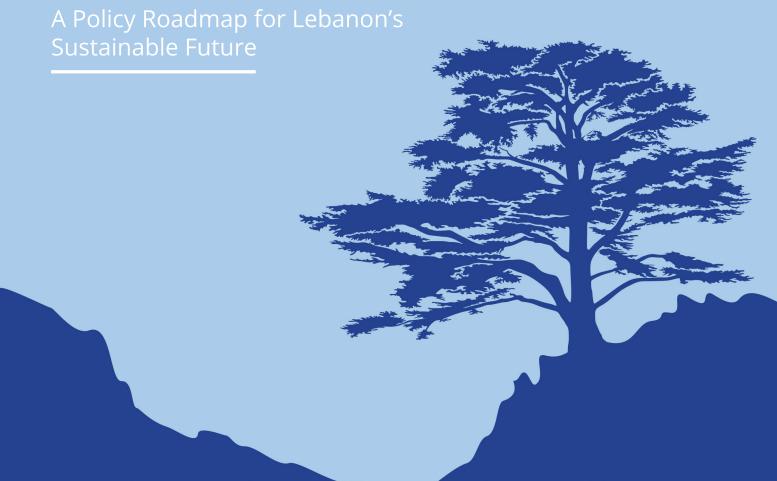


Advancing Nature Reserve Governance





Advancing Nature Reserve Governance

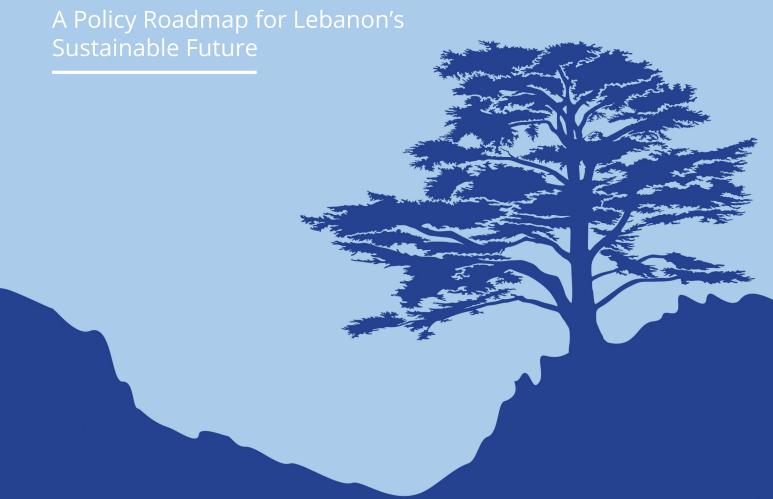






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Acronyms List

CBD	Convention on Biological Diversity
CEPF	The Critical Ecosystem Partnership Fund
GAC	Government Appointed Committee
GEF	The Global Environment Facility
IUCN	International Union for Conservation of Nature
MoA	Ministry of Agriculture
MoE	Ministry of Environment
MoIM	Ministry of Interior and Municipalities
NGO	Non-Governmental Organization
NR	Nature Reserve
NR-CLR	Natural Reserve Committee of Local Representatives
	from NGOs and stakeholders represented locally
NR-LMC	Natural Reserve Local Management Committee
NR-NAC	Natural Reserve National Advisory Committee
NR-NGC	Natural Reserve National Governance Committee
PA	Protected Area
PAP	Protected Areas Project
UNDP	The United Nations Development Programme
UNEP	The United Nations Environment Programme
WWF	The World Wildlife Fund

This document aims to evaluate and enhance the legal framework, community interaction, and governance structure within Lebanon's nature reserves. It provides a thorough roadmap for ensuring a sustainable future for Lebanon while protecting the country's priceless natural resources by outlining existing concerns and offering focused policy solutions. This policy report is based on a comparative examination of global best practices and incorporates insightful comments from numerous parties involved in the management of nature reserves.

Executive Summary

Nature reserves (NR) are areas that are set aside and managed for the conservation and protection of their natural resources. These areas may include national parks, wildlife refuges, or wilderness areas and play a critical role in maintaining the health and well-being of our planet and its inhabitants by conserving biodiversity, maintaining ecological balance, providing cultural and recreational value, and presenting opportunities for scientific research. These, among many other reasons, showcase the importance of preserving, conserving, and maintaining such assets by properly governing each of their aspects to the extent needed.

The governance structure of Lebanon's nature reserves is a shared responsibility among several national authorities and parties. The Protected Areas Project (PAP), managed by a local NGO, was the first approach adopted to govern protected areas (PA) in Lebanon. However, it was later replaced by the Government Appointed Committee (GAC), comprising representatives from the local government, municipalities, and local NGOs. Nevertheless, this approach has failed to deliver effective results for the conservation of Lebanon's natural resources and was only ever successful due to the immense effort given by certain concerned individuals.

To put it bluntly, even if harsher than needed, the legal framework of Lebanon's nature reserves is inchoate, with many gaps and loopholes. The current laws and regulations lack clear definitions, standards, and guidelines for the management and protection of these reserves, rendering the conservation efforts ineffective. The lack of proper enforcement mechanisms and penalties for violators further aggravates the problem.

This environmental policy proposal aims to assess the governance structure and legal framework of Lebanon's nature reserves and provide policy recommendations for improvements.

Lebanon has 18 recognized NRs, the management of these reserves is divided among several national authorities and other parties (El Haj, 2021). The paper will conduct a comparative analysis of best international practices to assess the effectiveness of the reserve system in Lebanon, taking into account the problematics

and proposed solutions from multiple NR' governors, and will consequently propose policy recommendations for further enhancement of PAs. To improve the governance structure and the legal framework of Lebanon's nature reserves, this environmental policy paper recommends the following:

- Establishing clear classification guidelines for NRs in Lebanon.
- Setting the minimal evident parameters requiring proper comprehensive planning and implementation upon the classification and governance type of the reserve.
- Creating a unified and comprehensive governance structure for all nature reserves in Lebanon, with clear roles and responsibilities for all stakeholders.
- ♠ Developing and implementing a robust legal framework with clear definitions, standards, and guidelines for the management and protection of nature reserves depending on the former attained recommendations. This framework should also include enforcement mechanisms and penalties for violators.
- Strengthening the capacity and leadership of the Lebanese government to effectively manage and conserve nature reserves. This includes providing training and resources for government officials, creating a dedicated agency or department for nature reserve management, and taking part in international conventions and treaties promoting better NR' preservation and governance.
- Encouraging community participation and engagement in NR management through the establishment of community-based conservation programs and partnerships between local communities and nature reserve managers.
- Conducting regular assessments and monitoring of NR to evaluate their effectiveness in achieving conservation goals and identifying areas for improvement.

Introduction

NRs are areas of land or water that are designated to protect and preserve natural ecosystems, biodiversity, and wildlife (IUCN, 2013). This environmental policy proposal attempts to evaluate Lebanon's nature reserves' governing and regulatory frameworks and offer suggestions for improvement. After considering the challenges and solutions put forth by various governors of NRs, the study reveals a comparative analysis of best international practices to determine the efficacy of the reserve system in Lebanon. Finally, it proposes policy recommendations for improving PAs.

Methodology

The study assesses the effectiveness of the reserve system on the Lebanese scheme by adopting a mixed-methods approach. The paper conducts a literature review of best international NR governance practices. It then additionally analyzes five case studies of different NRs in Lebanon. Data was collected from interviewing five representatives from five protected areas in different regions in Lebanon. The participants are the general managers of Horsh Ehden and Shouf Cedars reserves, Bentael reserve's chairman, Tannourine reserve's committee member, and the president of the Association of Forests, Development and Conservation.

The participants shared their views with regard to the needs of the NRs they represent and serve correspondingly. Themes were employed to organize and analyze the collected data from the interviews through thematic analysis. The themes stemmed from the aim to uncover the needs of natural reserves in Lebanon.

Challenges

Data, collected from desk reviews and interviews of committee members from several protected areas in different regions in Lebanon, revealed that the majority of Lebanese NRs are governed as one type. Despite the amendment of the NR law year 2019, the law still requires a lot of updates and further amendments. Desk reviews uncovered that there are no formal nor legal requirements for each category, such as site features, management systems, designating authorities, or regulatory systems, according to the MoE or the legislation. Additionally, the definition and determination of each category's categorization criteria remain ambiguous. Several sites had overlapping findings because of the lack of consensus among authorities on baseline definitions for categorization (Azzam, 2022).

Data from interviews came in alignment with the literature review as the interviewees acknowledged the new protected area-classifications brought about by the new law; however, they demanded an established proper foundation for governing these areas in correspondence to their classifications. For instance, Bentael reserve's chairman requested "The law must be amended to commensurate with the reserve's interest to assist and operate at the reserve level". The general manager of Horsh Ehden further called for a new law to apply the new classifications to better be able to govern them. Tannourine reserve's committee member favored the previous claims "We need laws of how to govern according to the classifications". Moreover, Shouf Cedars reserve's general manager highlighted some points not attended by the law. For example, "the region's mapping or studies, these need decrees or decisions from the Ministry of Environment". Hence, it was prevalent that all participants sought clarifications for ambiguities to disclose operational implementation details and specifications of the law.

