threat to the living planet and is a common concern of humankind. climate change has already caused and will increasingly cause loss and damage and that, as temperatures rise, impacts from climate and weather extremes, as well as slow onset events, will pose an ever-greater social, economic and environmental risks. Nepal is a negligible contributor to global greenhouse gas (GHG) emissions but impact of climate change is higher. Nepal is highly vulnerable to climate induced disaster risks. Rising temperatures, melting glaciers, and more intense rainfall have increased the climate-related hazards, particularly river flooding, landslides and Glacial Lake Outburst Flood (GLOF).

Ministry has been mandated to formulate climate change mitigation and adaptation related policies, plan and program and coordinate to implement them through three tiers of governments and agencies. Moreover, Ministry has responsibility for representing, communicating and reporting to the UN related Multilateral Environmental Agreements (MEA). It is also important to note that, forests, climate change and environment related stakeholders are in broader spectrum cover local, national, regional and international communities.

After promulgation and implementation of Constitution of Nepal (CoN, 2015), country has transformed into a federal, democratic, republican, inclusive and socialism-oriented state. As part of federalization, state powers, responsibilities, functions, resources and accountability have been transferred to provincial and local level governments to deliver public goods and services. Forest and Environment sectors of Nepal have been aligned with the constitution. The CoN 2015, has clearly stipulated that National and international environment management, national parks, wildlife reserves and wetlands, national forest policies, carbon services are under the federal government and national forest management is under the provinces. Forest organization including divisional forests are under provinces.

The national development vision has been articulated as “prosperous Nepal and happy Nepali”, and the following economic targets have been set: double-digit economic growth; a doubling of per-capita income; and the attainment of developing-country status by 2026 and middle-income-country status by 2030 through the appropriate mobilization of natural and human resources.

1.2 Objectives and Scopes

Key objectives and scopes

- I) To evaluate the achievements of systemic reform carried out on forest, climate change and environment sectors of Nepal during the tenure time period.
- II) To recommend the reform agenda on the basis of changing contexts and lesson learnings for the future course.

1.3 Rationale

I resumed the role of secretary at MoFE since April 22, 2021 to November 29, 2022. At the beginning, a comprehensive study was carried out to understand the situation, issues, priorities and reform agenda. On the basis of identified agenda, the strategic reform plan was prepared within one month. Policy and institutional level reform agenda were prioritized into immediate, medium- and long terms time scales and scopes. After implementing the strategic plan, Nepal's forestry, environment and climate change sectors undergone through reform processes. This paper tries to evaluate the planned achievement made during the 19 months tenure time in the capacity of Secretary. Moreover, on the basis of changing context and learnings, reform agenda have been proposed to move forest, climate change and environment sector forward.

2 Forestry sectors: achievements and reform agenda

2.1 Key Messages

Forestry sector of Nepal has achieved significant progress in forest restoration and biodiversity conservation.

Nepal's forest has been increased in extent and quality due to successful implementation of forestry sector policy, legal instruments, plan and program. The recent land cover Monitoring report (FRTC, 2022) reveals that total forest cover comprises 41.69%. Including 3.57% other wooded land, forest land consists 45.26 % of the country's total land area.

Protected system of Nepal comprises about 24% country's land areas.

Protected areas system network has been established to conserve representative biodiversity, ecosystem and landscapes. As a result, ecosystem has been restored and populations of flagship species such as tiger, one horned rhino, snow leopard and red panda have been increased. Nepal is popular and become learning ground in the world due to successful conservation of its biodiversity.

Despite the forest area increased, active forest management is lacking.

After ending the scientific forest management, active forest management has been stopped. As a result, production of forest products significantly decreased and timber import increased. However, Forest Regulation 2022 has made mandatory to implement silviculture based sustainable forest management. The management system will facilitate to perpetuate forest goods and service to maintain healthy, productive and resilient forests.

The tiger population in Nepal reached 355 individuals nearly triple compared to 2010 baseline.

The latest tiger census report, 2022 unveiled that the tiger population become about triple from 121 numbers during the last 12 years. Expansion of National parks in tiger range, habitat management and setting effective institutional mechanism from people to the prime minister to conserve the tiger are the crucial reasons facilitated to increase the tiger population. The 13 tiger range countries gathered in Sent Petersburg of Russia in 2010 and set target for doubling the tiger numbers up to 2022. Nepal has become the first and only country which met the target.

Human wild life conflict becomes the biggest challenge in conservation.

After increasing the forest covers and wildlife population, human wildlife conflicts become the key threat over the nation. As a result, traditional agriculture system in the mountain and buffer zone of protected area system area is almost collapsed. Trend of Human causality in the Tarai region has significantly increased.

Demands of soil and water conservation increase

Vulnerabilities of mountain landscape have been significantly increased due the impact of climate change and extreme weather. Intensity and frequency of landslides, flood and soil erosion have become larger every year. Thus, demand of soil and water conservation and adaptation resilient is higher. However, issues have not been properly addressed due to lack of comprehensive soil and water conservation policy and organizational arrangement.

