

Mainstreaming the Conservation and Sustainable Use of Wetlands and their Resources into Key National Planning Processes in Nepal



Cover Photo: *Ghodaghodi Lake* @CSUWN/MFSC.

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Wetlands are cross-cutting sectors and we are very positive that this study will be helpful in internalizing gaps in addressing the issues relating to wetlands and provide a basis to mainstream the values with regard to wetlands conservation in formulating national policy and planning processes in Nepal.

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ABBREVIATION

m	meter
Ha	Hectare
BCN	Bird Conservation Nepal
CAPA	Community Adaptation Plan of Action
CBD	UN Convention on Biological Diversity
CBOs	Community Based Organizations
CCA	Climate Change Adaptation
CEPA	Communication Education Participation and Awareness
CO ₂	Carbon Dioxide
COP	Conference of the Parties
CODEFUND	Conservation Development Foundation
CSOs	Civil Society Organizations
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction and Management
DNPWC	Department of National Parks and Wildlife Conservation
DSCWM	Departments of Soil Conservation and Watershed Management
DOF	Department of Forests
EbA	Ecosystem based Adaptation
EFLG	Environment Friendly Local Governance
FAQs	Frequently Asked Questions
GLOFs	Glacial Lake Outburst Floods
HFA	Hyogo Framework for Action
IBA	Important Bird Areas
ICIMOD	International Centre for Integrated Mountain Development

IUCN	International Union for Conservation of Nature
KU	Kathmandu University
LAPA	Local Adaptation Plan of Action
LDCs	Least Developed Countries
LDCRP	Local Disaster and Climate Resilience Plan
MDGs	Millennium Development Goals
MoFSC	Ministry of Forests and Soil Conservation
MoPE	Ministry of Population and Environment
MEAs	Multilateral Environmental Agreements
NAPA	National Adaptation Programmes of Action
NBCC	National Biodiversity Coordination Committee
NBSAP	National Biodiversity Strategy and Action Plan
NDC	Nationally Determined Contribution
NLCDC	National Lake Conservation and Development Committee
NPC	National Planning Commission
NRREP	National Rural & Renewable Energy Programme
NTNC	National Trust for Nature Conservation
OUV	Outstanding Universal Value
PA	Protected Areas
REDD	Reducing Emission from Deforestation and Forest Degradation
RIS	Ramsar Information Sheet
SDGs	Sustainable Development Goals
SF	Sendai Framework
TU	Tribhuvan University
UNEP	United Nations Environment Programme

UNFCCC	United Nations Framework Convention on Climate Change
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WCA	Wetland Conservation Act
WWD	World Wetland Day
WWF	World Wildlife Fund
ZSL	Zoological Society of London

EXECUTIVE SUMMARY

The current report on “Mainstreaming the Conservation and Sustainable Use of Wetlands and their resources into key National Planning Processes in Nepal” is the culmination of various steps undertaken at the central level emanating from the review of various sectoral Policies, Acts, Regulations, Guidelines and Multilateral Agreements.

A National Level Consultative Stakeholders Workshop was conducted to solicit feedback and inputs on contemporary issues related to wetlands and charting future course of actions for future. The consultative meeting also discussed in detail about the (ongoing) formulation of the Ramsar Strategic Plan (2016-2024) for Nepal, which would become a guiding document in the changed political context. As the country has adopted a federal structure, there will be opportunities to integrate the issues and concerns pertaining to wetlands while formulating regulatory frameworks at central, provincial and local levels. Likewise, it is equally urgent to harmonize multilateral agreements into national policies and plans so as to bring the wetlands agenda to the center stage so that they receive adequate attention in the long run.

The report provides a basis for the integration of wetlands issues and concerns at the policy, institutional and operational levels with specific timelines for their implementation.

We hope that this report will be useful for the Government of Nepal in shaping future course of actions for mainstreaming conservation and sustainable use of wetlands in the context of Nepal.

1. Background

Nepal's unique geography with remarkable changes in elevation from its lowland floodplains to mid-hills to snowcapped mountains and associated variation in eco-climatic conditions has endowed the country with a unique and rich biodiversity. In addition, the country's location, lying as it does between two major bio-geographic regions – the tropical Indomalaya ecozone and temperate Palearctic ecozone - has made Nepal a place that harbors species originating from both the regions. Despite being a small landlocked country, Nepal shares about 0.4% freshwater out of 3.5% freshwater available around the globe¹. More than 6000 rivers, springs, small to medium sized lakes, ponds and reservoirs, glacial lakes, marshes, marginal swamps and irrigated paddy fields, spatially distributed across the country denotes wetlands of Nepal. Altogether, it covers about 5.6% of the country's land (NBSAP, 2014). Though Nepal is a landlocked country, these inland wetlands constitute an important ecosystem that harbors large number of species and provide various services to local communities. The four major river systems namely Koshi, Gandaki, Karnali and Mahakali, originate from the high mountain region and their tributaries provide a wide range of wetland services.

Wetlands are the most productive ecosystem which provides day to day essential goods and services to local people. The goods and services produced by the wetlands include provisional goods that support cultural and regulating services as categorized by Millennium Ecosystem Assessment (MEA)² in 2005 (Figure 1). It provides drinking water to local communities, water for irrigation to farmers and supports the livelihoods of poor and marginalized local people with its aquatic biodiversity i.e., fish. Wetlands are also the most attractive destination to both domestic and foreign tourists and are biodiversity hotspots for faunal and floral diversity. Wetlands are critical ecosystems that not only provide a basis of life for vegetation, wildlife, fishery and agriculture but are also an important source for the production of energy. Furthermore, they act as natural buffer to prevent and regulate hazards like floods, nutrient retention and serve as a carbon sink. In many instances, wetlands are also regarded as the kidney of the earth as they filter water contaminants and supply fresh water. Besides, they often have cultural, religious and historical values, as apart from being excellent sites for tourism from which countries such as Nepal can generate significant revenue.

¹ Food and Agriculture Organization, AQUASTAT data. (<https://data.worldbank.org/indicator/ER.H2O.INTR.K3>)

² Wetlands are globally known to provide ecosystem services such as PROVISIONAL (food, freshwater, fiber, fuel wood, biochemical and genetic materials); REGULATING (climate, hydrology, water purification, waste treatment, erosion and natural hazard, pollination); CULTURAL (spiritual and inspirational, recreational, aesthetic, educational); and SUPPORTING (soil formation, nutrient cycling) (MEA 2005)