Provided with these insights, it can be concluded that the Lebanese NRs have a poor governance structure whereby their classifications need to further align with their ascendency.

Recommendations

Building on the aforementioned significant tenets, the suggestions were designed utilizing an interdisciplinary methodology. A broad vision of the desired social and environmental objectives serves as the foundation for natural resource governance, which also allows for adaptability in response to new information and evolving conditions. Although effective governance may be seen as a goal, it is also a process that may be carried out by a number of different stakeholders. Because good governance in protected areas must demonstrate certain key characteristics, the following recommendations were developed using an eclectic approach, incorporating several key principles of good governance frameworks and other best practices carried out by international models.

Classifications

Classifications of Nature Reserves - International Guidelines

The classification of PAs varies with correspondence to nation and protection level. The International Union for Conservation of Nature's (IUCN) classification of PAs is widely accepted on a global scale, and it is recognized by organizations such as the United Nations and many national governments. It establishes a global standard for identifying and classifying PAs in accordance with management goals. However, not all PAs fit neatly into these categories, but governing goals will. Consequently, the following section mainly provides a broad overview of PAs types, with references to IUCN classification, UNESCO² designations, and Natura 2000² sites.

- Strict Nature Reserve: PAs that restrict human access and interference to safeguard biodiversity, endangered species, ecological processes, and geological/geomorphological characteristics for scientific study and monitoring.
- Wilderness Area: Large, natural PAs managed to maintain their natural condition and retain their natural character in the absence of permanent human occupancy.

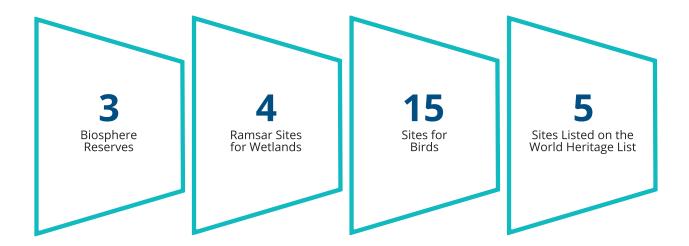
- Natural Monument or Feature: PAs set aside to conserve a specific natural monument, such as a landform or living feature, with significant visitor value.
- Habitat/Species Management Area: PAs managed to protect certain species or environments that may require ongoing interventions to sustain ecosystems.
- Protected Landscape/Seascape: PAs where the interaction of people with nature has resulted in an area of distinct character with significant ecological, cultural, and scenic value.
- Resources: PAs that preserve ecosystems and habitats, as well as cultural values and traditional natural resource management methods, with low-level non-industrial use of natural resources.

Classifications of Lebanese Nature Reserves

Today, Lebanon features at least 18 nature reserves (El Haj, 2021). Different documents reviewed showed a few inconsistencies in reported numbers of PAs (UNDP, 2005; MOE, 2006) in each category, reflecting a previous lack of agreement on baseline definitions for classification. The classification should vary according to designation authority, site characteristics and governance (management system), the year of the regulation of the passed law, and the decree or regulation defining the designation. However, neither the MoE nor the law has identified formal or legal criteria for each category such as site characteristics, management system, designation authority, or regulatory system (consisting of laws, decrees, and decisions). Thereupon, the classification criteria of each category remain undefined and undetermined (Azzam, 2022).

The lack of agreement between authorities on baseline definitions for classification led many sites (MoE, MoA, and MoIM) to have overlapping decisions (Azzam, 2022).

However, there had been futile attempts to classify existent Lebanese nature reserves most prominently by UNESCO through the Man and the Biosphere Program (MAB)¹:



PAs are designated to preserve and protect natural environments, biodiversity, ecological processes, and cultural heritage. Different types of PAs have different conservation priorities, legal protections, human activities allowed, and scientific research permitted. Identifying the classification of a NR is important for effective conservation planning and management, as well as ensuring that human activities within PAs are compatible with conservation objectives.



One of the 5 sites listed on the World Heritage List, classified as a World Heritage Site (Kadisha Valley) (Elias, 2015).

Classification Criteria

	Strict Nature Reserve	Wilderness Area	Natural Park
Type of Land	Unmodified or 1/3 modified	2/3 in natural condition	2/3 in natural condition
Size	Large	N/A	Large
Human Access	Absence of direct human intervention	Absence of human disturbance	Visitor opportunities with specific zones of strict visitation
Biodiversity Conservation	 Protection/ no active management of the habitat Sustainable uses of natural resources 	Sustainable uses of natural resources	Sustainable uses of natural resources
Significance		 Ecological Geological Physiographic Scientific Educational Scenic Historic 	SpiritualScientificEducationalRecreationalTouristic

Natural Monument/ Feature	Habitat/ Species Management Area	Protected landscape/ Seascape	Managed Resources Protected Area
 Landform Sea mount Submarine Cavern Geological Feature Living Sea mount Submarine cavern Geological feature 	 Breeding area Wetlands Coral reefs Estuaries Grasslands Forests 	LandscapeCoastal seascapeIsland seascape	2/3 in natural condition
Large	Small Medium Large	N/A	Large
Touristic access	Allowed human access	Tourist access	Allowed human access
Protection and maintenance of specific natural features not on habitats	 Protection of species: Flora Protection of species: Fauna Active management to maintain target species. Active management of natural or seminatural & culturally defined ecosystems 	 Landscape/ seascape conservation Protection of Flora Habitat Protection of Fauna Habitat 	 One-third of the area is allowed to be modified. Sustainable uses of natural resources
 Waterfalls Caves Craters Fossil beds Sand dunes Fauna Flora Associated cultural features Cave dwellings Archaeological sites 	N/A	 High scenic quality Public enjoyment Recreation Tourism Economic 	N/A
Natural sitesHeritage			



This table represents a set of criteria and their biodiversity variables, which simplify the process to identify additional areas of high biodiversity significance and therefore support achieving the Convention on Biological Diversity (CBD) (Biological Conservation, 2017). The primary criteria are inclusive of type of land, area size, biodiversity, and significance. Social, cultural and/or economic criteria can be additional layers in the decision-making process applied primarily in the selection of sites from the candidate areas.

After suspecting that a certain area can be potentially eligible to be classified as a nature reserve, proper testing ought to be made upon specific biological and ecological criteria to aid the selection of areas for biodiversity conservation.

Hence, it is recommended that Lebanon comes to a consensus of guidelines of which selection criteria to adopt for its reserves. Lebanon should decide on which responsible entities to delegate the required tests along with preparing and equipping laboratories with required materials and training its staff specialists to assure the precision of results. In addition, seeking guidance from international laboratories to generate new insights for nature and sustainable development is substantially needed and recommended.

Tools for Mapping Nature Reserves in Lebanon

A challenge in implementing biodiversity conservation is in reconciling comprehensive criteria for identifying significant areas and representative networks for biodiversity protection. To ensure the effective selection and management of NRs, mapping tools, and verification tests can be employed. The selection criteria, mapping tools, and verification tests used for each reserve can vary depending on its specific requirements and goals. However, some general tests, for verifying that the selection criteria for a reserve are met, include scientific research, monitoring, stakeholder engagement, and evaluation. Examples of mapping tools that may be used for classifying and mapping NRs include satellite imagery, GIS mapping, aerial photography, and oceanographic data (The European Business Review, 2021).

Satellite imagery is now a familiar technology around the world. For instance, while some satellites include global imagery, comprising historical imagery dating more than forty years, which can be used to map an area and help give baseline habitat data, others promise to offer online resources for satellite images, maps, and terrain. Satellite mapping can examine a region marked on its base map to determine the rate of forest loss during this millennium. Certain mapping platforms use more than 175 satellites in orbit, taking daily images from anywhere on earth from three to five meters accuracy resolution (IUCN, 2013).

Some satellite monitoring provides a persistent view of land, assets, and operations given any location on Earth, especially when related to forestry. Some can provide high-frequency satellite imagery and data, stereo collection for 3D, models and video recording of any location in the world, allowing the detection of certain biodiversity or habitats and performing accurate measurements for habitat or species, accompanied by geometric, radiometric, and atmospheric corrections. Such tools can aid in the identification and mapping of ecosystems and promote consistency of ecosystem classifications between regions. This entails conducting testing for the criteria for the identification of candidate-PAs

Strict NRs are discovered using satellite imagery, aerial photography, and UAV remote sensing technology, which can identify areas that provide habitats and protection for wildlife, especially endangered species, and minimize human disturbance. In addition, Wilderness Areas are identified using GIS mapping tools, identifying areas that protect large tracts of wild and undeveloped land and offer opportunities for solitude and recreation.

National Parks are recognized using GIS mapping tools, which highlight areas of exceptional natural beauty and cultural or historical significance. These areas are further verified through field surveys, data collection, and public input to confirm unique flora and fauna and cultural significance.

Natural Monuments or Features are identified using GIS mapping tools, which highlight areas of outstanding natural beauty, with unique geological or ecological processes, and significant biodiversity or cultural values. Geological Reserves are identified using GIS mapping tools, which can identify areas that preserve significant geological features, minerals, or fossils and promote

scientific research. Verification is then conducted through scientific research, monitoring, and evaluation.