Community Forestry (CF) has become the most successful programs

The CF of Nepal has become successful forest management system to the restore of degraded mountain landscape and in enhancing rural livelihoods. The CF is more than forestry program but has established as one of the best rural development models. However, due to backlog of CF operational plan and labor deficit in mountain area, sustainable CF management is lacking.

2.2 Achievements and impacts

Policy and Legal reform

The progressive Forest Regulation 2022 endorsed by the cabinet after 3 year of Forest law ratification.

Forest Regulation (FR), 2022 has given the mandatory direction to carry out Silviculture system based Sustainable Forest management (SFM) in all forest regimes. The regulation has provisions which discourage for the timber import and encourage to enhance the active forest management that finally facilitate to become timber sufficiency and then create environment to export the forest products in long term.

Forest Development Fund (FDF) is another landmark provision of the regulation to collect fund that comes mainly from development project due to using of forest land and forest carbon trade. The regulation has formed a steering committee which is led by the Secretary of MoFE has the responsibility to make policy direction for utilizing FDF as stipulated by regulation. The regulation has made number of reforms particularly in private forest, collaborative Forest management

regime, limestone mining, revenue etc. Thus, FR, 2022 is progressive and visionary captured and addressed the forestry sector issues within the scope of forest law 2019.

Wildlife friendly infrastructure directive 2022 formulated and endorsed from the Cabinet.

The directive is the milestone in the conservation and linear infrastructure development sectors of Nepal. The provisions include construction of overpass, underpass and tunnel while constructing the linear infrastructure such as road and irrigation projects in the protected areas and wildlife movement sensitive area to mitigate the wild life accident. With mitigative measures, the guideline has given permission to develop such infrastructure even in the core part of protected area system. Thus, the directive has become the instrumental in balancing between conservation and infrastructure development.

National land cover monitoring system of Nepal developed and produced land cover maps and statistics from 2000 to 2019.

The National Land Cover Monitoring System (NLCMS) has been developed to provide annual land cover maps by using consistent remote sensing datasets. This is an operational and flexible system to produce land cover map. land cover statistics and land cover change analysis of 2000 and 2019 carried out at the national, province levels and at physiographic regions, and produced the results. These types of information are useful for national and international reporting, strategic planning, research, and development in forestry, climate change and another related sector.

The total forest cover of the country increased to 41.69% (2019) from 39.99% (2000) whereas, cropland decreased 26.31% (2000) to 24.21% (2019). Other wooded land (OWL) slightly increased to 3.62 % (2019) from 3.75% (2000) Snow, bare rock, glacier, riverbed, built-up, water bodies, and bare soil occupy less than 18% of the country in both years.

Famous Phewa lake watershed declared as the first protected watershed of Nepal.

Phewa lake is located in the Pokhara the west part of Nepal. It is famous for having a lot of domestic and international tourists who visit and sail, swim and fish on the lake. The shadow of Annapurna Himalayas range can be seen on the surface of the lake. However, lake area has been encroached and depth of lake is decreasing due to sedimentation. Hence, including the whole watershed (123 km²), Government of Nepal has declared Phewa lake protected watershed.

Declared Godawari Protection Forest to conserve, biodiversity, water and landscape

Godawari located in Lalitpur districts adjoining to Kathmandu is a well-known hiking destination and famous for its biodiversity, wildlife, magnificent nature and botanical garden. As the reasons, MOFE has declared Godawari protection forest under the forest law to conserve glorious mountain landscape.

Besides, following polices and legal instruments are under development.

- I. Plant Resource law 2022 formulated
- II. National watershed strategy 2022 formulated and sent to the cabinet for approval
- III. National standard for Sustainable Forest Management formulated, 2022
- IV. Armed Forest Guard regulation 2022 formulated

- V. Nepal Forest Technician council act 2022 formulated
- VI. Commercial wildlife farming, reproduction and utilization standard 2022 formulated

Organizational reform

After implementation of federalization, forestry sector organizations have been fragmented. Divisional Forest Offices (DFO) devolved in the province. Department of Soil Conservation and Watershed Management which was with its 61-district soil conservation offices collapsed without any appropriate organizational set up. Thus, Ministry has realized to improve existing organizational through its structural reform. The new organizational structure has been prepared and proposal submitted to the Cabinet for taking consent to move process forward.

Forest act of Nepal has clearly stipulated to designate Divisional Forest Offices (DFOs) by Government of Nepal. The DFOs has judiciary right given by the forest act. But due to designated them in the province, but only federal authorities can exercise judiciary right under the CoN, 2015. Thus, Ministry has put forward the process to return back the DFOs under the federal level government and designate them by the Government of Nepal to work under the provinces.

2.3 Priorities and Reform Agenda for Forestry Sector

The national and global policies, socio economic development, demographics, technology and the natural environment are the key drivers influence the role of forests, their goods and services. Thus, forestry sector reform is regular process to adjust the changing context. On the basis of professional knowledges, experiences and lesson learning, following reform agenda have been proposed for the future course.