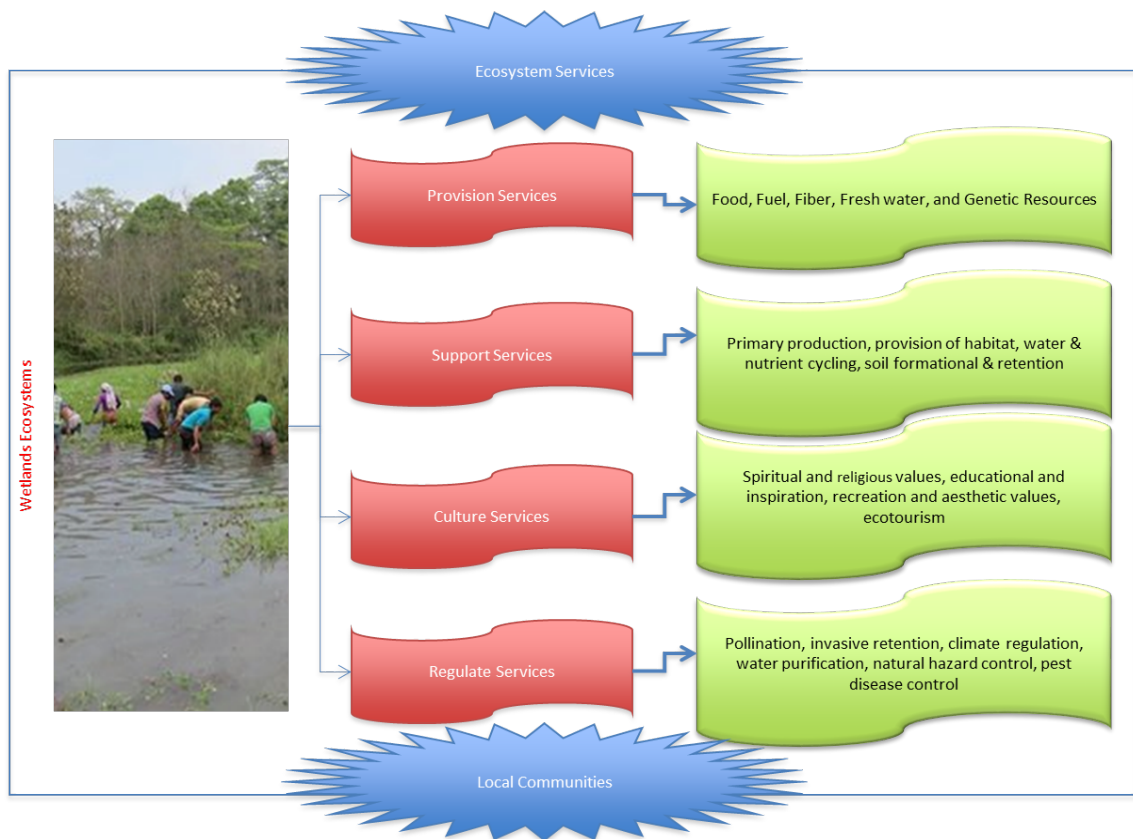


Figure 1: Wetland and its services

Despite such benefits, wetlands are often considered as free good and their conservation is neglected. In Nepal’s case, majority of its population live in rural areas and are mostly poor and marginalized. The communities living near wetlands are directly dependent on its services and as demographic pressure increases, more wetland services are harvested. Due to lack of awareness on sustainable harvesting practices, wetlands are being degraded gradually and are incapable of generating services naturally.

Unsustainably over harvesting of fish, hunting and trapping of birds and other wildlife has become the major threat to wetland biodiversity. Moreover, water pollution from domestic as well as mixture of industrial effluent in water bodies, mostly in urban areas, has led to intrusion of invasive alien species and eutrophication. On the other hand, settlement and infrastructure development, diversion and abstraction of water for irrigation, widespread mining of gravel from stream and river beds, together with the channeling and damming of rivers have caused siltation and sedimentation. There are also other potential threats to wetland which needs to be addressed in order to conserve wetland and its services.

Globally, the industrialization period of 1950s gave rise to threats to natural resources. Effluent discharge from rapidly growing industries heavily impacted aquatic ecosystem. Rapid environmental degradation and loss of biodiversity demanded for collective action and thus, a meeting was held in the city of Ramsar in the I.R. Iran in 1971, which adopted the text of an international convention that is now commonly called the Ramsar Convention on Wetlands. This intergovernmental treaty provided the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. Nepal, being a Contracting Party to the Convention since 17th December 1987, has the responsibility to conserve and ensure the wise (sustainable) use of wetland ecosystem in every possible way. As of January 2018, 10 priority wetlands in Nepal (Figure 2) have been listed as the Wetlands of International Importance (also called ‘Ramsar Sites’). Out of the 10 Ramsar Listed wetlands in the country, four are located in the high altitude areas, four are located in the lowlands, while the remaining two are located in the mid-hills.

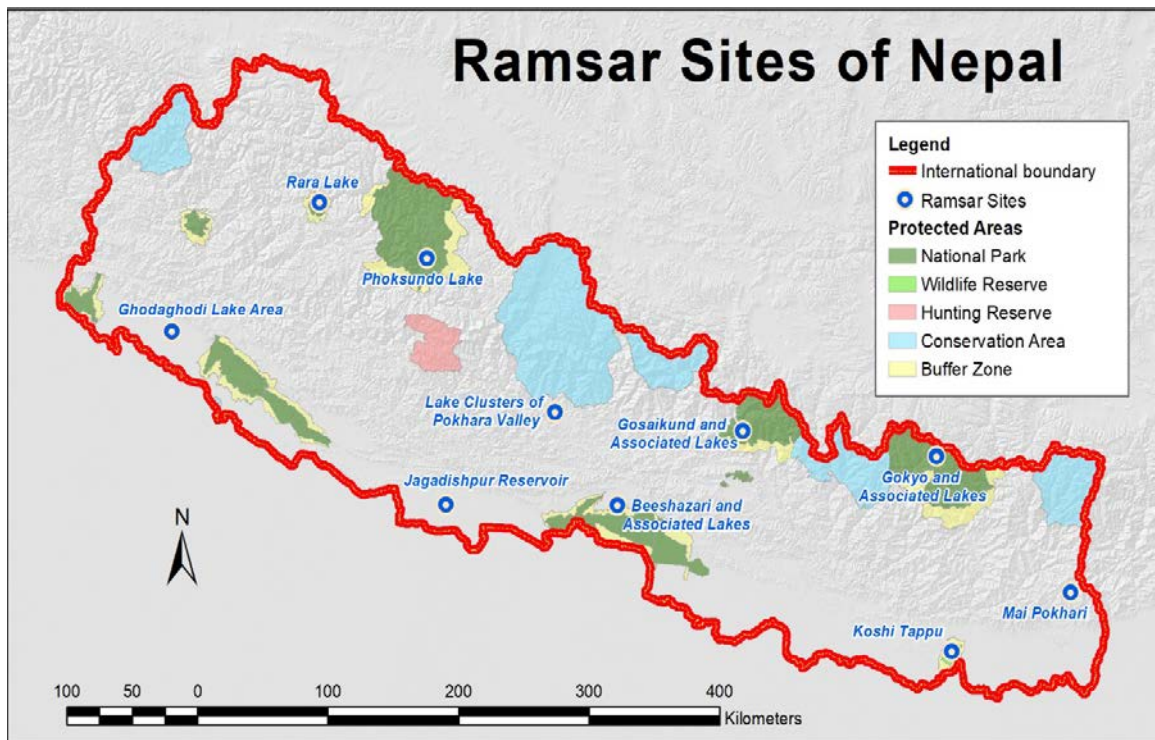


Figure 2: Ramsar Sites of Nepal (Source, MOFSC)

Apart from these prioritized wetlands, there are thousands of wetlands across Nepal which are subjected to severe threats of degradation. The primary reason behind the degradation of freshwater ecosystem is due to the ignorance towards the goods and services that they provide to human welfare and the failure to account the value of wetlands in development planning. Many

wetlands have been converted to other land uses, especially in the lowlands. Many oxbow lakes are drying up because of hydraulic and/or hydrological changes in the river systems. Thus, the remaining wetlands warrant special attention. In this context, the Government of Nepal aims to mainstream and integrate the issues pertaining to the conservation, restoration and wise use of wetlands and their resources in the formulation of national policies and strategies.

Local communities are the primary users and beneficiaries of wetlands. The involvement of local community at all levels of decision making is a prerequisite to ensure the long-term conservation and wise use of wetland resources. Thus, it is imperative to raise awareness on the importance of wetlands at all levels. As a step towards this, the Government of Nepal is preparing the Ramsar Strategic Plan in a bid to provide a broad framework for the sustainable management of wetlands in the country. Therefore, it should be a priority for the Government to formulate a full-fledged project that takes into account the integration of wetland values across multiple sectors--encompassing sustainable development; biodiversity conservation; climate change mitigation and adaptation; disaster risk reduction and the livelihoods of local communities with a focus on the Ramsar Sites and other priority wetlands in Nepal.

2. Objective

Wetlands are cross cutting areas for biodiversity conservation, watershed protection, tourism promotion, irrigation, fresh water, hydropower production and sustainable economic prosperity, and thus it is essential to conserve and manage them in the long run. Likewise, it is equally essential to mainstream and harmonize wetland conservation activities with Sustainable Development Goals (SDGs), Aichi Target for Biodiversity Conservation, Paris Agreement on combating climate change and Sendai Framework on Disaster Risk Reduction.

The main objectives of this study are to:

- Explore avenues for the integration and mainstreaming of wetland values and concerns in tandem with national and international policies in the key national planning processes of Nepal
- Propose a roadmap with a time frame for mainstreaming wetland issues across various levels.