Protected Landscape/ Seascape are detected using satellite imagery, oceanographic data, and aerial photography, which can identify areas of ocean or coastal waters that provide protection for marine biodiversity and have restrictions on human activities such as fishing or boating and can identify wetland areas that provide significant ecological, cultural, and economic benefits and support waterfowl populations. Verification is then conducted through monitoring, enforcement, and evaluation.

PAs can be determined using GIS mapping tools. Verification is then conducted through scientific research, monitoring, and evaluation, to ensure that the seed bank stores and maintains genetic diversity of plant species for conservation and research and promotes access to the seeds.

Depending on the type of NR, remote mapping could be only the first step of many from the classification process; tests done by proficient and qualified entities in licensed and certified institutions allow the confirmation of any further doubt and dispense concerns which require addressing in the forthcoming planification process.

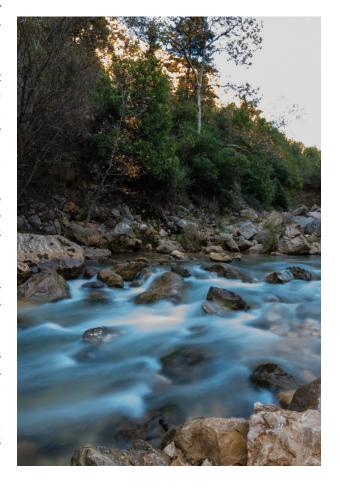
Entities eligible for conducting such tests are Government agencies responsible for the management and protection of NRs, non-governmental organizations (NGOs) with a focus on conservation, biodiversity, and natural resource management, scientific institutions, and research organizations with expertise in environmental science, conservation biology, or natural resource management, and local communities and indigenous peoples who hold traditional knowledge and practices related to the management and conservation of natural resources (IUCN, 2021).

Additional bodies concerned with testing probable NRs involve accredited third-party organizations or auditors experienced in the verification and evaluation of NRs. These units are expected to carry out several examinations including water quality tests in laboratories equipped with water quality testing facilities, such as pH meters, spectrophotometers, and dissolved oxygen meters. Soil analysis, among others, is further anticipated to be performed in laboratories suitably supplied with sieves, balances, soil nutrient testing kits, and others (Kai Song et al., 2020).

Furthermore, biodiversity surveys are recommended to be performed by field biologists and ecologists licensed to conduct analyses in specialized laboratories prepared with DNA extraction and genetic analysis devices, constituting, but not limited to, PCR machines, gel electrophoresis gear, air quality monitoring for factors including particulate matter, ozone, and carbon monoxide.

Moreover, wildlife tracking can be conducted through telemetry equipment, such as GPS collars or radio transmitters by wildlife biologists and ecologists, meeting the required quality standards. All the while, ensuring that the individuals or organizations performing the tests have no conflict of interest and adhere to ethical and professional standards in their work (Wildlife Act, 2018).

Properly mapping out and testing probable NRs, and assigned necessary parameters enabling the best conservation procedure, and managing implementation from strategy to result secure the required outcome. By proper mapping, conservationists and policymakers can make informed decisions to ensure the long-term protection and sustainable use of NRs.



Governance

Mapping is an essential tool for the effective governance of NRs whereby the latter governance is crucial for the proper management and conservation of NRs. Several types of governance can be applied to NRs depending on the specific needs of the reserve and the limitation or mandate of the local context. The following are the different forms of governance of NRs:

- Governance by government: involves management by government agencies responsible for conservation and natural resource management.
- Shared governance: is another type, including management by various rights-holders & stakeholders together.
- Private governance: involves management by private entities such as non-governmental organizations, businesses, and philanthropic organizations.
- Governance by indigenous peoples and local committees: is represented through the government's collaboration with local communities, indigenous people, and other stakeholders to manage the reserve.

Regardless of the type of governance, it ought to be effective, transparent, and participatory. Good governance should prioritize the conservation of natural resources, ensure sustainable use of resources, involve local communities and stakeholders in decision-making, and monitor and enforce compliance with regulations. Efficient governance can help prevent illegal activities such as poaching, logging, mining, and fishing, which can negatively impact the environment and local communities. Therefore, effective governance is essential for the successful management and conservation of NRs (Graham et al., 2003).







Governance Framework

Governance types	A. Gove	rnance by gov	A. Governance by government		B. Shared governance		
Protected area categories	Federal or national ministry or agency in charge	Sub- national ministry or agency in charge	Government- delegated management (e.g., to an NGO)	Transboundary management	Collaborative management (various forms of pluralist influence)	Joint managen (plurali managen board	
	PLAN Ia-A1	PLAN Ia-A2	PLAN Ia-A3	PLAN la-B1	PLAN la-B2	PLAN la	
la. Strict Nature Reserve							
	PLAN Ib-A1	PLAN Ib-A2	PLAN Ib-A3	PLAN Ib-B1	PLAN lb-B2	PLAN Ib	
lb. Wilderness Area							

C. Private governance			D. Governance by Inc local com	digenous peoples and nmunities
Declared and run by individual land- owners	By non-profit organizations (e.g., NGOs, universities)	By for-profit organizations (e.g., corporate owners, cooperatives)	Indigenous peoples' protected areas and territories – established and run by indigenous peoples	Community conserved areas – declared and run by local communities
PLAN Ia-C1	PLAN la-C2	PLAN la-C3	PLAN la-D1	PLAN Ia-D2
PLAN lb-C1	PLAN lb-C2	PLAN Ib-C3	PLAN lb-D1	PLAN Ib-D2



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II. National Park	PLAN II-A1	PLAN II-A2	PLAN II-A3	PLAN II-B1	PLAN II-B2
III. Natural	PLAN III-A1	PLAN III-A2	PLAN III-A3	PLAN III-B1	PLAN III-B2
Monument	PLAN IV-A1	PLAN IV-A2	PLAN IV-A3	PLAN IV-B1	PLAN IV-B2
IV. Habitat/ Species Management					
V. Protected Landscape/ Seascape	PLAN V-A1	PLAN V-A2	PLAN V-A3	PLAN V-B1	PLAN V-B2
	PLAN VI-A1	PLAN VI-A2	PLAN VI-A3	PLAN VI-B1	PLAN VI-B2
VI. Protected Area with Sustainable Use of Natural Resources					

PLAN II-B3	DI AN II C1	DI ANI II CO	PLAN II-C3	PLAN II-D1	DI ANI II DO
PLAN II-B3	PLAN II-C1	PLAN II-C2	PLAN II-C3	PLAN II-DI	PLAN II-D2
PLAN III-B3	PLAN III-C1	PLAN III-C2	PLAN III-C3	PLAN III-D1	PLAN III-D2
DI ANI DI DO	DI ANI DI CI	DI ANI II / CO	DI ANI II / CO	DI ANI DI DI	DI ANI IV DO
PLAN IV-B3	PLAN IV-C1	PLAN IV-C2	PLAN IV-C3	PLAN IV-D1	PLAN IV-D2
PLAN V-B3	PLAN V-C1	PLAN V-C2	PLAN V-C3	PLAN V-D1	PLAN V-D2
DI ANIA DO	DI ANIA II GA	DI ANIA CO	DI ANIA CO	DI ANIVE DA	DI ANIA DE
PLAN VI-B3	PLAN VI-C1	PLAN VI-C2	PLAN VI-C3	PLAN VI-D1	PLAN VI-D2

An efficacious nature reserve policy framework is recommended to provide clear policy directions for the PA's main concerns, especially contentious issues, and ensures that the directions are consistent with both budgetary allocations and management practice. Since good governance in PAs shall demonstrate certain key characteristics, the governance framework dimensions were developed using an eclectic approach, incorporating several key principles of good governance frameworks. The aforementioned principles are found to be the most essential principles.

Furthermore, it is of paramount importance to have models within the government with pre-set timeframes for each requirement alongside the course of action for the program concerned (IUCN, 2013).

Having NR classifications allows setting the different aspects needed to manage, having set the governance type prescribed by the actualities of that specific NR specifies the constraints or the abundance escorting the governance of the NR. Consequently, a system must be set in place covering all possible scenarios, empowering the best outcome possible, immunizing the conservation of the NR from conflict of interest, corruption, bias, neglect, hampering etc.

To address these challenges, it is proposed to create a set of committees focused on NR governance, to develop a framework for conserving, preserving, and sustaining these important ecosystems.

Committees

These committees are represented by the following four bodies:

NR-NAC, Natural Reserve National Advisory Committee: This committee is composed of theoretical experts with extensive knowledge and expertise in the field of natural resource management. It provides recommendations and guidance to the government and other stakeholders on policies and strategies related to the management of nature reserves. It further conducts research and studies on various issues related to natural resource management and provides scientific and technical advice to the other committees.