Policy and legal reform

1. Amendment of Forest Act, 2019 in aligning with federalism and striking balance between conservation and development.
2. Formulating comprehensive Chure (Siwalik) act for sustainable Chure management.
3. Review and update the National Park and Wildlife Conservation Act and regulations.
4. Developing integrated watershed Management Act.
5. Reforming subsequent regulations and procedural policies.
6. Strengthening forest sector governance through institutional and process reforms
7. Prioritizing to revise the operation plan of CF and strategic reform for strengthen community-based forestry.
8. Creating enabling environment to make self-sufficiency in Forest goods
 - a. Enhancing silviculture based sustainable forest management to increase productivity of forest, and forest products.
 - b. Plantation and carbon stock enhancement
9. Mitigating Human- Wild life conflict.
 - a. balancing between conservation and livelihood enhancement
 - b. Develop and implement species and site specific HWC management policy and action plan.
 - c. improve habitats management, and promote wildlife-friendly physical barriers to control wildlife intrusion into human settlements.

10. Tourism promotion in protected area system to increase employment and revenue.
 - a. tourism friendly regulation
 - b. enabling environment for private sector investment
11. Integrated watershed Management to conserve land, water, and livelihood enhancement.
12. Formulate FDP implementation plan to operationalize the fund.

Organizational reform

1. Reinventing the Department Forests and Soil conservation
2. Restructuring the Department of National Parks and Wildlife Conservation, and Department of Plan Resources.
3. Implementing the forest act and regulation, and designating the DFOs by the Government of Nepal to ensure and exercise judiciary right by the DFO for protecting and managing the forests.

3 Climate Change Management

The MoFE, being a focal point of the United Nations Convention on Climate Change (UNFCCC) and a domestically sectoral lead on climate issues has been proactively engaged in addressing the challenges of climate change. Ministry has a dedicated Climate Change Management Division (CCMD), Reduce Emission from Deforestation and Degradation (REDD) Implementation Centre (RIC), and other Ministries and departments mandated for developing necessary regulatory measures and guidance for mainstreaming climate change across the government and agencies.

Since I resumed the role of secretary, climate change mitigation and adaptation related policies and plan formulated and endorsed from government of Nepal. Nepal has raised its climate ambition with strong climate action targets articulated in its Nationally Determined Contributions (NDCs), Long Term Strategy (LTS) for net zero emission, and National Adaptation Plans (NAPs). This report analyses the progress made and presents reform plan required to translate climate ambition into action.

3.1 Key Message

Nepal is an insignificant contributor country to GHG emissions but the most vulnerable to the impact of climate change.

Nepal's climate vulnerabilities emerge from a combination of fragile mountainous topography and ecosystems, highly variable monsoon-driven hydrology, unplanned settlements, and a lack of resilient infrastructure.

According to the Climate Risk Index (Eckstein et al, 2021), Nepal has ranked as the **10th** most affected country in the world. Approximately 80 percent of its population is at risk from natural and climate-induced hazards, including extreme heat stress, flooding, and air pollution (GoN. 2018). Vulnerable communities at the highest risk are: particularly those living in poverty, in remote areas, and working in subsistence agriculture.

With raising high climate ambition, Nepal fulfilled all the timeline requirements of Paris Climate agreement.

Nepal has raised its climate ambition with clear climate action targets articulated in the country's NDC includes ambitious mitigation targets. The NAP includes a comprehensive set of programs until 2050 that aim to boost adaptive capacity and resilience. The LTS further raised ambition by setting a 2045 net-zero mitigation target. The government is moving towards mainstreaming climate change in its planning and budgeting process across government and key thematic sectors

Nepal demonstrated its International leadership in climate COP 26 and COP 27.

Nepal demonstrated its leadership at Glasgow COP 26 and Sharm El Sheikh COP 27. Nepal raised high climate ambition in COP 26 and setting target to reach net zero emission by 2045. In COP 27, Nepal urged to the developed and emerging economic countries for updating their NDC with increasing high climate ambition to reduce the emission gap. Nepal raised issues on the need for a separate financial arrangement for Loss and Damage (L&D), to increase financing for adaptation to meet the global goal, issues of mountain vulnerability and urgency in scaling up locally-led adaptation.

Nepal is known as the pioneer of locally led climate adaptation.

The country has announced to ensure all vulnerable people are protected from impact of climate change by 2030. Nepal has very comprehensive NAP and Local level Adaptation Plan of Action (LAPA). Our climate change policy has clearly devolved climate adaptation and disaster to the provincial and local levels government with ensuring 80% resources that receive from foreign assistance

Nepal is founder of community-based forestry system

Nepal has announced to halt deforestation and maintain forest cover to 45% by 2030. As a result of successful implementation of community forestry policy and program, Nepal's forest restored, almost reversed the deforestation and approaching near to 45% forest cover.

Nepal is leading the mountain agenda

Nepal is located in the centre of Hindu Kush Himalayas known as the capital of mountain having 8 out of 14 highest peaks include Mount Everest the highest summit of the earth. With abundant water, forest and biodiversity resources, Nepal can contribute to sharing clean, green, and nature-based climate solutions in the region. In the discourse of global climate change and sustainable mountain development, Nepal is leading to highlight the mountain agenda. In COP27, Ministers of mountainous countries agreed to bring and include mountain agenda in Dubai climate COP 28.