3. Study Methodology

3.1. Desk review

Various government and non-government agencies are involved in the conservation of wetlands across the country. At the Government level, the Ministry of Forests and Soil Conservation (MoFSC) and its departments namely, the Department of National Parks and Wildlife

Conservation, the Department of Forests and (DoF) Departments of Soil Conservation and the Watershed Management (DSCWM) oversee activities necessary for the conservation of wetlands. Likewise, conservation partners such as National Trust for Nature Conservation (NTNC), WWF, IUCN, ZSL, ICIMOD, and National Lake Conservation and Development Committee (NLCDC) have been working in the areas of wetlands. The reports and documents prepared by them were reviewed during the course of this study.

3.2. Wetland related policy and their review

In order to mainstream wetland issues and concerns into key national planning processes, a review of existing international provisions and national policy documents related to wetlands was done.

International conventions such as the Ramsar Convention (1971), the Convention on Biological Diversity (1992), the United Nations Framework Convention on Climate Change (1992), the Aichi Targets (2011-2020), Sustainable Development Goals (2015-2030), the Sendai Framework (2015-2030), and the Paris Agreement (2015) provide a legally binding framework for conservation and wise use of wetlands. Since Nepal is a signatory to these agreements, a thorough review of the documents was done during this study.

Likewise, in the national context, National Wetland Policy (2012) is regarded as the main policy document for wetland conservation in Nepal. It envisions promulgation of a Wetland Conservation Act (WCA) and Rule for effective implementation of the policy. Similarly, National Parks and Wildlife Conservation Act 1971, Soil Conservation and Watershed Management Act (1982), Forest Act (1993), Environmental Protection Act 1995, the Constitution of Nepal (2015), National Water Plan 2005, Disaster Risk Reduction and Management (DRRM) Act 2017 and Local Disaster and Climate Resilience Plan (LDCRP) guidelines 2017 were also reviewed as these are closely linked to wetlands conservation.

3.3. National workshop and consultation

A national level workshop on “Mainstreaming the conservation and sustainable use of wetlands and their resources into key national planning processes in Nepal” was organized in close coordination with Ramsar Focal Point and the Ministry of Forests and Soil Conservation in Kathmandu on 16 November 2017.

3.3.1. Stakeholder identification

The members of the National Wetland Committee (NWC) and non-governmental organization working in the area of wetlands and biodiversity conservation were identified as the key wetland stakeholders. Representatives of the Ministry of Tourism and Civil Aviation, Ministry of Energy, Ministry of Urban Development, Ministry of Agriculture Development, Ministry of Livestock Services, Ministry of Irrigation, Department of Forests, Department of National Parks and

Wildlife Conservation, WWF, ZSL, Bird Conservation Nepal and National Trusts for Nature Conservation were invited in the consultation process. Similarly, academia from Tribhuvan and Kathmandu University, wetland experts, researchers and policy-makers were also invited to enrich the discussion process.

3.3.2. Technical session

A one-day workshop was organized for discussion, presentation and consultation on wetlands conservation. In the first half, three technical presentations were made. The first presentation comprised of wetland policy in Nepal and existing gaps. The present policy provisions, laws, regulations and existing policy and institutional gaps were discussed during the course of presentation. The second presentation dealt with the formulation process of Ramsar Strategic Plan (2016-2024), which is supported by USAID funded Hariyo Ban Program. Following the template provided by the Ramsar Secretariat, the strategic planning process was presented, and comments and feedback were collected from the experts and policy-makers. Similarly, the third presentation was made on mainstreaming multilateral environmental agreement that Nepal is signatory to, viz the Ramsar Convention, Convention on Biological Diversity and Aichi Targets, Sustainable Development Goals, Paris Agreement of Climate Change and Sendai Framework on Disaster Risk Reduction. The overall discussion was centered on the main theme of “conservation and sustainable use of wetlands and wise use of their resources into key national planning processes in Nepal”.

3.3.3. Group discussion on thematic areas

After the technical session, the participants were divided into four groups to solicit inputs and suggestions for the ongoing formulation of Ramsar Strategic Plan and mainstreaming of wetland conservation and management process in Nepal. The major points discussed under the four thematic topics were:

- Wetlands and Operational Strategy
- Wetlands and Use of Natural Resources
- Wetlands and CEPA
- Wetlands and Biodiversity

4. Wetlands at Global Facet

Multilateral Environmental Agreements (MEAs) such as treaties, conventions, protocols and other forms of agreement between more than two countries are the legally binding instruments related to the environment and its protection (UNEP, 2007)³. Wetlands having enormous significance to maintain ecological integrity and being at the verge of deterioration, globally, its

³ Glossary of Terms for Negotiators of Multilateral Environmental Agreements, UNEP (2007)

conservation has been the major area of concern. Therefore, various MEAs have been put into effect to bring all international communities into common pool. The most significant MEAs to wetland conservation are discussed below.

Ramsar Convention, 1971

The Convention on Wetlands is the first instrument that provides the framework for international cooperation and national action for the conservation and wise use of wetlands and their resources. The meeting to adopt the text of the convention was held in the town of Ramsar, I.R, Iran in 1971 and so is also commonly called the Ramsar Convention. The Convention is based on three principles; i) the wise use of all wetlands through national plans, policies and legislation, management actions and public education; ii) the designation of suitable priority wetlands for inclusion on the list of Wetlands of International Importance and to ensure their sustainable management; and iii) international cooperation on transboundary wetlands and shared species.

Nepal adopted the Convention on 2nd February 1971. It however ratified Convention on 17th December 1987. Koshi Tappu is the first Ramsar site of Nepal. Till date, a total of 10 wetlands have been designated as Ramsar Sites in the country.

Table 1: Ramsar Listed Wetlands of Nepal

SN	Name	Districts	Area (Ha)	Altitude (m)	Date (Incorporation)
1.	Koshi Tappu Wildlife Reserve	Sunsari	17,500	90	17/12/1998
2.	Beeshazar and Associated Lakes	Chitwan	3,200	286	13/08/2003
3.	Jagdishpur Reservoir	Kapilvastu	2,563	205	13/08/2003
4.	Ghodaghodi Lake Area	Kailali	225	197	13/08/2003
5.	Gokyo and Associated Lakes	Solukhumbu	7,770	975	23/09/2007
6.	Gosaikunda and Associated Lakes	Rasuwa	1,030	4,380	23/09/2007
7.	Rara Lake	Mugu	1,583	2,990	23/09/2007
8.	Phoksundo Lake	Dolpa	494	3,612	23/09/2007
9.	Mai Pokhari	Ilam	12	2,100	27/11/2008

10.	Lake Cluster of Pokhara Valley	Kaski	26,106	550-2,483	02/02/2016
Source : DoF, 2017					

Convention on Biological Diversity (CBD) 1992

The Convention on Biological Diversity was adopted at the Earth Summit which was held in Rio-de Janeiro in 1992. The major objective of the Convention was to conserve biological diversity, to use its components in a sustainable way, and to share fairly and equitably the benefits arising from its genetic resources. It envisions that by 2020, people will have become aware of the values of biodiversity and taken steps to to conserve and use it sustainably. The Convention is governed by Conference of the Parties (COP) and advances its implementation through the decisions it takes in its periodic meetings.

Nepal ratified the Convention on Biological Diversity on 23 November 1993 and it came into force on 29 December 1993. MoFSC is the focal point of CBD. Being a party to CBD, it is mandatory for it to formulate or adapt strategies and action plans for the conservation and sustainable use of biological resources. Thus, National Biodiversity Strategy and Action Plan (NBSAP) is the principal instrument for implementing the Convention at national level. The Government of Nepal has duly developed its national strategy for 2014-2020. Since wetlands are unique biodiversity hotspots and are gene treasure, it comes under the CBD priority ecosystem.

Aichi Targets (2011-2020)

Aichi Targets are the outcome of the Convention on Biological Diversity. It comprises five Strategic Goals with 20 ambitious targets. All Aichi Targets relate to wetlands in one way or the other. However, Target 2 and 3 are very important as they include the values of wetland biodiversity and integrate them into national and local development, while also eliminating subsidies harmful to wetland biodiversity.

Likewise, Target 11 aims at effectively managing about 17% of terrestrial and in-land water bodies, especially which are of importance for biodiversity conservation and ecosystem services. Similarly Target 15 attaches special importance to climate change issues, ecosystem resilience and the contribution of biodiversity to carbon stocks enhanced through conservation and restoration of 15% of the degraded ecosystem thereby contributing to CC mitigation and adaptation.