- NR-NGC, Natural Reserve National Governance Committee: This committee is responsible for creating a feasible and sustainable plan for managing all NRs in Lebanon. It consists of representatives from various government ministries, as well as experts in engineering, and law. The committee should consider the recommendations of the Advisory Committee to create a comprehensive plan that outlines the goals, management structure, and budget required for each NR. The committee should also provide ongoing training to the local management committee, conduct regular monitoring of the reserve, and ensure transparency and accountability in the management process. Additionally, it should prioritize funding and resources based on the importance and urgency of tasks within each NR, and facilitate collaborations among local NGOs, funders, and NRs. The committee shall establish a proper mechanism for any request concerning the NR and integrate new rules, laws, and decrees.
- NR-LMC, Natural Reserve Local Management Committee: This committee is responsible for the day-to-day management and operations of a specific NR. It is composed of local stakeholders, including representatives from surrounding municipalities, community leaders, and representatives from local NGOs. It develops and implements management plans for the NR and ensures that the policies and strategies developed by the NR-NGC are carried out effectively.
- NR-CLR, Natural Reserve Committee of Local Representatives from NGOs and stakeholders represented locally: This committee acts as a link between the NR local management committees and the international community. It is composed of representatives from various NGOs represented locally, that work on environmental and natural resource management issues. It provides feedback and input on policies and strategies developed by the other committees and ensures that the concerns and needs of the local communities are taken into account in the management of NRs. It also helps to raise awareness and mobilize resources from the international community to support the management of NRs.

Duties and Scope of Work:

NR-NAC, Natural Reserve National Advisory Committee:

The NR-NAC shall be responsible for theorizing, setting guidelines, and planning all the necessary steps to efficiently govern NRs.

To attain this, the committee is expected to identify the areas of expertise which it should encompass. The committee shall be composed of professionals with proven expertise in the field from the country's most reputable universities and a representative from the Ministry of Education & Higher Education (MEHE) in Lebanon. The experts come from various fields such as ecology, conservation biology, environmental science, law, economics, and other fields.

Having covered the understanding of the natural and cultural phenomena and processes, and the protection and use of the areas within the system, emphasis must be given to undertaking research essential for management purposes. Consequently, the committee shall be conducting proper research, testing and laying the framework for the implementation by the responsible bodies. The framework must include best practices in nature reserve management, policies for NR governance, and development agendas on nature reserves for paving the way for the NR-NGC to perform its duties.

Integrating in universities' curricula, programs that allow for better involvement in the conservation and protection of NRs is further recommended. This will be achieved by establishing partnerships between universities and NRs, developing interdisciplinary providing coursework, experiential learning opportunities, leveraging technology, and promoting research and innovation. Through these programs, universities can provide their students with the knowledge, skills, and practical experience needed to become effective participants in their respective domains. These programs can also help advance the scientific understanding of NRs and support the ongoing efforts to protect and conserve these important ecosystems. To extend educational and training opportunities at the professional, technical and vocational level to forestry personnel, it is additionally recommended that all results be published and updated every year insuring the right of access to information.

Finally, the committee must develop a communication strategy to ensure that its findings and recommendations are disseminated to relevant stakeholders, including government agencies, NGOs, and local communities. Henceforth, the local community, civil society organizations, and other stakeholders should be engaged in the decision-making process and should be consulted regularly to ensure that their needs and concerns are taken into account. This can contribute to building trust and ensuring that the management of the reserve is accountable and transparent.

The NR-NAC will also set the process for selecting members of the Nature Reserve National Governance Committee (NR-NGC). This would involve establishing clear criteria for selecting committee members based on factors such as expertise, representation, independence from conflict of interest, and accountability. The Ministry of Environment would then be responsible for implementing this selection process, ensuring that committee members are chosen transparently and fairly. The advisory has the right to conduct regular monitoring of the NR to assess its health and ensure that the management plan is being followed.

NR-NGC, Natural Reserve National Governance Committee:

The NR-NGC is portrayed as a practical committee planning and overseeing a framework for all NRs in Lebanon. It constitutes the representatives from the Order of Engineers and Architects- OEA members (electrical, mechanical, civil, environmental, and agriculture engineers as well as a green architect) with a specialization linked to environment conservation, representatives from the Ministries of Energy and Water, Interior, Environment, Agriculture, Economy and Trade, Public Works and Transport, Youth and Sports, Public Works and Transport, Tourism, Education and Higher Education, Justice, and a representative from the army and civil defense, and a representative of the lawyers' syndicate.

This committee is expected to cover all interrelated possible aspects of governing any type of NR, facilitate the communication and processes between different departments of the government, and set the procedures based on past experiences, from what hinders to what enables efficient management and decision-making application.

Creating a realizable detailed plan for the successful management of NRs in Lebanon is a critical step toward ensuring their long-term protection and conservation. By taking a comprehensive approach, this committee should reflect the theories, recommendations, and guidelines of the NR-NAC to create a NR governance plan that is feasible, effective, efficient, and sustainable. The plan should be achievable, exhaustive, and comprise specific deliverables from the governance of each type of the NR, including their governance structure and the corresponding detailed financial plan pertinent for its management.

To ensure the sustainability and non-corrupt structuring of the system, this committee shall take into consideration several parameters; For instance, there should be clear policies for the management of the NR, which should be publicly available and easily accessible. These policies should outline the nomination process of the members of the NR-LMC, the goals of the reserve, the management plan, and the rules and regulations that govern the reserve's use based on classifications and governance types. By taking into account the unique characteristics and needs of each NR in Lebanon, the NR-NGC shall create a roadmap for their sustainable management and conservation.

Additionally, the NR-NGC should provide ongoing training and capacity building to the NR-LMC to ensure that members have the skills and knowledge required to manage the reserve effectively, along with the succession plan. This can help ensure that the reserve is managed in an unceasing manner. Moreover, the committee shall conduct regular monitoring of the NR-LMC to assess the reserve's health and ensure that the management plan is being followed. This information should be regularly reported to the NR-NAC and the public to make certain that the management of the reserve is transparent and accountable.

Furthermore, the financial planning aspect is highly essential, where the financial resources required

for the management of each NR, including the staff remuneration, infrastructure, and other resources needed to effectively manage the reserve, should be detailed, and presented. The budget is set along the framework by the NR-NGC by prioritizing governance aspects within each NR. After allocating the budget for each reserve, the committee ought to prioritize tasks among all Lebanese NRs based on transcendence, necessities, and consequences. Then, the committee sets fund-provision and an implementation timeline. Sufficient funding and resources shall be accessed by the NR-NGC team whereby the priority shall be allocated for the designated committees to perform their duties and to prevent the adoption of insufficient projects. Furthermore, the committee supports and facilitates joint collaborations amongst local NGOs, funders, and NRs.

In addition, the committee shall ensure that there is a proper mechanism for any request concerning the NR within the government, with a specific time limit of response and detailed reasons with consequences for non-abidance, and integrate the new rules, laws and decrees with the limitation of each NR committee depending on its classification and governance type. All the while, getting the government to assign a specific judicial authority for all relevant cases.

NR-LMC, Natural Reserve Local Management Committee:

Each NR is expected to have a committee supervising it. These committees can be established from representatives from surrounding municipalities, civic societies and organizations in that field with a set of rules and regulations for an appointment, nomination, candidacy, term length, recurrence, etc. The management of a NR should be carried out by a qualified and dedicated team that has expertise in relevant fields such as biology, ecology, conservation, and environmental management. They should be appointed based on qualifications, experience, and relevant skills. Their appointment should be independent of political interference or other forms of undue influence and shall be transparent and open to public scrutiny.

The NR-LMC committee shall design a work plan in a way outlining the key tasks and deliverables of

the committee governing each type of NR, as well as timelines of tasks and responsibilities for each committee member. The committee will ensure the designation of a prepared study of assessment along with the resources it needs to complete its work, such as access to data and information, and logistical support whereby it reports to the NR-NGC. The committee should have a preselected range of autonomy in managing the reserve, predetermined by the framework laid out by the central management committee, based on classifications and governance types to try and attain self-sustainability, if allowed by the limitation predetermined, from visitation tickets to benefiting from existing natural resources and services.

NR-CLR, Natural Reserve Committee of Local Representatives from NGOs and stakeholders represented locally:

The Committee of Representatives from Local NGOs constitutes representatives from non-profit organizations represented locally NR-CLR who report to the NR-NAC and collaborate with the local management committee. The role of this committee includes, but is not limited to, selecting priorities from the framework pre-set by the committee. The central management committee is expected to create a work plan in which it hierarchizes governance aspects within each NR and then designates weight to areas of need among all Lebanese NRs.

The NR-CLR shall then have a predetermined range of priorities and needs indicated by these work plans. However, if certain NGOs are constrained by particular limitations, such as being specialized in certain domains, having expertise in specific are being as, or eligible to intervene in certain regions beyond others, the committee shall improvise by averting from certain priorities on the work plan to intervene where it is best qualified. This can guarantee the avoidance of adopting partial, defective, or temporary projects on the account of others.

Additionally, since the central governance committee's role is to ensure that there's a proper mechanism for any request concerning the NR, the NR-CLR can influence decisions through the NR-NGC's system, which shall assure that all requests are adhered to.

This promotes more participation in the preservation and protection of the NRs, which in turn helps to foster credibility and guarantees the reserve's administration is transparent and responsible.

Furthermore, sufficient funding and resources from donor programs shall be mapped and sought by the NR-CLR committee. This way, the committee would act as a link between the NRs and the international community whereby it can disseminate the NR's needs to international donors, perform joint collaborations, and sign partnerships. The NR-CLR committee would then join efforts to search for the best way to implement the predetermined framework. It can then further map and propose the signature of treaties that would enhance Lebanese NRs.