Green Resilient and Inclusive Development (GRID) is the development path of Nepal

The GRID integrates climate change and development involves an essential change in managing risk and development (CCDR, 2022). The GRID approach endorsed by the government, the World Bank Group, and development partners in 2021. The approach is designed to build resilience to climate and other shocks that are barriers to Nepal's acclimate and development ambitions. The country is identifying investments to scale up, enhancing policy, institutions, and the information base to plan for and implement GRID. It identifies over US\$7 billion over the next three to five

years in existing and potential upcoming development partner funding to complement the domestic budget and private sector investment.

3.2 Strategic Achievements and impacts

Policy reform

The MoFE has made significant progress in developing climate change related national policies, strategies, and plans. All the polices (table 1) required for climate change management are in places. Nepal has created very enable environment to the development partners and climate investors.

Table 1: Policy, plan and strategies developed in climate change sector

1	National Climate Change Policy	2019
2	Second Nationally Determined Contributions	2020
3	National Adaptation Plan (NAP)	2021
4	Long-Term Strategy on NetZero Emissions	2021
5	Climate Finance strategy and Implementation Plan	2022
6	Local Adaptation Plans of Action	2019
7	NDC Implementation Plan	2022
8	Unpacking 80% finance to the local level	2021
6	Vulnerability and Risk Assessment and Identifying Adaptation Options	2021
7	National Framework on Loss and Damage (L&D)	2021
8	Gender and Climate change Strategy and Action Plan	2020
9	Technical Need and Capacity Need Assessment Reports	2021
10	Climate Resilient Planning and Budgeting Guidelines	2021
11	Third National Communications Report	2021

Organization reform

At the federal level, Inter-Ministerial Climate Change Coordination Committee (IMCCCC) and provincial level the Provincial Climate Change Coordination Committee (PCCCC) have been established and are operating to facilitate the functional coordination among government entities.

In addition, including nine sectors, Thematic Working Groups (TWGs) have been constituted and are functioning to assess technical works and develop policy and plan.

In addition, the MoFE has initiated an organization and management survey to determine how the current mandate and organogram can be restructured in accordance with the mandate provided by Nepal's constitution, National Climate Change Policy, Environment, forests Watershed Management related Acts and NAP.

Climate financing increased

Climate change is an integral part of the Government policies and plan. A total of equivalent **USD 107 million** was allocated for climate-relevant activities for the fiscal year 2021 and USD 108 million for 2021/22 respectively. In addition, the ministry played a key role in obtaining international climate financing. The Green Climate Fund (GCF) has approved a grant of 49.2 million dollars to the Alternative Energy Promotion Centre (AEPC) for the purpose of mitigating GHG emissions through contemporary, efficient, and climate-friendly clean cooking solutions (CCS).

Similarly, the government was able to collect \$32.7 million from the International Union for Nature Conservation (IUCN) for Improving Climate Resilience of Vulnerable Communities and Ecosystems in the Gandaki River Basin, Nepal. Moreover, Nepal's government signed a multimillion-dollar agreement with the World Bank's Forest Carbon Partnership Facility (FCPF), which could provide Nepal with up to \$45 million by 2025 to help emissions reduction.

Furthermore, bilateral donors have pledged USD 4.3 billion dollars to promote GRID which includes with climate change component. A USD 30 million road corridor resilient project negotiated with World Bank. The NAMA facility has committed to offer support in the amount of USD 19 million through the GGGI for electric mobility. Nepal now has access to financial resources to assist the repayment of its efforts to ensure the sustainable management of forest resources because of its membership in the Lowering Emission by Accelerating Forest finance (LEAF) coalition. The exact financial amount will be decided by how many tons of Carbon we trade.

3.3 Memberships in international coalitions

Nepal becomes members of nine climate-related coalitions during the period comprises:

- I. Adaptation Action Coalition,
- II. LEAF Coalition,
- III. Forest Partnership Coalition,
- IV. High Ambition Coalition,
- V. Methane pledge
- VI. Adaptation Action Coalition.
- VII. Global Green Growth Institute (GGGI)
- VIII. Climate Clean Air Coalition (CCAC)
- IX. Ambition on Melting Ice: on sea-level rise and mountain water resources (AMI)

3.4 Sharm El Sheikh Climate COP 27

The UN climate Conference of Parties (COP) 27 organized from 6-20 November 2022 in Sharm el-Sheikh, Egypt. Countries came together to act towards achieving the world's collective climate goals as agreed under the Paris Agreement and the subsequent COPs. Climate change has become the key planetary crisis, COP 27 brought together more than 40,000 participants from the globe to discuss and deliver the right direction to handle the climate change issue.

Government of Nepal formed a comprehensive national delegation, honorable Uma Regmi, Minister, Ministry of Women, Children, and Senior Citizens was designated to attend the Summit. After then I was nominated to lead the country's delegation and negotiations. Besides the government officials, indigenous peoples, local communities, civil society, youth and journalists were included in the national delegation team of Nepal.