United Nations Framework Convention on Climate Change 1992

The United Nations Framework Convention on Climate Change is an international environmental treaty adopted on 9th May 1992. The ultimate objective of the Convention is to stabilize greenhouse gas concentrations at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system. It came into force on 21st March 1994 and as of today, 197 countries, including Nepal, have ratified the Convention. The Convention sets

an overall framework for inter-governmental efforts to tackle the challenge posed by climate change.

On 12th December 2015, Parties to the Conference of Parties (CoP) adopted the Paris Agreement, a new legally binding instrument to tackle the challenge posed by climate change. The agreement establishes a global warming goal well below 2 degree Celsius on pre-industrial averages. In Nepal, the Ministry of Population and Environment (MoPE) is the focal Ministry for UNFCCC. It has formulated Climate Change Policy in 2011 and Nationally Determined Contribution (NDC) 2015. It is preparing a plan for the implementation of the Paris Agreement. The Climate Change Division is currently setting targets for 2020 by revisiting and refining NDC targets both for CC mitigation and adaptation. The revised NDC targets 2020 will be prepared through the formulation of an action plan.

Nepal has initiated several activities to reduce climate hazards and build resiliency, help climate vulnerable communities to cope with climate change impacts, reduce impacts of climate change on its people, property and natural resources through a combination of actions via: a) Institutional, b) Policies, strategies and frameworks, c) Adaptation actions, d) Knowledge management, and e) Mitigation actions. Nepal's Nationally Determined Contributions (NDC) includes the following:

- 1) Nepal has initiated the process for the formulation of National Adaptation Plans (NAPs). Therefore, Nepal's adaptation needs for future, and in the context of post 2020 will be envisioned through the NAPs
- 2) Nepal places CCA at the centre of its development plan and policies. It aims to strengthen implementation of environment friendly local governance (EFLG) framework in VDCs and Municipalities to complement CCA, promote renewable energy technologies, as well as water conservation and greenery development.
- 3) Nepal will undertake scientific (physical and social sciences) approaches to understand and deal with the impacts of CC in mountains, hills and lowland ecosystems and landscapes. It will develop and implement adaptation strategies for climate change affected sectors.
- 4) Nepal will study and understand the further loss and damage associated with climate change impacts with the support of scientific and academic institutions.
- 5) Nepal plans to formulate the low carbon economic development strategy that will envision the country's future plan to promote economic development through low carbon emission with particular focus on i) energy, ii) agriculture & livestock, iii) forests, iv) industry, v) human settlements & wastes, vi) transport & viii) commercial sectors

- 6) By 2050, Nepal will achieve 80% electrification through renewable energy services having appropriate energy mix. Nepal will reduce its dependency on fossil fuel by 50%.
- 7) Nepal aims to achieve the following targets under the National Rural & Renewable energy programme (NRREP) by reducing its dependency on biomass and making it more efficient.
- 8) By 2020, Nepal intends to expand its energy mix focusing on renewable energy by 20 % and diversifying its energy consumption pattern to more industrial and commercial sectors.
- 9) By 2020, Nepal aims to increase the share of electric vehicle up to 20% from 2010 level.
- 10) By 2050, Nepal will decrease its dependency on fossil fuel in the transportation sector by 50% through the use of effective mass public transportation system, while also promoting energy efficient & electrical vehicles.
- 11) Nepal will develop its electric (hydro-powered) rail network by 2040 to support mass transportation of goods and public commuting.
- 12) Nepal will maintain 40% of its total area under forest cover and forest productivity and products will be increased through sustainable forest management. Emphasis will be equally given to enhance carbon sequestration and forest carbon storage & improve forest governance.
- 13) Nepal will pilot a sub-national project on REDD plus to reduce about 14 million tons of CO₂ e.g. by 2020 by addressing the drivers of deforestation & forests degradation and strengthening governance mechanisms in all types of forests and protected areas.
- 14) By 2025, Nepal will strive to decrease the rate of air pollution through proper monitoring of sources of pollutants like wastes, old and unmaintained vehicles & industries.

Considering climate change mitigation and resilience as one of the major strategic pillars, the Forestry Sector Strategy (2016-2025) aims to enhance Nepal's carbon stock by at least 5% by 2025 as compared to 2015 level and to decrease mean annual deforestation rate by 0.05 % from about 0.44 % and 0.08 % in the terai and chure respectively. It also aims to put in place forest carbon trade and payment mechanism, protect 0.2 million ha of forests through the implementation of adaptation plans and mainstream community/ecosystem based adaptation (EbA) by 2025.

Likewise, REDD plus strategy would further contribute to promote Sustainable Management of Forests, carbon sequestration and adaptation co-benefits. It has a vision to optimize carbon and non-carbon benefits of forest ecosystems for the prosperity of Nepali people and has objectives *inter alia*, reducing carbon emission enhancing carbon

sequestration and climate resilience through mitigation and adaptation approaches by minimizing the cause and effects of drivers of deforestation and forest degradation and intensify sustainable ,management of forest resources.

Sustainable Development Goals (2015-2030)

On 25th September 2015, several countries adopted a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of the sustainable development agenda. Each goal has specific targets to be achieved by the 2030. A total of 17 goals with 169 targets have been set. Building on experiences with the Millennium Development Goals (MDGs), which is focused on developing countries, with environmental sustainability as just one of its eight goals, the seventeenth SDGs are more holistic, ambitious and visionary.

SDGs specifically mention wetlands in relation to two of the goals (Goal 6 and Goal 13)⁴, and hence provide a policy context for the implementation of the Ramsar Convention and its new Strategic Plan, until 2030. SDG 6 focuses on water and sanitation in terms of drinking water supply and sanitation, to integrated water resources management, and the importance of water-related ecosystems. Wetlands are specifically mentioned under Target 6.6, and the structure of the goal links wetlands directly with the increasingly urgent questions of water allocation, water risks and water scarcity, while opening the door to other 16 SDGs.

Biodiversity issues arise within Goal 14 on oceans, seas and marine resources, and in Goal 15 on terrestrial ecosystems. Target 14.2 calls for the management and protection of coastal and marine ecosystems, while wetlands are once again specifically mentioned within Target 15.1. Thus wetlands have a direct relevance to three of the SDGs, and indirect links to many more.

Of the proposed specific targets for SDG, the 15 targets related to biodiversity and wetlands conservation include:

- 1) Increase forest areas under community management from 39 % to 45% and protected areas from 23 % to 25% of the total land area
- 2) Increase the number of conserved lakes, wetlands and ponds from 1727 to 5000
- 3) Eliminate forest loss

Operationalization of SDGs

SDGs do not stand alone as they are interconnected and mutually reinforcing each other. National Planning Commission (NPC), the apex planning body in the country, is working out an

⁴ Goal 6: Ensure availability and sustainable management of water & sanitation to all

Goal 13: Take urgent action to combat climate change and its impact

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

SDG implementation strategy by engaging line Ministries, external development partners and other stakeholders. This will ensure that SDGs related programmes are built into line Ministries programmes and development partners are on board to support their financing. Once the SDGs are tailored into the periodic plan and annual budgets, there will be a need for annual audits from the SDG perspectives. Necessary data and data gaps needs to be filled in to create baseline data for targets. Likewise, localization of SDGs at sub-national and local level is a must to prepare and roll out SDG-based local development plans and strategies and to ensure ownership and accountability of local government.

Sendai Framework (2015-2030)

The Sendai framework is the successor instrument to the Hyogo framework of action (HGA) 2005-2015. Building on the resilience of nations and communities to disaster, the SF for DRR 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks. The targets include a reduction in number of disaster mortality and affected people globally by 2030.

The Sendai Framework on disaster risk reduction is relevant to wetland conservation as it serves as natural buffers to hazard regulation. Moreover, the World Wetland Day 2017 was celebrated with the theme “Wetlands for Disaster Risk Reduction”. Nepal’s geographical diversity and climate variability makes the country vulnerable to various hazards. Above all, over extraction of resources with people’s unlimited greed often call for natural disasters.

Nepal is prone to disasters following the devastating earthquake of 2015. Glacial lake outburst floods are very likely owing to Nepal’s fragile topography.