It is the main role of NR-NAC to promote conservation, sustainable use, and protection of NRs and their resources. However, this committee is highly needed to compensate for the government's floundering through performing the above-stated tasks along with the provision of technical and financial support to governments.

It shall also urge the government into signing international treaties, take part in certain conventions attending to NR conservation and preservation, thus getting international support and abiding by international standards and technicalities.

There are several international programs and funds concerned with the preservation of NRs in the world. Some of them are listed below:

- The Global Environment Facility (GEF)
- The United Nations Development Programme (UNDP)
- The United Nations Environment Programme (UNEP)
- The World Wildlife Fund (WWF)
- The Nature Conservancy
- The International Union for Conservation of Nature (IUCN)
- The Convention on Biological Diversity (CBD)
- The Ramsar Convention on Wetlands
- * The UNESCO Man and the Biosphere Program
- * The Critical Ecosystem Partnership Fund (CEPF)

These aforementioned preceding programs and funds provide financial and technical assistance for the conservation and management of nature reserves, as well as support for the development of policies and strategies to promote sustainable use of natural resources.

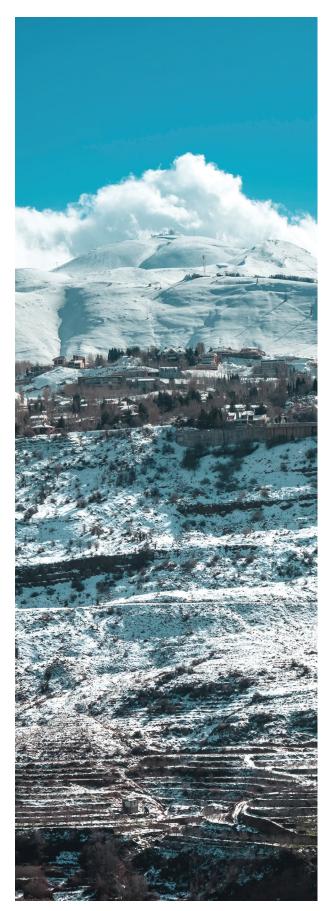
It is worth noting that if this committee failed to collect funds or donations, the NR-NAC should take over to avert the NR-NGC. All other tasks assigned will be covered by the NR-NGC in case of underperformance.

Conclusion

This study has proposed a rigorous, inclusive, and credible method for analyzing and enhancing natural resource governance at many levels and in diverse Lebanese settings.

The main purpose is to provide standards and guidelines for decision-makers at all levels to make better and more fair judgments about the use of natural resources and the distribution of nature's benefits, following good governance principles.

PA governance is guided by an overall vision of desired environmental and social outcomes. It allows for adaptation in response to learning and changing conditions. Hence, this study aspired to build a fully cohesive, and thorough evaluation and management plan, proposing a systematic and sustainable strategy for NRs in Lebanon. Recommendations constitute classifications of Lebanon's NRs reserves, provision of NR mapping tools, governance framework, a legal and institutional management framework, and effective management through allocating competent committees.



Annex: Matrix for Governance Type by NR Classification

Governance types	A. Governance by Government					
Area categories	Federal or national ministry or agency in charge	Sub-national ministry or agency in charge	Government-delegated management (e.g., to an NGO)			
	PLAN Ia-A1	PLAN Ia-A2	PLAN Ia-A3			
Ia. Strict Nature Reserve	 Identify and evaluate the unique ecological values and biodiversity. Identification of roles and responsibilities Clarify the goals and objectives of the management plan. Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Sustainable resource use Biodiversity protection and conservation strategies Stakeholder involvement, engagement & participation in management Development of collaborations and partnerships Collaborative management structure for the private sector and relevant public stakeholders. Zoning access and application of restriction Enforcement & compliance policies & procedures Budgeting and financing Cultural and historical preservation 	 Identify and evaluate the unique ecological values and biodiversity. Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Sustainable resource use Stakeholder involvement, engagement & participation in management Development of collaborations and partnerships Collaborative management structure for the private sector and relevant public stakeholders. Zoning access and application of restriction Enforcement & compliance policies & procedures Outreach and education for participation in management Scientific and educational research & studies Budgeting and financing Cultural and historical preservation 	 Identify and evaluate the unique ecological values and biodiversity. Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Sustainable resource use Biodiversity protection and conservation strategies Stakeholder involvement, engagement & participation in management Capacity building Corporate social responsibility Development of collaborations and partnerships Collaborative management structure for the private sector and relevant public stakeholders. Zoning access and application of restriction Enforcement & compliance policies & procedures Outreach and education for participation in management Scientific and educational research & studies Budgeting and financing Legal and policy framework Cultural and historical 			
			preservation			

Area categories	Federal or national ministry or agency in charge	Sub-national ministry or agency in charge	Government-delegated management (e.g., to an NGO)
	PLAN Ib-A1	PLAN Ib-A2	PLAN Ib-A3
_			

- Identify the wilderness and its boundaries.
- Identification of roles and responsibilities
- Establishment of management strategies & plan
- Enforcement & compliance policies & procedures
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Development of collaborations and partnerships
- Zoning access and application of restriction
- Outreach and education for participation in management
- Budgeting and financing
- Enforcement & compliance policies & procedures

- Identify the wilderness and its boundaries
- Identification of roles and responsibilities
- Clarify the goals and objectives of the wilderness area
- Establishment of management strategies
 & plan
- Enforcement & compliance policies & procedures
- Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Development of collaborations and partnerships
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building
- Scientific and educational research & studies
- · Budgeting and financing
- Enforcement & compliance policies & procedures

- Identify the wilderness and its boundaries
- Identification of roles and responsibilities
- Clarify the goals and objectives of the wilderness area
- Establishment of management strategies & plan
- Enforcement & compliance policies & procedures
- Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Corporate social responsibility
- Development of collaborations and partnerships
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building
- Scientific and educational research & studies
- Budgeting and financing
- Legal and policy framework
- Enforcement & compliance policies & procedures



Federal or national Government-delegated Sub-national ministry or Area categories ministry or agency in management (e.g., to an agency in charge charge NGO) **PLAN II-A1 PLAN II-A2 PLAN II-A3** Identify and evaluate the unique ecological Clarify the goals and values and biodiversity objectives of the national Identify and evaluate the unique ecological Clarify the goals and park values and biodiversity objectives of the Establishment of national park Clarify the goals and management strategies Establishment of objectives of the & plan national park Identification of roles management strategies and responsibilities Establishment of & plan Identification of roles management strategies Monitoring and and responsibilities evaluation for changes & & plan Monitoring and Identification of roles fluctuations evaluation for **Enforcement &** and responsibilities effectiveness of the Monitoring and compliance policies & management strategy evaluation for procedures Monitoring and effectiveness of the Climate change evaluation for changes management strategy strategies & fluctuations Monitoring and Identification of threats **Enforcement &** evaluation for changes and vulnerabilities compliance policies & & fluctuations **Emergency response** procedures **Enforcement &** plan Climate change compliance policies & Stakeholder strategies procedures involvement, **II. National** Identification of threats Climate change engagement & **Park** and vulnerabilities strategies participation in **Emergency response** Stakeholder management plan involvement, Corporate social Stakeholder engagement & responsibility involvement, participation in Collaborative engagement & management structure management participation in Collaborative for the private sector management management structure and relevant public Collaborative for the private sector stakeholders. management structure and relevant public Tourism and visitor for the private sector stakeholders. management plan and relevant public Development of Zoning access and collaborations and application of restriction stakeholders. Development of Cultural and historical partnerships collaborations and preservation Zoning access and partnerships application of restriction . Outreach and education Cultural and historical Tourism and visitor for participation in management plan preservation management Zoning access Outreach and education Capacity building and application of for participation in Budgeting and financing restriction management Biodiversity conservation Capacity building **Budgeting and** strategies

financing

Biodiversity

conservation strategies



Legal and policy

framework

Budgeting and financing •

Area categories	Federal or national ministry or agency in charge	Sub-national ministry or agency in charge	Government-delegated management (e.g., to an NGO)
	PLAN V-A1	PLAN V-A2	PLAN V-A3
V. Protected Landscape/ Seascape	 Definition of the area and its conservation objectives Clarify the goals and objectives for the protected landscape/ seascape Establishment of management strategies & plan Identification of roles and responsibilities Management and restoration strategies and actions Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Sustainable resource use Biodiversity conservation strategies Protect and maintain landscape/ seascape Tourism and visitor management plan Zoning access and application of restriction Outreach and education for participation in management Budgeting and financing Enforcement & compliance policies & procedures 	 Definition of the area and its conservation objectives Clarify the goals and objectives for the protected landscape/ seascape Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Stakeholder involvement, engagement & participation in management Zoning access and application of restriction Outreach and education for participation in management Capacity building Budgeting and financing Enforcement & compliance policies & procedures 	 Definition of the area and its conservation objectives Clarify the goals and objectives for the protected landscape/ seascape Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Management and restoration strategies and actions Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Corporate social responsibility Sustainable resource use Biodiversity conservation strategies Protect and maintain landscape/ seascape Tourism and visitor management plan Zoning access and application of restriction Outreach and education for participation in management Capacity building Budgeting and financing Legal and policy framework Enforcement & compliance policies & procedures