Nepal participated with global, regional and national agenda

Nepal participated in COP 27 with comprehensive country's position paper formulated by involving wide ranging stakeholders and with ample political commitment endorsed from Environment Protection and Climate Change Management Council (EPCCMC) led by right hon Prime Minister of Nepal. Position paper included climate change mitigation, adaptation resilient, loss and damage, mountain and climate change, climate finance related global, regional and national agenda.

Nepal delivered comprehensive country statement

On behalf of the head of the delegation of Nepal, I delivered the country statement in the high-level segment. The speech stipulated on Nepal's high climate ambition, urged to the developed and economically emerging countries for updating their NDC with significantly reducing the emission. Moreover, Nepal communicated the issues of vulnerable mountain countries like Nepal, emphasize the need of including Mountain agenda in climate COP negotiation processes, highlighted to make separate financial arrangement for loss and damage.

Nepal clearly specified about adaptation resilient is the priority and need additional resource to address the matter. Besides, Nepal raised issue about the need of adequate resources, capacity and technology to translate climate ambition of Nepal to translate into action.

Effective involvement of Nepali delegation in plenaries, negotiations and bilateral meetings

Expert and professional of Nepali delegation involved in many plenaries and, negotiations meetings. Besides, the delegates participated and intervened numbers of sideline meetings comprise, meeting with bilateral and multilateral donors' agencies.

I participated and delivered key note speech on: mountain agenda in ICIMOD Cryosphere Pavilion, Country Climate Change and Development Report and GRID at World Bank Group sideline meeting and Nepal's high climate ambition and experiences on locally led adaptation in UK pavilion. Besides, I moderated the sideline event organized by Global Mountain Partnership on '*Bringing mountains to the forefront by leveraging the International Year of Mountains 2022*'.

I myself and senior officials involved in many Ministerial meetings include methane pledged, loss and damage and mountain partnership made relevant interventions.

Key outcomes of COP 27

The UN Climate Change Conference COP27 successfully closed on November 20 with breakthrough agreements the Sharm El Sheikh Implementation Plan: The significant highlights of the agreements are:

Loss and damage endorsed

Parties took the ground-breaking decision to establish new funding arrangements, as well as a dedicated fund, to assist vulnerable countries in responding to loss and damage. Parties also agreed to establish a ‘transitional committee’ to make recommendations on how to operationalize new funding arrangements and the fund at COP28 next year.

Mitigation

Agreed that 1.5 degrees Celsius temperature target is still alive requires to update NDC with rapid, deep and sustained reduction of GHG emission of 43% by 2030. In the context of a complicated geopolitical environment and interests, COP27 resulted in countries delivering a package decision that reiterated their commitment to limit global temperature rise.

The package reinforced action by countries to cut GHG emissions adapt to the inevitable impacts of climate change, as well as boosting the support of finance, technology and capacity building needed by developing countries.

Adaptation

COP27 manifested substantial progress on adaptation on the Global Goal on Adaptation, which will conclude at COP28.

Climate Finance

New pledges, totalling more than USD 230 billion, were made to the Adaptation Fund but doubling the adaptation finance will be finalized at COP28. The plan highlights that a global transformation to a low-carbon economy is expected to require investments of at least USD 4-6 trillion a year.

Serious concern was expressed that the goal of developed country Parties to mobilize jointly USD 100 billion per year by 2020 has not yet been met, with developed countries urged to meet the goal, and multilateral development banks and international financial institutions called on to mobilize climate finance. At COP27, deliberations continued on setting a ‘new collective quantified goal on climate finance’ in 2024, considering the needs and priorities of developing countries.

Cryosphere and Mountain Issues

In the Sharm El Sheikh Implementation Plan, for the first time, the term ‘cryosphere’ has been mentioned in an operational paragraph along with ‘tipping points’ and this is an important step towards recognizing the impact of climate change on the cryosphere and the urgency for further understanding of these impacts on mountain communities.

A high-level coalition of 18 governments ‘Ambition on Melting Ice: on sea-level rise and mountain water resources (AMI)’ was established at COP27 led by Chile and Iceland. Nepal signed the declaration and became a founding government of AMI to ensure mountain agendas are prioritized at global platforms.

3.4 Priorities and reform Agenda for climate change sector

Mainstreaming and institutionalization the climate change management into all tier of Governments

The climate ambition must be translated into action by three tiers of government. Therefore, climate change management must be mainstreamed and institutionalized into federal, provincial and local levels governments. Functions, functionaries, responsibilities and resources need to be devolved to the line ministries of federal t, provincial and local governments to deliver effectively and efficiently.

Implementing the Climate Finance Strategy and Implementation Plan (CFSIP) to meet climate financing

Nepal needs USD 46 billion by 2030 to implement climate adaptation and mitigation. Given the current trend and scenarios on climate financing sources available, over half of the estimated amount remains as the funding gaps. The CFSIP is in place that can be a guiding framework to handle the climate finance related issues which includes funding sources, strategies of fund access, areas of private sector investment and enhancing institutional capacity for fund mobilization.