UNESCO World Heritage Sites

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is a specialized agency of the United Nations (UN) based in Paris. Its declared purpose is to contribute to peace and security by promoting international collaboration through educational, scientific and cultural reforms in order to increase universal respect for justice, the rule of law and human rights along with fundamental freedom proclaimed in the UN Charter. Nepal has four world heritage sites: two are natural (Sagarmatha National Park, 1979 and Chitwan National Park, 1984) heritage sites while the two other sites are cultural (Kathmandu valley, 1979 and Lumbini, 1997). In 1996, an UNESCO advisory mission paid a visit to both Chitwan National Park and Sagarmatha National Park to take stock of the ongoing works (railway in CNP and Climate adaptation work in Imja Lake), and made necessary recommendations. The Gokyo and associated lakes are under the jurisdiction of Sagarmatha National Park, while Beeshazar and Associated Lakes are under the jurisdiction of Chitwan National Park. In order to mainstream these two Ramsar Sites, it is highly necessary to give especial focus on these sites in the management plans of the respective protected areas. The UNESCO guidelines (paragraph 172) emphasize to give especial importance to the natural sites by following the principle of Outstanding Universal Value (OUV) of the site and its worldwide recognition.

5. National Level Wetland Policy and Institutional analysis

National Wetland Policy 2012

Wetland conservation activities have been implemented since the early 1970s; however, the National Wetland Policy 2012 is the principal policy document to address wetland issues in Nepal. The policy is grounded on ten key principles; with four working strategies and ten priority actions. The guiding principles include:

- Prioritization of wetland sites for conservation and investment
- No net loss of wetland areas,
- Pre-cautionary principles,
- Catchment/watershed level conservation,
- Maintenance of water regime,
- Wise use of wetland resources,
- Maximizing positive externalities,
- Poly-centricity and partnerships,
- Subsidiary & local decision-making and
- Inclusive development.

The strategy underpins on the following four strategies:

- Promoting wise use of wetland resources,
- Improving wetland governance,
- Enhancing knowledge and capacity on wetland management including functions and values, and
- Strengthening and institutionalizing sustainable financing mechanisms.

The ten priority actions include:

- Prioritization, classification and management,
- Maintaining ecological integrity of wetlands,
- Restoration and rehabilitation,
- Legislative legal framework for development,
- Wise use of wetland resources,
- Collaborative and participatory management,
- Strengthening institutional framework and stakeholders capacity,
- Research,
- Monitoring and documentation and
- Sustainable financing mechanisms.

The national wetland policy envisions the promulgation of a Wetland Conservation Act (WCA) and Rules for effective implementation of the policy. Furthermore, the policy envisions two

levels of implementation. At the central level, it envisions a national wetland committee led by the Secretary of Ministry of Forests and Soil Conservation consisting of various wetlands impacting sectoral Ministries. Similarly, at the district level, the committee is supposed to be consisted of various district-level line agencies together with the representatives of civil society organizations.

Wetland conservation being a cross-cutting subject, the policy envisions better coordination among all (wetland) stakeholders. However, Nepal has just entered into a federal structure and there are three tiers of government: Federal Government, State Government and Local Government, wherein the roles and responsibilities of water and wetlands have been shared across various levels. Therefore, it is highly essential to revise the policy and mainstreaming wetlands of international importance under jurisdiction of Federal level of Government.

Hence, as per the wetland policy, wetlands of international, national and local importance will have to be prioritized based on the criteria such as their attributes and value and the services they provide. Management plans for each of the priority sites will have to be prepared and implemented. In view of the changed political and governance context, the wetland policy needs to be reviewed and harmonized accordingly.

National Parks and Wildlife Conservation Act, 1971

This act is the oldest Act for biodiversity conservation in Nepal. It focuses on species conservation, ecosystem conservation and habitat management. Wetlands as the fundamental part of wildlife habitat, this Act focuses mostly on the protected area system. Therefore, it is essential to clearly spell out the importance of wetlands in the Act for sustainable protected area management.

Soil Conservation and Watershed Management Act 1982

The soil conservation and watershed Act was enacted in 1982 considering the importance of water and watershed in the mountainous country like ours. However, the policy is yet to be implemented as per its spirit and the Supreme Court of Nepal has given a verdict to implement the Act with necessary arrangements. However, DSCWM has been promoting soil conservation measures through the conservation of water ponds across its working sites.

Forest Act 1993

This Act was designed with a focus on sustainable forest management and the supply of forest products to Nepali people. This Act provides for a clear jurisdiction for all national and private forests, which also covers the wetlands inside the forests. However, the Act does not spell out wetland conservation directly. The latest amendment of the Act has given special attention to the payment for environmental services following the principle of upstream and downstream mechanisms and environmental services produced by various forest ecosystems.

Environmental Protection Act 1995

The environment protection Act is aimed at taking appropriate measures to safeguard social, economic and ecological aspects while developing infrastructures and in the use of forested and non-forested lands. It gives especial focus on initial environment examination for small projects and environmental impact assessment for larger projects. The impacts of development projects on wetlands are considered to be one of the major indicators of sustainability of the projects under this Act, and it also provides for the carrying out of appropriate mitigation and restoration measures.

Local Government Conduction Act 2017

This is a newly promulgated Act and it is focused on the governance at the local level under the federal set-up. It clearly spells out the jurisdiction of local government over natural local resources which include wetlands as well. However, there are some issues relating to the use of local resources that need to be discussed and resolved while making federal and state level Acts and regulations in future.

National Biodiversity Strategy and Action Plan (2014-2020)

The National Biodiversity Strategy and Action Plan (NBSAP 2014-2020) has accepted wetlands as one of the priority areas of biodiversity conservation along with the wise use of their resources by aligning them with the Aichi Targets. NBSAP primarily focuses on mainstreaming biodiversity conservation across different levels of government, society and economy by harmonizing it with biodiversity related International Conventions. It has given especial attention to wetlands conservation. The wetlands ecosystem of Nepal falls under two major categories. The first category deals with natural ecosystems, which includes lakes, marshy areas, swampy lands, riverine areas and natural reservoirs, and, the second category deals with man-made wetlands including ponds, artificial reservoirs and paddy fields. Likewise, three major strategies⁵ with 17 action points have been proposed and the implementing and supporting institutions have also been clearly stated.

NBSAP envisages the declaration of five additional wetlands into the Ramsar Site; effective implementation of national wetland policy 2012; controlling encroachment and eutrophication of at least 10 wetland sites, and the restoration of at least five degraded wetlands to its original state. The NBSAP also emphasizes on the role of National Biodiversity Coordination Committee (NBCC) for a more proactive role towards providing guidance and enhancing inter-sectoral coordination among sectoral ministries. However, much remains to be done with regard to the targets set by the plan. The Ministry of Forests and Soil Conservation is planning to review the

⁵ Strategy A: Improving understanding of wetlands and wetlands biodiversity
Strategy B: Effective conservation and sustainable utilization of wetlands biodiversity
Strategy C: Enhancement of wetland biodiversity-livelihood linkages

NBSAP based on the three years experiences and will prepare a road map for the next three years, wherein wetlands will be a matter of major interest for biodiversity conservation.

Forest Policy, 2015

The forest policy has clearly envisioned the conservation of 40% of forested land. The policy interlinks wetlands along with watershed management in the country. The policy highlights the key role of wetlands (and land) in improving productivity through an integrated watershed management practice with the following strategic approaches:

- Adopting river basin approach for watershed conservation and management; identification of wetlands along with their inventory and documentation; classification and designation of management authorities; capacity building and participatory planning for the conservation of wetlands and watershed areas, and the exploration of options for community conserved areas.
- The operational guidelines emphasize on climate change adaptation measures adopted through forest resources, watershed management, food security and water induced disaster management, thereby contributing to Sendai framework of actions on Disaster Risk Reduction.

6. Conservation and Management of Wetlands of Nepal

Nepal has a conservation history of more than 50 years, which is primarily associated with the protection of forested land after 1950. Wetlands conservation was indirectly driven by the overall management and conservation approach. However, it evolved as a separate agenda when Nepal became signatory to Ramsar Convention in 1971. Thereafter the Government of Nepal prioritized it by listing wetlands of Nepal as Ramsar Sites. Conservation partners like IUCN assisted the country in the inventory process by publishing *An Inventory of Nepal's Terai Wetlands*.