Area categories	Federal or national ministry or agency in charge	Sub-national ministry or agency in charge	Government-delegated management (e.g., to an NGO)
	PLAN IV-A1	PLAN IV-A2	PLAN IV-A3
IV. Habitat/ Species Management	 Definition of the area and its conservation objectives Identification of roles and responsibilities Clarify the goals and objectives of the habitat/species management plan Species/habitat identification and monitoring Establishment of management strategies & plan Identification of roles and responsibilities Management and restoration strategies and actions Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Sustainable resource use Biodiversity protection, maintenance and conservation strategies Zoning access and application of restriction Outreach and education for participation in management Budgeting and financing Enforcement & compliance policies & procedures 	 Definition of the area and its conservation objectives Identification of roles and responsibilities Clarify the goals and objectives of the habitat/species management plan Species/habitat identification and monitoring Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Zoning access and application of restriction Capacity building Budgeting and financing Enforcement & compliance policies & procedures 	 Definition of the area and its conservation objectives Identification of roles and responsibilities Clarify the goals and objectives of the habitat/ species management plan Species/habitat identification and monitoring Establishment of management strategies & plan Identification of roles and responsibilities Management and restoration strategies and actions Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Corporate social responsibility Sustainable resource use Biodiversity protection, maintenance and conservation strategies Zoning access and application of restriction Outreach and education for participation in management Capacity building Budgeting and financing Legal and policy framework Enforcement & compliance policies & procedures
			procedures

Area categories	Federal or national ministry or agency in charge	Sub-national ministry or agency in charge	Government-delegated management (e.g., to an NGO)
	PLAN V-A1	PLAN V-A2	PLAN V-A3
V. Protected Landscape/ Seascape	 Definition of the area and its conservation objectives Clarify the goals and objectives for the protected landscape/ seascape Establishment of management strategies & plan Identification of roles and responsibilities Management and restoration strategies and actions Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Sustainable resource use Biodiversity conservation strategies Protect and maintain landscape/ seascape Tourism and visitor management plan Zoning access and application of restriction Outreach and education for participation in management Budgeting and financing Enforcement & compliance policies & procedures 	 Definition of the area and its conservation objectives Clarify the goals and objectives for the protected landscape/ seascape Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Stakeholder involvement, engagement & participation in management Zoning access and application of restriction Outreach and education for participation in management Capacity building Budgeting and financing Enforcement & compliance policies & procedures 	 Definition of the area and its conservation objectives Clarify the goals and objectives for the protected landscape/ seascape Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Management and restoration strategies and actions Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Corporate social responsibility Sustainable resource use Biodiversity conservation strategies Protect and maintain landscape/ seascape Tourism and visitor management plan Zoning access and application of restriction Outreach and education for participation in management Capacity building Budgeting and financing Legal and policy framework Enforcement & compliance policies & procedures

Area categories	Federal or national ministry or agency in charge	Sub-national ministry or agency in charge	Government-delegated management (e.g., to an NGO)
	PLAN VI-A1	PLAN VI-A2	PLAN VI-A3

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Management and restoration strategies and actions
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Sustainable resource
- Protection and restoration through natural process
- Biodiversity conservation strategies
- Tourism and visitor management plan
- Zoning access and application of restriction
- Outreach and education for participation in management
- Budgeting and financing

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Stakeholder involvement, engagement & participation in management
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building
- Budgeting and financing

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Management and restoration strategies and actions
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Corporate social responsibility
- Sustainable resource use
- Protection and restoration through natural process
- Biodiversity conservation strategies
- Tourism and visitor management plan
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building
- Budgeting and financing
- Legal and policy framework



Governance types		B. Shared Governance	
Area categories	Transboundary management	Collaborative management (various forms of pluralist influence)	Joint management (pluralist management board)
	PLAN Ia-B1	PLAN Ia-B2	PLAN Ia-B3
la. Strict Nature Reserve	 Identify and evaluate the unique ecological values and biodiversity Identification of roles and responsibilities Clarify the goals and objectives of the management plan Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Stakeholder involvement, engagement & participation in management Capacity building Zoning access and application of restriction Enforcement & compliance policies & procedures Outreach and education for participation in management Scientific and educational research & studies Budgeting and financing Legal and policy framework 	 Identify and evaluate the unique ecological values and biodiversity Identification of roles and responsibilities Clarify the goals and objectives of the management plan Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Stakeholder involvement, engagement & participation in management Capacity building Collaborative management structure for the private sector and relevant public stakeholders. Zoning access and application of restriction Enforcement & compliance policies & procedures Outreach and education for participation in management Scientific and educational research & studies Budgeting and financing Cultural and historical preservation 	 Identification of roles and responsibilities Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Biodiversity protection and conservation strategies Stakeholder involvement, engagement & participation in management Capacity building & training Conflict resolution mechanisms Development of collaborations and partnerships Outreach and education for participation in management Scientific and educational research & studies Funding and resources identification & plan Legal and policy framework Cultural and historical preservation
		P	

	PLAN Ib-B1	PLAN Ib-B2	PLAN Ib-B3
Area categories	Transboundary management	Collaborative management (various forms of pluralist influence)	Joint management (pluralist management board)

- Identification of roles and responsibilities
- Clarify the goals and objectives of the wilderness area
- Establishment of management strategies & plan
- Enforcement & compliance policies & procedures
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building
- Scientific and educational research & studies
- Budgeting and financing
- Legal and policy framework
- Enforcement & compliance policies & procedures

- Identification of roles and responsibilities
- Clarify the goals and objectives of the wilderness area
- Establishment of management strategies & plan
- Enforcement & compliance policies & procedures
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building
- Scientific and educational research & studies
- Budgeting and financing
- Enforcement & compliance policies & procedures

- Identification of roles and responsibilities
- Clarify the goals and objectives of the wilderness area
- Monitoring and evaluation for changes & fluctuations
- Establishment of management strategies
 & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Conflict resolution mechanisms
- Development of collaborations and partnerships
- Tourism and visitor management plan
- Outreach and education for participation in management
- Capacity building & training
- Scientific and educational research & studies
- Funding and resources identification & plan
- Legal and policy framework



Area categories	Transboundary management	Collaborative management (various forms of pluralist influence)	Joint management (pluralist management board)
_	PLAN II-B1	PLAN II-B2	PLAN II-B3
II. National Park	Identify and evaluate the unique ecological values and biodiversity Clarify the goals and objectives of the national park Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Enforcement & compliance policies & procedures Identification of threats and vulnerabilities Emergency response plan Stakeholder involvement, engagement & participation in management Tourism and visitor management Tourism and visitor management plan Zoning access and application of restriction Outreach and education for participation in management Capacity building Budgeting and financing	collaborations and partnershipsCultural and historical preservationOutreach and education	 Identify and evaluate the unique ecological values and biodiversity Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Stakeholder involvement, engagement & participation in management Conflict resolution mechanisms Development of collaborations and partnerships Tourism and visitor management plan Zoning access and application of restriction Cultural and historical preservation Outreach and education for participation in management Capacity building & training Funding and resources identification & plan Biodiversity conservation
	Legal and policy framework	for participation in management Capacity building Budgeting and financing	strategies Legal and policy framework

Area categories	Transboundary management	Collaborative Joint manageme management (various (pluralist managen forms of pluralist board)	
	PLAN III-B1	PLAN III-B2	PLAN III-B3

- Identify and evaluate the unique ecological values and biodiversity
- Clarify the goals and objectives of the natural monument
- Establishment of management strategies & plan
- Enforcement & compliance policies & procedures
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Capacity building
- Budgeting and financing
- Legal and policy framework

- Identify and evaluate the unique ecological values and biodiversity
- Clarify the goals and objectives of the natural monument
- Establishment of management strategies & plan
- Enforcement & compliance policies & procedures
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Outreach and education for participation in management
- Capacity building
- Budgeting and financing
- Cultural and historical preservation

- Identify and evaluate the unique ecological values and biodiversity
- Establishment of management strategies
 & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Conflict resolution mechanisms
- Development of collaborations and partnerships
- Sustainable resource use
- Biodiversity conservation strategies
- Protection and maintenance of natural features
- Tourism and visitor management plan
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework
- Cultural and historical preservation

III. Natural Monument/ Feature

Area categories	Transboundary management	Collaborative management (various forms of pluralist influence)	Joint management (pluralist management board)	
_	PLAN IV-B1	PLAN IV-B2	PLAN IV-B3	
	 Definition of the area and its conservation objectives Identification of roles and responsibilities Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and 	 Identification of roles and responsibilities Clarify the goals and objectives of the habitat/species management plan Establishment of management strategies 	 Definition of the area and its conservation objectives Identification of roles and responsibilities Clarify the goals and objectives of the habitat species management plan Species/habitat identification and monitoring Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and 	

IV. Habitat/ Species Management

- evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management
- and application of restriction

Zoning access

- Capacity building
- Budgeting and financing
- Legal and policy framework
- **Enforcement &** compliance policies & procedures

- & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Zoning access and application of restriction •
- Outreach and education for participation in management
- Capacity building
- Budgeting and financing •
- **Enforcement &** compliance policies & procedures

- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Conflict resolution mechanisms
- Sustainable resource use
- Biodiversity protection, maintenance, and conservation strategies
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan

Area categories	Transboundary management	Collaborative management (various forms of pluralist influence)	Joint management (pluralist management board)
	PLAN V-B1	PLAN V-B2	PLAN V-B3
V. Protected Landscape/ Seascape	 Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Sustainable resource use Zoning access and application of restriction Capacity building Budgeting and financing Legal and policy framework Enforcement & compliance policies & procedures 	 Clarify the goals and objectives for the protected landscape/ seascape Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Management and restoration strategies and actions Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Sustainable resource use Tourism and visitor management plan Zoning access and application of restriction Outreach and education for participation in management Capacity building Budgeting and financing Enforcement & compliance policies & procedures 	 Definition of the area and its conservation objectives Clarify the goals and objectives for the protected landscape/ seascape Establishment of management strategies & plan Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Management and restoration strategies and actions Monitoring and evaluation for changes & fluctuations Threats identification and management Emergency response plan Stakeholder involvement, engagement & participation in management Conflict resolution mechanisms Biodiversity conservation strategies Protect and maintain landscape/ seascape Tourism and visitor management plan Outreach and education for participation in management Capacity building & training Funding and resources identification & plan Legal and policy framework

VI. Managed

Protected Area

Resources

Area categories	Transboundary management	Collaborative management (various forms of pluralist influence)	Joint management (pluralist management board)	
	PLAN VI-B1	PLAN VI-B2	PLAN VI-B3	

Identification of roles and responsibilities Monitoring and

- Monitoring and evaluation for changes & fluctuations
 - Sustainable resource use
- Protection and Restoration through Natural Process
- Zoning Access and Application of Restriction
- Capacity building
- Budgeting and Financing

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Sustainable resource use
- Protection and Restoration through Natural Process
- Tourism and Visitor management plan
- Zoning Access and Application of Restriction
- Outreach and Education for participation in management
- Capacity building
- Budgeting and Financing
- Legal and policy framework

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Conflict resolution mechanisms
- Sustainable resource use
- Protection and Restoration through Natural Process
- Biodiversity conservation strategies
- Tourism and Visitor management plan
- Outreach and Education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

Governance types Area categories	C. Private governance		
	Declared and run by individual landowners	Governed by non-profit organizations (e.g., NGOs, universities)	Governed by for-profit organizations (e.g., corporate owners, cooperatives)
	PLAN Ia-C1	PLAN Ia-C2	PLAN Ia-C3

Identification of roles and responsibilities Monitoring and evaluation • for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Biodiversity protection and conservation strategies Stakeholder involvement, engagement & participation in management Ia. Strict Capacity building & Nature training Reserve Development of collaborations and partnerships Zoning access and application of restriction Outreach and education

for participation in

research & studies

Scientific and educational

Funding and resources

identification & plan

Cultural and historical

Legal and policy

framework

preservation

management

- Identification of roles and responsibilities
 Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Biodiversity protection and conservation strategies
- Stakeholder involvement, engagement & participation in management
- Capacity building & training
- Development of collaborations and partnerships
- Collaborative management structure for the private sector and relevant public stakeholders.
- Zoning access and application of restriction
- Outreach and education for participation in management
- Scientific and educational research & studies
- Funding and resources identification & plan
- Legal and policy framework
- Cultural and historical preservation

- Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Biodiversity protection and conservation strategies
- Stakeholder involvement, engagement & participation in management
- Capacity building & training
- Corporate social responsibility
- Development of collaborations and partnerships
- Collaborative management structure for the private sector and relevant public stakeholders.
- Zoning access and application of restriction
- Funding and resources identification & plan
- Legal and policy framework
- Cultural and historical preservation



Area categories Declared and run by individual landowners Declared and run by individual landowners PLAN Ib-C1 Declared and run by organizations (e.g., NGOs, universities) Governed by non-profit organizations (e.g., corporate owners, cooperatives) PLAN Ib-C2 PLAN Ib-C3

- Identification of roles and responsibilities
- Clarify the goals and objectives of the wilderness area
- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Development of collaborations and partnerships
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Scientific and educational research & studies
- Funding and resources identification & plan
- Legal and policy framework

- Identification of roles and responsibilities
- Clarify the goals and objectives of the wilderness area
- Monitoring and evaluation for changes & fluctuations
- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Development of collaborations and partnerships
- Tourism and visitor management plan
- Zoning access and application of restriction
- Capacity building & training
- Scientific and educational research & studies
- Funding and resources identification & plan
- Legal and policy framework
- Enforcement & compliance policies & procedures

- Identification of roles and responsibilities
- Clarify the goals and objectives of the wilderness area
- Monitoring and evaluation for changes & fluctuations
- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Corporate social responsibility
- Development of collaborations and partnerships
- Tourism and visitor management plan
- Zoning access and application of restriction
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework
- Enforcement & compliance policies & procedures

lb. Wilderness Area

Governed by for-profit Governed by non-profit Declared and run by organizations (e.g., **Area categories** organizations (e.g., NGOs, individual landowners corporate owners, universities) cooperatives) **PLAN II-C1 PLAN II-C2** PLAN II-C3 Identify and evaluate the unique ecological values and biodiversity. Identify and evaluate the Clarify the goals and unique ecological values objectives of the national and biodiversity. park Clarify the goals and Establishment of objectives of the national management strategies park. & plan Identify and evaluate the Establishment of Identification of roles and unique ecological values management strategies & responsibilities and biodiversity. plan Monitoring and evaluation Establishment of Identification of roles and for effectiveness of the management strategies responsibilities management strategy & plan Monitoring and evaluation Monitoring and evaluation Identification of roles and for effectiveness of the for changes & fluctuations responsibilities management strategy Climate change strategies Monitoring and evaluation Monitoring and evaluation Identification of threats for effectiveness of the for changes & fluctuations and vulnerabilities management strategy Identification of threats Emergency response plan Monitoring and evaluation and vulnerabilities Stakeholder involvement, for changes & fluctuations Emergency response plan engagement & Climate change strategies Stakeholder involvement, participation in II. National Identification of threats engagement & management **Park** and vulnerabilities participation in Collaborative Emergency response plan management management structure Stakeholder involvement, Corporate social for the private sector engagement & responsibility and relevant public

- participation in
- management Cultural and historical
- preservation Outreach and education for participation in
- management Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

- stakeholders.
- Development of collaborations and partnerships
- Tourism and visitor management plan
- Zoning access and application of restriction
- Cultural and historical preservation
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Biodiversity conservation strategies
- Legal and policy framework

- Collaborative management structure for the private sector and relevant public stakeholders.
- Development of collaborations and partnerships
- Tourism and visitor management plan
- Zoning access and application of restriction
- Cultural and historical preservation
- Capacity building & training
- Funding and resources identification & plan
- **Biodiversity conservation** strategies
- Legal and policy framework

Declared and run by individual landowners

Governed by non-profit organizations (e.g., NGOs, universities)

Governed by for-profit organizations (e.g., corporate owners, cooperatives)

PLAN III-C1

PLAN III-C2

PLAN III-C3

- Identify and evaluate the unique ecological values and biodiversity.
- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Development of collaborations and partnerships
- Biodiversity conservation strategies
- Protection and maintenance of natural features
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework
- Cultural and historical preservation

- Identify and evaluate the unique ecological values and biodiversity.
- Clarify the goals and objectives of the natural monument.
- Establishment of management strategies
 & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Development of collaborations and partnerships
- Sustainable resource use
- Biodiversity
 - conservation strategies
- Protection and maintenance of natural features
- Tourism and visitor management plan
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework
- Cultural and historical preservation

- Identify and evaluate the unique ecological values and biodiversity.
- Clarify the goals and objectives of the natural monument.
- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Corporate social responsibility
- Development of collaborations and partnerships
- Sustainable resource use
- Biodiversity conservation strategies
- Protection and maintenance of natural features
- Tourism and visitor management plan
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework
- Cultural and historical preservation

III. Natural Monument/ Feature

Governed by for-profit Governed by non-profit organizations (e.g., Declared and run by **Area categories** organizations (e.g., NGOs, individual landowners corporate owners, universities) cooperatives) **PLAN IV-C1 PLAN IV-C2 PLAN IV-C3** Definition of the area and its conservation objectives Definition of the area Identification of roles and its conservation and responsibilities objectives Clarify the goals and Identification of roles Definition of the area and responsibilities and its conservation species management Clarify the goals objectives plan. and objectives of Identification of roles Species/habitat the habitat/species and responsibilities identification and management plan. Species/habitat monitoring Species/habitat Establishment of identification and identification and management strategies monitoring monitoring Establishment of & plan Establishment of Identification of roles management strategies management strategies and responsibilities & plan & plan Identification of roles Monitoring and Identification of roles and responsibilities evaluation for and responsibilities Monitoring and effectiveness of the Monitoring and evaluation for management strategy evaluation for effectiveness of the Monitoring and effectiveness of the IV. Habitat/ management strategy management strategy **Species** Monitoring and fluctuations Monitoring and Management evaluation for changes Threats identification evaluation for changes & fluctuations and management & fluctuations collaboration with **Emergency response**

- stakeholders Biodiversity protection, maintenance, and conservation strategies
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