Overcoming coordination issues

Climate actions in Nepal need to decentralize from the federal agencies and integrate other governments and sectoral ministries. Functional coordination among all agencies is required. The Ministry of Finance in many cases does a unilateral decision regarding climate financing without any coordination with the sectoral ministries. MoFE is not alone to handle all the climate change related programs need to delegate the functions and resources to the sectoral ministries.

Capacity enhancement to mobilize funds and implement actions

It is important to enhance the capacity of respective governments facilitate to mobilize financial resources and technical support. Climate change management is largely required for mainstreaming across governments with reinventing the climate governance to implement climate actions on the ground.

Making climate change a political agenda:

Climate change is a technical agenda and more focused on the issues discussed among climate professionals, NGOs, INGOs, donors, and a few government agencies. However, this agenda has to be included within the policy of political parties, so that it can become national agenda for the discourse.

Formulating the National Methane action plan

Nepal has signed on “Methane Pledge” in Glasgow climate COP 26 in 2021 and become the member country of Methane pledge. Nepal participated in the Ministerial meeting organized in Sharm el Sheikh climate COP 27 and agreed to formulate and submit National Methane action

plan in Dubai COP 28. Therefore, including agriculture, industry, energy and waste management sectors, MOFE has to form a comprehensive mechanism to work in Methane related agenda.

Taking leadership on mountain issues:

Government of Nepal has been proactive in raising mountain issues and offering mountain solutions to the global communities. Nepal has strongly raised mountain agenda in COP 27 through its National statement. Besides, Nepal is urging global communities to include mountain agenda in the next Dubai climate COP 28. For the purpose, Nepal is coordinating with Global Mountain Partnership alliances and ICIMOD to take mountain agenda forward.

As a member of high-level group, AMI Nepal will actively participate in raising awareness on cryosphere issues and their impacts on mountain communities. The overarching goal of AMI is to bring policy makers, researchers, stakeholders, and civil society together to make informed and evidence-based decisions on cryosphere issues. Nepal, as one of the founding governments of this coalition can take cryosphere and mountain issues forward and generate much-needed momentum to limit global warming to 1.5 degrees Celsius which is crucial for building resilient mountain communities.

Transforming all energy systems into clean energy

Nepal has one of the world's largest hydropower potentiality, with an estimated reliable potential of 42 GW (CCDR, 2022). Nepal's second NDC has estimated that hydro energy production will reach to 15000 MW by 2030. This can enable Nepal to shift low carbon economy and export surplus hydro energy to its higher-emitting neighbors. In this way Nepal can be the regional leader of climate change mitigation. Energy system transition facilitate to reach net zero emission as earlier as possible and reduce trade deficit due to transforming energy system from fossil fuel to domestic hydro energy.

Enhancing sustainable forest management to promote green economy

Sustainable forest management perpetuate forest good and services for ever. Besides, forest management increases the productivity of forests, reverse deforestation and degradation, create green job, income and revenue.

Reinventing climate governance and reforming federal, provincials and local levels organizations.

The National climate change policy of Nepal, NDC and NAP recognize the important role played by multilevel governance in climate policies and the need to engage with line ministries, provinces, local levels and non-state stakeholders in the climate governance. Thus, policies, organizations, plan and programs of respective stakeholders must be aligned with climate change management systems.

Forming a comprehensive negotiation team for the purpose of climate COP

In the leadership of MOFE, an inclusive permanent type of negotiation team has to form for bilateral and multilateral climate COP negotiation processes. Such team must include thematic ministries and outsider experts' team.

4 Environment Sector

The mandate of environment sector has been for improving the environmental quality; designing and enforcing the environment related act, regulation, legislations and standards, creating awareness among people and localizing climate change adaptation and mitigation practices. This is done by monitoring and auditing development projects and industries, writing suggestion for improvement, enforce the environment management plan, penalize the projects, development of climate smart villages and communities' centric workshop and training programs.

Moreover, environment is the macro sector and it covers all aspect of environment. The constitution of Nepal has put the right to live in good environment as the fundamental human right. The Environment Protection Act, 2076 and the Environment Protection Regulation, 2077 are the major legal instruments for the environment management of Nepal.

Ministry has Biodiversity conservation and Environment Division look at policy matters and Environment Impact Assessment (EIA) of development projects. Department of Environment has been established under the Ministry as the executive agency responsible for the pollution control and carry out the periodic audit of the EIA report of the development projects and industries.

Furthermore, Department has authority for the monitoring and evaluation of the environment issues throughout the country. Although the Department has been mandated as the executive organization of Environment sector, organization setting has been limited within the department without any further provincial and local levels wings for environmental monitoring, auditing and law enforcement.