With the progress in this sector, wetlands as a theme was incorporated in the National Conservation Strategies (1987), Water Resources Strategy (2005), and National Water Plan (2005). The MoFSC is entitled to administer wetlands mechanism through its Department of Forests outside the protected areas, whereas the Department of National Park and Wildlife Conservation does that within the Protected Areas.

MoFSC's pilot project like Conservation and Sustainable Use of Wetlands was one of the remarkable initiatives taken at the national level during 2008-2013. The objective was to ensure the maintenance and enhancement of wetland biodiversity and environmental goods and their services for the improvement of local livelihoods in KWTR and Ghodaghodi Lake Complex. The project made an important contribution to building national capacity for an ecosystem approach to conservation and sustainable use of wetlands in Nepal. Likewise, many restoration projects are

being executed to maintain the country's existing Ramsar Sites and also to add more wetlands as wetlands of international importance.

Beside this Nepal also promotes various activities and events relating to wetlands conservation in conjunction with conservation partners. At the local level community forest user groups and wetland committees are encouraged for wetland conservation. It encourages local people by celebrating conservation events.

World Wetlands Day is celebrated every year on 2nd February as it marks the date of the adoption of the Ramsar Convention. It was first celebrated in 1997 in Ramsar with the purpose of providing an opportunity for government and citizens' groups to undertake actions aimed at raising public awareness of the values of wetlands and their benefits in general and the Ramsar Convention in particular. Since then Nepal has been continuously celebrating the event. Every year, the day is celebrated with a theme and various awareness activities such as rally, poster presentations and other side events such as bird watching and launch of conservation related publication are carried out. Theme for 2017 was “Wetlands for Disaster Risk Reduction”

The Department of National Parks and Wildlife Conservation has been celebrating world wetlands day by joining hands with different conservation partners. The mobilization of media personnel, usage of electronic, print and online media is highly effective while organizing such promotional activities.

The World Wetlands Day, 2016 was marked with a special celebration by **declaring nine lakes in Kaski district under the Ramsar Convention**. With these wetlands on the Ramsar list, a total of 10 wetlands of Nepal have been recognized as Wetlands of International Importance. This is one of the major achievements of NBSAP (2014-2020) as one of its action plans was to list at least five wetlands of Nepal in the Ramsar Site.

7. Thematic Areas for Preparation of Ramsar Strategic Plan for the Wetlands of Nepal

Ramsar Convention sets a milestone in linking people and nature, as well as the relationship between wetlands and water. But realizing the connections between water – which is critical for life – and other critical elements for life: food and energy as well as mainstreaming it in national planning processes has become crucial. Maintaining ecological character of wetlands, achieved through the implementation of ecosystem approaches, within the context of sustainable development needs to be internalized by every nation. Therefore, keeping up with the key orientation of concept as “Wise Use of Wetlands” the Fourth Ramsar Strategic Plan (2016-2024) encourages each signatory country to prepare and implement the plan. In the context of Nepal, there are several sectors in which wetland issues needs to be addressed. However, for preparation of the strategic plan these could be synthesized under four major thematic areas which are as discussed below.

A. Wetlands and Operational Strategy

- Scientific land use planning (with respect to biodiversity/cultural practice/Tourism) should be strictly mentioned in the strategy so that the use of wetlands could be done according to its carrying and restoring capacity,
- Strategies for promoting community ownership in accordance to federal structure should be considered in the upcoming strategy for effective implementation of the strategy,
- In case of hydropower dam construction, present EIA guideline prescribes a discharge level of at least 10%. Rather than defining a threshold value, the discharge level should be based on aquatic biodiversity and abundance and the level suitable to it,
- System of penalizing as well as rewarding should be endorsed by government, for instance, high penalty for misusing wetland and reward for best management. Criteria should be developed for scoring. This will also be an effective monitoring tool for management practices.
- Practicing good governance has always been a major issue to address in Nepal. Because of this, Land Mafias, often intervene and convert high valued wetlands into other land use purposes. Provision to address such issues should be incorporated in the upcoming strategy
- Monitoring and enforcement mechanism should be predefined as major lapses have been found in the sustainable use and conservation of wetlands in Nepal. For instance, deforestation in Chure region has put wetlands in serious threat. Over harvesting of resources further degrades the quality of services resulting in disappearance of wetlands,
- Roles and responsibilities of private sector and civil society should be clearly mentioned in the strategy,
- Defining funding sources for wetland management is integral as lot of investment is required for restoration of and the sensitization of local community. Therefore, funding options for wetland conservation should be identified from the very beginning and needful advocacy should be made,
- Wetland and culture should be highly valued and communicating wetland values must be incorporated in the planning process
- Wetland User committees should have at least a wetland expert so that technical inputs would enhance the management approach.

B. Wetlands and Use of Natural Resources

- Since paddy fields are also considered as wetlands, looking back to the agricultural productivity of Nepal, the country used to export varieties of rice to other countries. But with gradual abandonment of productive land, transformation to residential area and many other factors we are now a rice importing country. The sugar factories, once operating in full capacity are less operated due to low productivity. The

population is ever increasing whereas the productivity is shrinking. Feeding the burgeoning population will remain a major challenge for the Government. These are some examples of how agricultural sector is not faring well. Similarly the pollution in Bagmati, Bishnumati and many other rivers in Kathmandu Valley cannot be overlooked when it comes to planning and management of wetlands. The landscape of the country has changed vastly in the last two decades thus proper planning has become an urgent need.

- At present wetland resources are under great pressure and there is lack of protocol where activities overlap in planning but they get overshadowed at the ground level implementation. Thus for wise use of wetlands, such redundancies should be minimized and clear protocol should be developed, assigning clear roles and responsibilities
- Similarly wetland inventory and mapping as well as economic valuation has become an integral part based on which its categorization and classification should be done for sustainable management.
- The Land use Act of Nepal is currently at the drafting stage. It has not integrated wetland management. So this could be an opportunity for mainstreaming wetland issues.
- The contribution of wetlands should be accounted to national GDP,
- On the other hand, ecological resilience is crucial for the functioning of ecosystem and wellbeing of people. Investment in wetland conservation should be increased to enhance environmental safeguard measures.
- In addition, urban wetlands should be prioritized as urban sprawl is expanding in Nepal. Similarly, factors such as siltation, pollution, invasion of alien species and eutrophication, and encroachment need to be considered in the planning process
- For the minimization of climate induced as well as disaster related threats/ vulnerabilities, capacity assessment should be conducted to identify vulnerable communities.
- Trans-boundary agreements with India and China should be done for international cooperation in wetland management
- Wetland governance and Ramsar governance should be endorsed specifically for effective implementation of wetland regulations,
- Knowledge management mechanism should be developed, and wetland tourism must be promoted to generate economic benefit from wetland services.

C. Wetlands and Communication, Education, Participation and Awareness (CEPA)

- For the integration of aspects relating to wetland conservation in the local level development activities, suggestions was made for the preparation and dissemination of communication materials for stakeholders such as fact sheets and FAQs,
- For capacity enhancement of newly elected local bodies, the officials need to be educated and sensitized on the importance of wetlands thereby making them accountable in local level planning.
- For wider coverage and dissemination of wetland values, media should be mobilized. Broadcasting weekly programs in television and radio as well as community programs like “*Simsar Dabali*” should be incorporated in local planning. Promotion through jingles, ringtones, newspaper and mobile applications should be developed in local dialects like “*Smart Krishi*”. They could also be effective means in raising awareness.
- Mobilization of youth through wetland photography contests will be a good medium to encourage youths in wetland conservation
- Establishing Information Centre and promoting role of indigenous community in wetland management will encourage inclusive and collective social actions. In addition, promoting cultural tourism along with ecotourism will be very helpful.
- Wetlands are to be introduced as interdisciplinary course at higher education level like agriculture and also in non-environmental subjects
- CEPA strategy has been prepared by the Government of Nepal, thus, these should be incorporated while formulating the Ramsar strategy.