- Threats identification and management
- Emergency response plan
- collaboration with stakeholders
- Biodiversity protection, maintenance, and conservation strategies
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

objectives of the habitat/

- evaluation for changes &
- plan
- Stakeholder involvement, engagement & participation in management
- Corporate social responsibility
- Biodiversity protection, maintenance, and conservation strategies
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

V. Protected

Landscape/

Seascape

Area categories Declared and run by individual landowners PLAN V-C1 Declared and run by organizations (e.g., NGOs, universities) Governed by non-profit organizations (e.g., corporate owners, cooperatives) PLAN V-C2 PLAN V-C3

- Definition of the area and its conservation objectives
- Clarify the goals and objectives for the protected landscape/ seascape.
- Establishment of management strategies
 & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Stakeholder involvement, engagement & participation in management
- Sustainable resource use
- Biodiversity conservation strategies
- Protect and maintain landscape/ seascape.
- Tourism and visitor management plan
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan

- Definition of the area and its conservation objectives
- Clarify the goals and objectives for the protected landscape/ seascape.
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Sustainable resource use
- Biodiversity
- conservation strategies
- Protect and maintain landscape/ seascape.
- Tourism and visitor management plan
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

- Definition of the area and its conservation objectives
- Clarify the goals and objectives for the protected landscape/ seascape.
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Corporate social responsibility
- Sustainable resource use
- Biodiversity conservation strategies
- Protect and maintain landscape/ seascape.
- Tourism and visitor management plan
- Zoning access and application of restriction
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

VI. Managed

Protected Area

Resources

Area categories Declared and run by individual landowners PLAN VI-C1 Declared and run by organizations (e.g., NGOs, universities) Governed by non-profit organizations (e.g., corporate owners, cooperatives) PLAN VI-C2 PLAN VI-C3

- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Sustainable resource use
- Protection and restoration through natural process
- Biodiversity conservation strategies
- Tourism and visitor management plan
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Sustainable resource use
- Protection and restoration through natural process
- Biodiversity conservation strategies
- Tourism and visitor management plan
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Stakeholder involvement, engagement & participation in management
- Corporate social responsibility
- Sustainable resource use
- Protection and restoration through natural process
- Biodiversity conservation strategies
- Tourism and visitor management plan
- Zoning access and application of restriction
- Outreach and education for participation in management
- Capacity building & training
- Funding and resources identification & plan
- Legal and policy framework

Governance types	D. Governance by Indigenous Peoples and Local Commun			
Area categories	Indigenous peoples' protected areas and territories – established and run by indigenous peoples	Community conserved areas – declared and run by local communities		
la. Strict Nature Reserve	PLAN Ia-D1 Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Sustainable resource use Biodiversity protection and conservation strategies Indigenous people involvement, engagement & participation in management Capacity building & training Recognition and protection of indigenous rights Collaborative management structure for the private sector and relevant public stakeholders. Outreach and education for participation in management Scientific and educational research & studies Sustainable funding and resources identification & plan	PLAN Ia-D2 Identification of roles and responsibilities Monitoring and evaluation for effectiveness of the management strategy Monitoring and evaluation for changes & fluctuations Identification of threats and vulnerabilities Emergency response plan Sustainable resource use Biodiversity protection and conservation strategies Community involvement, engagement & participation in management Capacity building & training Recognition and protection of local rights Conflict resolution mechanisms Collaborative management structure for the private sector and relevant public stakeholders. Outreach and education for participation in management Scientific and educational research & studies Sustainable funding and resources identification & plan Legal and policy framework		
	. S. C. C. C. C. P. O. I.			



Indigenous peoples' protected areas and territories – established and run by indigenous peoples

Community conserved areas – declared and run by local communities

PLAN Ib-D1 PLAN Ib-D2

- Identify and evaluate the unique ecological values and biodiversity
- Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations

Identification of threats and

- vulnerabilitiesEmergency response plan
- Indigenous people involvement, engagement & participation in management
- Recognition and protection of indigenous rights
- Tourism and visitor management plan
- Outreach and education for participation in management
- Capacity building & training
- Scientific and educational research & studies
- Sustainable funding and resources identification & plan
- Enforcement & compliance policies
 & procedures

- Identify and evaluate the unique ecological values and biodiversity
- · Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Establishment of management strategies& plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- · Emergency response plan
- Community involvement, engagement & participation in management
- Recognition and protection of local rights
- Conflict resolution mechanisms
- Tourism and visitor management plan
- Outreach and education for participation in management
- Capacity building & training
- Scientific and educational research & studies
- Sustainable funding and resources identification & plan
- Enforcement & compliance policies & procedures

Ib. Wilderness Area

Indigenous peoples' protected areas and territories – established and run by indigenous peoples

Community conserved areas – declared and run by local communities

PLAN II-D1

PLAN II-D2

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Indigenous people involvement, engagement & participation in management
- Recognition and protection of indigenous rights
- Collaborative management structure for the private sector and relevant public stakeholders.
- Outreach and education for participation in management
- Capacity building & training
- Sustainable funding and resources identification & plan

- Establishment of management strategies& plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- · Climate change adaptation strategies
- Identification of threats and vulnerabilities
- · Emergency response plan
- Community involvement, engagement & participation in management
- Recognition and protection of local rights
- Conflict resolution mechanisms
- Collaborative management structure for the private sector and relevant public stakeholders.
- Outreach and education for participation in management
- Capacity building & training
- Sustainable funding and resources identification & plan

II. National Park

Indigenous peoples' protected areas and territories – established and run by indigenous peoples

Community conserved areas – declared and run by local communities

PLAN III-D1

PLAN III-D2

- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- · Emergency response plan
- Indigenous people involvement, engagement & participation in management
- Recognition and protection of indigenous rights
- Biodiversity conservation strategies
- Protection and maintenance of natural features
- Outreach and education for participation in management
- Capacity building & training
- Sustainable funding and resources identification & plan

- Establishment of management strategies
- · Identification of roles and responsibilities
- Monitoring and evaluation for effectiveness of the management strategy
- Monitoring and evaluation for changes & fluctuations
- Identification of threats and vulnerabilities
- Emergency response plan
- Community involvement, engagement & participation in management
- Recognition and protection of local rights
- Conflict resolution mechanisms
- · Sustainable resource use
- Biodiversity conservation strategies
- Protection and maintenance of natural features
- Tourism and visitor management plan
- Capacity building & training
- Sustainable funding and resources identification & plan
- Legal and policy framework



Indigenous peoples' protected areas and territories – established and run by indigenous peoples

Community conserved areas – declared and run by local communities

PLAN IV-D1

PLAN IV-D2

- Definition of the area and its conservation objectives
- Identification of roles and responsibilities
- Establishment of management strategies & plan
- Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- · Emergency response plan
- Indigenous people involvement, engagement & participation in management
- Recognition and protection of indigenous rights
- Biodiversity protection, maintenance and conservation strategies
- · Capacity building & training
- Sustainable funding and resources identification & plan

- Identification of roles and responsibilities
- Establishment of management strategies& plan
- · Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- · Emergency response plan
- Community involvement, engagement & participation in management
- Recognition and protection of local rights
- Conflict resolution mechanisms
- · Sustainable resource use
- Biodiversity protection, maintenance and conservation strategies
- Outreach and education for participation in management
- · Capacity building & training
- Sustainable funding and resources identification & plan

IV. Habitat/ Species Management

Indigenous peoples' protected areas and territories – established and run by indigenous peoples

Community conserved areas – declared and run by local communities

PLAN V-D1

PLAN V-D2

- Definition of the area and its conservation objectives
- Clarify the goals and objectives for the protected landscape/seascape
- Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Indigenous people involvement, engagement & participation in management
- Recognition and protection of indigenous rights
- Biodiversity conservation strategies
- Protect and maintain landscape/ seascape
- Tourism and visitor management plan
- Outreach and education for participation in management
- · Capacity building & training
- Sustainable funding and resources identification & plan
- Legal and policy framework

- Definition of the area and its conservation objectives
- Identification of roles and responsibilities
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Community involvement, engagement & participation in management
- Recognition and protection of local rights
- Conflict resolution mechanisms
- Biodiversity conservation strategies
- Protect and maintain landscape/ seascape
- Outreach and education for participation in management
- Capacity building & training
- Sustainable funding and resources identification & plan
- · Legal and policy framework





Indigenous peoples' protected areas and territories - established and run by indigenous peoples

Community conserved areas – declared and run by local communities

PLAN VI-D1

PLAN VI-D2

- Identification of roles and responsibilities
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Indigenous people involvement, engagement & participation in management
- Recognition and protection of indigenous rights
- Biodiversity conservation strategies
- Tourism and visitor management plan
- Outreach and education for participation in management
- Capacity building & training
- Sustainable funding and resources identification & plan

- Identification of roles and responsibilities
- Management and restoration strategies and actions
- Monitoring and evaluation for changes & fluctuations
- Threats identification and management
- Emergency response plan
- Community involvement, engagement & participation in management
- Recognition and protection of local rights
- Conflict resolution mechanisms
- Biodiversity conservation strategies
- Outreach and education for participation in management
- Capacity building & training
- Sustainable funding and resources identification & plan

VI. Managed Resources **Protected Area**

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