4.1 Achievements and impacts

Policy Reform

1. Government has Banned the Plastic Bags less than 40 micron.
2. Import and use of plastic flowers, decoration materials, plastic bouquet have been banned, which has facilitated to reduce the plastic pollution.
3. Plastic ban Implementation plan approved from cabinet and implemented

Environment Protection and climate change management national council formed

The council has been formed under the chair of Right Hon. Prime Minister. The first meeting of the council organized in October 31 and endorsed the following documents:

1. Nationally Determined Contribution (NDC) implementation plan, 2022
2. Climate Finance strategy and Implementation plan, 2022
3. Climate CoP 27 Position Paper of Nepal

EIA approved and provided Forest Land for the development projects

1. Including the EIA report of Millennium Challenge Cooperation (MCC), total 72 EIA of different development projects approved.
2. More than 873.ha forestland provided to use for the organization and individual to implement hydropower, transmission line, irrigations, road and airport related projects.

Environmental monitoring and auditing Carried out

Onsite monitoring of more than 100 industries and facilitated to improve the environment and control the pollution in industrial sector. Environment Audit carried out on more than 40 EIA reports and provided suggestions to comply the EIA report.

There are 27 Air Quality Monitoring Stations established in different part of the country covering the geographical distribution and the information about the air quality has been displayed in the display board in different 21 station through the country. Real time data of air quality has been provided via the official portal www.pollution.gov.np.

Water Quality Monitoring Station has been established to carry out the regular water quality monitoring of Bagmati River within Kathmandu Valley. Action research carried out on pollution in different environment aspects such as air pollution, water pollution, sound pollution, soil pollution and presence of hazardous chemical in water resources and published on scientific Environment journal.

Priorities and Reform agenda for the sector

Environment is the global issue and the national and local effort only can contribute to improve the local environment condition. It is multi-sectorial aspect as well. In the federal context, there is need of policy and legal reform and restructuring its organization to align with federal context and deliver services demand.

4.2 Reform Agenda

Policy and Legal reform

Amendment of Environment Protection act and regulation.

1. The existing Environment Protection Act and Environment Protection Regulation need be improved with providing concrete role and responsibility for the Department of Environment. It is needed to provide few quasi-judicial authorities to the department of environment penalize the polluters and make people responsible for environment protection.
2. Moreover, the provisions of environment study of development project in the act and regulation become time taking and ineffective. As the reason, cost of development projects is increasing. Thus, EIA processes must be shortened and EIA approval authority need to limit under the bureaucracy.

Formulation of Comprehensive Development Act

1. Many studies and public perceptions show that Nepal's development has been clogged due to multifaceted forest and private lands procurement regulations and time taking inefficient environment studies and EIA approval processes.

2. Thus, Government of Nepal has to formulate a very integrated and comprehensive development act to facilitate the sustainable development processes.

Organizational reform

1. Department of Environment is like island without further organizational set up to handle the enormous environment related issues. Comprehensive organizational set up is demanded by integrating environment, climate change and watershed management to deliver environment protection, climate change management, pollution control, land and water management.
2. Main streaming and institutionalization of Environmental issues in province and local level are intensively essential.

5 Lessons learned

1. Comprehensive and rationally formulated strategic reform plan can be the guiding framework for bringing positive change in the institution.
2. Without determinations of political leadership, governance reform is dubious.
3. After stopping the scientific forest management regime, productivity of forest decreased and timber import is increased.
4. Formation of comprehensive national delegation team in participation of UN climate COP has become effective and successful.
5. Forest, climate change and environment sectors comprises wide range of stakeholders. Participatory policy development processes facilitate to bring stakeholders on board.
6. Biodiversity conservation and protected areas management must be linked with livelihood promotion for achieving sustainable conservation goal.

Acknowledgement

I am indebted to the Government of Nepal for providing opportunity to serve as the secretary under the MoFE. My sincere gratitude goes to the Chief Secretary Mr. Shanker Das Bairagi for facilitating to endorse all those policies and legal instruments from the Cabinet of Nepal. Due to your guidance and inspiration, Ministry has made remarkable achievements on forestry, climate change and environment sectors of Nepal. I am thankful to the fellow secretaries of line ministries for your professional supports.

Much grateful to the International development partners, our collaboration became more strengthened to achieve the common objectives. I am also thankful to all the honorable Ministers for forest and environment designated during this time period. Last but not the least, I am much thankful with my team of the Ministry for the support.

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Annex 1: Important global meetings

Sixth global mountain partnership meeting, Colorado, Aspen

Sixth Mountain Partnership Global Meeting organized from 26-29 September, 2022 in USA at Aspen of Colorado. Objectives of the meeting were to celebrate the 20th anniversary of the mountain partnership, mark the International Year Mountain (IYM) 2022 and provide future pathway for Sustainable Mountain Development (SMD).

Nepal's participation and interventions

Nepalese delegates comprise 16 members included, Government officials, INGOs, NGOs and private sector who have been working on Mountain agenda. As the head of delegation, I delivered the country's statement in the plenary and highlighted to strengthen mountain partnership initiatives. Nepal as the capital of mountain its role in celebrating IYM 2022 and reflected on urgent need for action to achieve "a Sustainable Mountain Development.