D. Wetlands and Biodiversity

- Access to finance and benefit sharing specifically for wetland management is still a huge challenge for Nepal. So the allocation of financial resources should be prioritized during budgetary planning and breakdown.
- There is no dedicated focal institution for wetland management in the organizational structure of the Government, so provisions of organizational mechanism should be made in the strategy.
- Wetland conservation in Nepal is mostly confined to Ramsar sites but many wetlands of lowlands have been encroached and degraded, some have even disappeared thereby creating a threat of loss of habitat for many wetland dependent species. Thus habitat conservation and ecological resilience should be considered in the planning process
- Ecosystem based management approaches as well as coordination and cooperation to deal with problems in relation to the management of trans-boundary water resources, wetlands and shared wetland species should be prioritized

- Inventories and Management Plan with respect to ecological zones has to be prepared with regard to land use changes and sedimentation. Wetland biodiversity are highly vulnerable due to habitat loss.
- Industries and cross-sectoral agencies should be included in decision making to ensure overall inclusion of stakeholders.

8. Key elements and areas of wetlands conservation and management mainstreaming in policy and planning process:

a. Policy Mainstreaming

If on the one hand wetlands are concurrent subject matters of local, state and federal government, it is of trans-boundary nature on the other. Thus it is essential to incorporate the wetland issues from central to local-level government. This fact is recognized by the constitution of Nepal (2015). Thus, it is essential to revise the national wetland policy (2012) and make it compatible to the newly adopted three tiers of federal structure i.e. federal, provincial and local-level government. It is also recommended that the wetland issues be incorporated appropriately in the federal Acts related to forests, national parks and protected area management; agriculture and livestock services; and drinking water, irrigation and hydropower production. The formulation of policies, Acts and regulations for the Provincial and Local-level Government are yet to be made. So, it is high time to ensure that the new Acts, rules and regulations adequately address the wetland and other biodiversity conservation issues. Mainstreaming of policy will further create the ground for planning and budgeting processes.

b. Institutional Mainstreaming

At present, MoFSC and its line departments are the major entities to carry on wetland related activities. The National Wetland Committee (NWC), which is an apex inter-sectoral coordination mechanism, consists of key wetland impacting sectoral Ministries and is operational under the aegis of MOFSC. Apart from this, LAPA, CAPA, LDCRP and EFLG frameworks are in place which somehow integrates wetland conservation into local plans and governance system. However there is not any accountable institution at the local level for its integration. Therefore, a separate unit or a task force needs to be assigned at the local-level government. Furthermore, the National Lake Conservation and Development Committee which exists at the central level is dysfunctional at present. It needs to be reformed with the inclusion and involvement of representatives of relevant academic institution (Universities)

c. Site Specific Management Plan Preparation

In order to mainstream wetland conservation activities, the formulation of a site-specific management plan is a pre-requisite. It envisions a clear goal, objectives, outcomes, strategies, activities, institutional set-up and budget planning. In the context of Nepal, site-specific management plan should be a part of protected area management plan as six Ramsar Sites are located inside the protected areas of Nepal. However, remaining four Ramsar sites are located outside the protected area system, so specific plan is indispensable to address the wetland issues on a periodic basis. In Nepal, most of the Ramsar Sites have their own site-specific management plan. However, the management plan needs to be revised and updated on regular basis.

d. Program and Budget Planning

Wetlands are the most productive ecosystems in Nepal. These wetlands have additional values as they provide provisional, supporting, regulating and cultural services. The livelihoods of rural people largely depend on wetland resources for food, fodder, fiber and many other goods and services. Therefore, by following the site-specific management plan, the wetlands conservation activities and budgetary planning system should be institutionalized on an annual basis. While allocating the budget, the activity should be prioritized based on the threats assessment of the particular wetlands. It is also necessary to allocate sufficient budget and activities for CEPA activities as well.

e. Implementation of Wetland Conservation Activities

In order to implement the wetland conservation activities, a designated government authority should be assigned. In Nepal, the Department of National Parks and Wildlife Conservation has the clear mandate to conserve, manage and wise use of wetland resources of the Ramsar Sites located inside the protected area system. However, no such clear Institutional mandate has been provided for wetlands that fall outside the protected area system.

A comprehensive national inventory of wetlands is a priority for Nepal. If on the one hand regular implementation of wetland conservation activities is essential to reduce the threats to wetlands such as sedimentation, invasive species and eutrophication, ,but, on the other hand, the wise use of wetland resources may enhances the livelihoods of local communities. While implementing the wetland conservation activities, it is important to consider the involvement of local communities to ensure their access and equity in benefit sharing.

f. Record Keeping, Reporting and Updating Ramsar Information Sheet (RIS)

The wetland resources particularly water, plants, animals and ecosystem are always dynamic resources. The nature, extent and abundance of these resources are changing over time. These changes should be recorded and reported by the site manager to the national authority on an annual basis. It is mandatory that the Ramsar Information Sheet (RIS) should be updated every six years by the National Ramsar Authority. It is also recommended to carry out land cover and water cover changes map on an annual basis. These changes either in the text or maps or photos need to be published in the annual plan for institutional memory. Such publication of annual report may have wider and longer impact to compile and update the RIS as well.

g. Research and Monitoring

Wetlands are open laboratory to the researcher of biology, botany, ecology, anthropology, sociology and forestry as well. Therefore, it is highly crucial to carry out regular research and water monitoring on an annual basis. The Kathmandu University has been carrying out regular research in Rara and Gokyo high altitude lakes.

h. Capacity Building of Wetland Related Staff

Conservation and sustainable use of wetlands always depend on the technical capacity of field staff members who are involved in wetland conservation. Orientation, sensitization to staff engaged in wetland conservation needs to be carried out by organizing training, workshop, symposium and study tours to the best practice sites, which can build technical capacity of staff members. The site managers have also been requesting for conducting regular meetings on wetland conservation issues. National and international exposure visits are also recommended to enhance staff capacity for effective wetlands conservation.

Table 2 : Roadmap for Wetland Conservation Activities with Timeline

Mainstreaming areas	What exists	What needs to be done for mainstreaming?	Responsibility	Timeframe	Remarks
1. Policy Mainstreaming					
<ul style="list-style-type: none"> Constitutional Provision 	The Constitution of Nepal envisions a safe & clean environment as the fundamental right of its citizens. Similarly, state policy directives give a special focus to natural resource management, and the wetlands of international importance are considered the right/subject matter for federal government (Annex-5).	<ul style="list-style-type: none"> Formulation of an umbrella wetland Act & Regulations Integration of wetland conservation issues in existing Acts, particularly Forest Act, National Park and Wildlife Conservation Act and the Environmental Protection Act 	Government of Nepal (Parliament)	2020	Federal Government need to take initiative
<ul style="list-style-type: none"> National Wetland Policy 	National Wetland Policy (2012)	<ul style="list-style-type: none"> Revise National Wetland Policy in accordance to new federal structure Provincial and Local Government need to formulate wetland conservation strategy respectively 	<ul style="list-style-type: none"> MOFSC State and Local Government will make separate wetlands conservation strategies based on the status of wetlands in the state 	2019	-
<ul style="list-style-type: none"> National Biodiversity Strategy and 	National Biodiversity Strategy and Action Plan (2014-2020)	<ul style="list-style-type: none"> Implementation of NBSAP Declaration of New 	<ul style="list-style-type: none"> MOFSC and stakeholders as identified in NBSAP 	2020	

Mainstreaming areas	What exists	What needs to be done for mainstreaming?	Responsibility	Timeframe	Remarks
Action Plan		Ramsar Site			
2. Institutional mainstreaming					
<ul style="list-style-type: none"> Institutional reform at Federal Level 	<ul style="list-style-type: none"> A National Wetland Committee (NWC) an apex inter-sectoral coordination mechanism comprising key wetland impacting sectoral Ministries is operational under the aegis of MOFSC. 	<ul style="list-style-type: none"> National Lake Conservation and Development Committee, Universities need to be invited to the national committee 	<ul style="list-style-type: none"> MOFSC 	2018	
<ul style="list-style-type: none"> Institutional reform at State Level 	<ul style="list-style-type: none"> Common Rivers and environmental services are concurrent matter of Federal and State Government 	<ul style="list-style-type: none"> A separate entity need to be developed to take care of the wetlands under respective jurisdiction 	<ul style="list-style-type: none"> Seven States will assign a separate unit to take care of the state wetlands 	2020	
<ul style="list-style-type: none"> Institutional reform at Local Level LAPA/CAPA & LDCRP Plans 	<ul style="list-style-type: none"> Lakes and Ponds are the Local Government Resources Local bodies, Municipalities and Community Forestry Institutions are required to prepare and implement LAPA/CAPA/LDCRP while preparing development plans 	<ul style="list-style-type: none"> A separate unit/ task force needs to be assigned at local-level government Wetlands related issues and concerns can be integrated in the LAPA/CAPA/LDCRP as wetlands contribute to adaptation and mitigation functions to Climate Change 	<ul style="list-style-type: none"> Local Government will assign to take care of the wetlands EFLG framework complies to prepare LAPA/CAPA and LDCRP for local bodies and municipalities 	2020 Already in practice	
3. Management Plan of Wetlands					
<ul style="list-style-type: none"> Site Specific Management 	<ul style="list-style-type: none"> Most of the Ramsar listed wetlands have a 	<ul style="list-style-type: none"> Need to be revised the updated as per the 	<ul style="list-style-type: none"> DoF and DNPWC, and Respective Site 	2019	