Nepal nominated vice chair and steering committee member

Nepal's role on Mountain agenda has been crucial in Hindu Kush Himalaya region and even beyond; members Nations recognized that Nepal is the capital of mountain. Nepal has been documented the first country in launching International Year of Sustainable Mountain Development, 2022 and Mustang Declaration of Sustainable Mountain solutions included many

points in the Aspen Declaration. As a result, Members Nations nominated Nepal as the Vice chair and steering committee member of the Mountain Partnership forum.

US visit

An official visit carried out in United States of America from 28 March to 3rd April 2022. I led the higher-level Nepali **delegation**. The objectives of the mission and achievements made are presented below.

Objectives and achievements

Contributed on behalf Government of Nepal on UN organized Stockholm +50 LDC engagement strategy Preparation meeting. Official meetings organized with high level officials of U.S Department of State and USAID headquarter, shared on conservation efforts of Nepal, highlighted Nepal's high climate ambition. The meeting guided to explore the area of future collaboration particularly, in implementation of Millennium Challenge Cooperation (MCC), biodiversity conservation, climate change mitigation and adaptation. MoU Signed among DNPWC Nepal, NTNC Nepal and KTK-BELT USA to work on protected area management, biodiversity conservation, livelihood, human-wildlife conservation.

Stockholm+50, Sweden

The international meeting entitled “Stockholm+50: a healthy planet for the prosperity of all – our responsibility, our opportunity” was held in Stockholm on 2 and 3 June 2022. I led the Nepal's high-level delegation.

During that period, four plenary meetings and three leadership dialogues were held. At the opening segment of the international meeting, a commemorative moment dedicated to the United Nations Conference on the Human Environment, held in Stockholm from 5 to 16 June 1972, was observed, in which His Majesty King Carl XVI Gustaf of Sweden participated.

Nepal's participation interventions

On behalf of the country, I delivered the country's speech. Highlighting global planetary crisis and National issues on Human and Environment, Nepal reflected on urgent need for action to achieve “a healthy planet and prosperity of all”.

MOU between MOFE and The Swedish Energy Agency (SEA)

A MOU ceremony organized by SEA. Myself and Director General Robert Andrén signed the MOU on behalf of respective Governments with objective to implement of Article 6 of the Paris Agreement and identify key processes and elements that may inform the bilateral negotiations of a legally binding framework agreement to facilitate transactions under Article 6 of the Paris Agreement between the Parties.

The 15th world forestry congress

The fifteenth Congress was hosted by the Government of the Republic of Korea, in Seoul, from 2 to 6 May 2022 on theme “Building a Green, Healthy and Resilient Future with Forests. I led the Nepali delegation and delivered country statements. At the world's largest gathering on forests stakeholders the participants endorsed the Seoul Forest Declaration to convey the urgent need for

action to achieve a green, healthy and resilient future with forests. The Congress also heard the Youth Call for Action and the Ministerial Call on Sustainable Wood.

Glasgow climate COP 26

The Nepalese government enhanced its visibility and presence during the 26th Conference of Parties (COP) in Glasgow, United Kingdom. The Nepali delegation was led by the Right Honorable Prime Minister delivered ground breaking speech in the leader summit.

Outcomes of COP 26

Member Nations adopted the Glasgow Climate Pact, aiming to turn the 2020s into a decade of climate action and support. The package of decisions consists of a range of agreed items, including strengthened efforts to build resilience to climate change, to limit GHG emissions and to provide the necessary finance.

Nations reiterated their duty to fulfill the pledge of providing USD 100 billion annually from developed to developing countries. And they collectively agreed to work to reduce the gap between existing emission reduction plans and what is required to reduce emissions, so that the rise in the global average temperature can be limited to 1.5 degrees.

For the first time, nations are called upon to phase down undiminished coal power and inefficient subsidies for fossil fuels. As part of the package of decisions, nations also completed the Paris Agreement's rulebook as it relates to market mechanisms and non-market approaches and the transparent reporting of climate actions and support provided or received, including for loss and damage.

Annex 2: National meetings

International Year of Sustainable Mountain Development 2022

International Year of Sustainable Mountain Development (IYSMD) 2022 provides Nepal a huge opportunity to raise the awareness of global community on Sustainable Mountain Development Agenda. Nepal celebrated IYSMD with organizing following events throughout the year:

1. Regional Advocacy summit on sustainable mountain development inaugurated (March 23-24, 2022) by Right honorable Prime Minister of Nepal. Nepal became the first country in celebration of IYSMD.
2. Interaction workshop with parliamentarian on sustainable mountain solutions, inaugurated by Right honorable speaker house of representative of Nepal.
3. Interaction meeting with meet the ambassadors on sustainable mountain solution.
4. Mustang Mountain Advocacy Summit (September 20-21, 2022) inaugurated by Right honorable Prime Minister of Nepal. Mustang declaration endorsed for sustainable mountain solutions.

International tiger day

International Tiger Day celebrated in July 29 and chair of National Tiger Conservation Committee Right Honorable Prime Minister Sher Bahadur Deuba and launched the tiger census report. The

report revealed that Nepal's tiger population increased to 355 individuals. As a result, Nepal become the first country among the tiger range country in doubling the tiger.

[Elephant conference](#)

[National community forestry workshop](#)