Mainstreaming areas	What exists	What needs to be done for mainstreaming?	Responsibility	Timeframe	Remarks
Plan	separate site-specific management plan	emerging issues <ul style="list-style-type: none"> • Need to formulate new management plans 	Manager		
<ul style="list-style-type: none"> • Periodic/Interim Plan 	<ul style="list-style-type: none"> • The National Planning Commission (NPC) the apex planning body prepares and rolls out regular periodic plans/interim plans. Wetland conservation has been recognized as an important area. 	<ul style="list-style-type: none"> • NPC can provide strategic guidance to sectoral Ministries to integrate wetland conservation activities • SDG 6,13, 14, 15 and its targets related to biodiversity and wetlands can be put into periodic plans and wetlands issues can be integrated into sectoral plans and programmes 	NPC	In 15 th periodic plan	
4. Program and Budget Planning					
<ul style="list-style-type: none"> • Budget and activity planning 	<ul style="list-style-type: none"> • Site Manager can integrate wetland conservation activities with budget on an annual basis • NGOs and Local people's participation 	<ul style="list-style-type: none"> • Budget allocation is always deficit • CEPA activities need to be integrated with CEPA strategy 	Respective Government should allocate sufficient budget	On annual basis	
5. Implementation of Wetland Conservation Activities					
<ul style="list-style-type: none"> • Priority of the action • Celebration of World Wetland 	<ul style="list-style-type: none"> • Site manager is responsible to implement the wetland activities 	<ul style="list-style-type: none"> • A separate unit needs to be assigned at all three tiers of the government • Assign the task to sub- 	<ul style="list-style-type: none"> • Respective Government (Federal, State and Local) 	On annual basis	

Mainstreaming areas	What exists	What needs to be done for mainstreaming?	Responsibility	Timeframe	Remarks
Day-WWD (February-2) <ul style="list-style-type: none"> Restoration of wetlands 		ordinate staff <ul style="list-style-type: none"> Joint venture on WWD celebration is recommended Threats assessment 	<ul style="list-style-type: none"> Site manager NGOs Local Communities 		
6. Research and monitoring and RIS Update					
<ul style="list-style-type: none"> Record keeping and reporting of wetlands information, Regular update of RIS Publication and distribution of Photos, monitoring on species, water level 	<ul style="list-style-type: none"> RIS should be updated at the interval of every six years 	<ul style="list-style-type: none"> Online updating should be practiced and strengthened Government can sign MOU with University for annual monitoring of wetlands Research grant needs to be provided to young students 	<ul style="list-style-type: none"> Ramsar Secretariat National Authority National Focal Point Site Manager 	On regular basis	
7. Capacity Building					
<ul style="list-style-type: none"> Training and workshops, Field equipment with field gear, Study tour and best practice sharing 	<ul style="list-style-type: none"> Department of National Parks organize the meetings Partners organization organize exposure visits 	<ul style="list-style-type: none"> At least one training once a year needs to be organized for site managers Study tour for site managers is recommended 	<ul style="list-style-type: none"> MOFSC 	On annual basis	
8. Wise Use of Wetland Resources					
<ul style="list-style-type: none"> Resource assessment and sustainable 	<ul style="list-style-type: none"> Local communities have rights to use the resources 	<ul style="list-style-type: none"> Access to and equitable benefit sharing of wetland resources for 	<ul style="list-style-type: none"> MoFSC and its concerned departments 	On annual basis	

Mainstreaming areas	What exists	What needs to be done for mainstreaming?	Responsibility	Timeframe	Remarks
harvesting, <ul style="list-style-type: none"> • Introduction of Payment for Environmental Services, • Promotion of wetland-based tourism 		indigenous people and local communities need to be ensured <ul style="list-style-type: none"> • Sustainable harvesting plan needs to be developed • Payment of Environmental Services can be introduced 			
9. Integration of MEAs					
<ul style="list-style-type: none"> • Ramsar Convention, • Biodiversity Aichi Targets, • Paris Agreement of Climate Change, • Sendai Framework on Disaster Risk Reduction 	<ul style="list-style-type: none"> • Harmonization of Multilateral Environment Agreements initiated • NBSAP identifies cross-cutting issues 	<ul style="list-style-type: none"> • Joint meeting of convention focal points and representative of national authorities is recommended • Regular assessment of targets such as Aichi targets is recommended • Identification and classification of peatlands as wetland types, and promotion for their conservation as they contribute to mitigation and adaptation to CC. • Wetland conservation activities need to focus on SDGs 13, 14 and 15 	<ul style="list-style-type: none"> • MOFSC/MoPE 	On annual basis	Coherence among CBD, UNFCCC, Ramsar and other MEAs needs to be made to generate synergy for larger impacts as all the conventions are mutually reinforcing.

9. Conclusion and the Way Forward

As mentioned above, wetlands are cross cutting and multidisciplinary in nature. Wetlands are the most productive systems on earth, yet they are at the very forefront of loss and degradation. Wetlands are of immense value to local communities for their livelihood and sustenance. In Nepal, around 21 ethnic communities totally rely on wetlands for their subsistence. These common property resources act as the safety net in term of food security and environmental disaster. From an individual farmer to a larger enterprise business person, wetlands are a matter of concern for their day to day life and business. Lakes, rivers and reservoirs are the most attractive destinations for both domestic and external visitors.

Though the Government of Nepal has been carrying out various wetland conservation activities on an annual basis, wetlands face tremendous threats such as sedimentation, siltation, dredging, eutrophication, encroachment, garbage disposition and discharge of sewage and effluents. Over exploitation of water and wetland resources, access and equity of indigenous/local communities over wetland resources and benefits are some of the issues that need to be addressed. Climate change issues related to wetland conservation and disaster risk reduction also need to be considered while harmonizing policy related issues.

The Government of Nepal has embraced a federal system. Though the tiers of governments are independent in managing local resources, wetlands needs to be given due consideration owing to its cross cutting and trans-boundary nature, It is therefore essential to mainstream wetland issues in policy formulation, program and budget planning and during the implementation as well. While mainstreaming the wetland issues into planning process the principles and provisions of multilateral agreement like Ramsar Convention, Convention on Biological Diversity, Sustainable Development Goals, and Sendai Framework on Disaster Risk Reduction and Paris Agreement on Climate Change need to be taken into account.

Collection of information on wetland, record keeping, updating and reporting of RIS on a regular basis is a pre-requisite to mainstream wetland issues into policy and planning process. For which a comprehensive national inventory of wetlands is strongly recommended. With the restructuring of the governing mechanisms and the elections of new officials it becomes prudent that these institutions are sensitized and made accountable to the conservation of wetlands in Nepal. Similarly, the local bodies could be provided with technical support and guidance in preparing a holistic development plan, with due consideration for wetlands including financing. The newly formed local bodies

(Municipality and Rural Municipality) need to prepare a local disaster and climate resilience plans, wherein exists an opportunity for the said integration. The interim plan by National Planning Commission (NPC) with clear guidelines for allocation of resources for wetlands management by sectoral ministries can be a major boost. The National Wetland Committee (NWC) including the National Biodiversity Conservation Committee (NBCC) can take a lead towards the much needed advocacy and provide inputs to the NPC. Likewise, due attention must be paid whenever new policy and Acts are framed to seek opportunities for integration. Currently, the Land Use Act is being prepared, during which MOFSC can advocate for the integration of wetland issues and concerns. Wetland champions must be developed through a combination of education, awareness and training across sectors so that wetlands receive adequate attention in the long run.

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