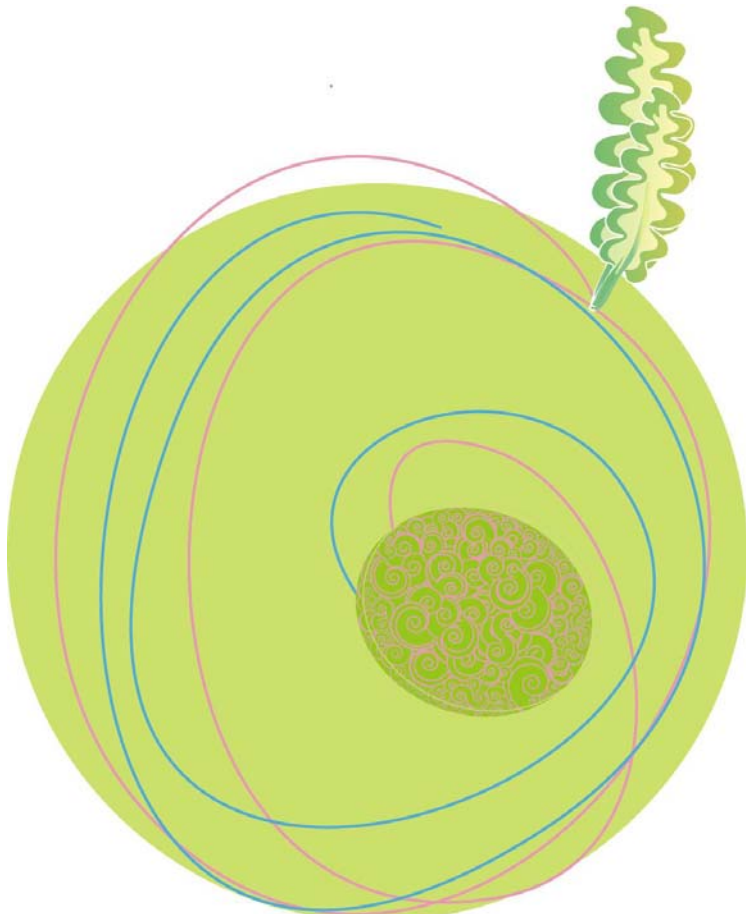


TOP-UP BIODIVERSITY ENABLING ACTIVITY PROJECT



2005 Addendum
To The
Lebanese National
Biodiversity Strategy
and Action Plan



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Project Title: Top-up Biodiversity Enabling Activity Project

Project number: 00013372

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Implementing Agency: *United Nations Development Programs*

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ABBREVIATIONS

AUB	American University of Beirut
CBD	Convention on Biological Diversity
IBSAR	Initiative for Biodiversity Studies in Arid Regions
MOE	Ministry of Environment
NGO	Non-governmental Organization
UNDP	United Nations Development Program

1. Project background and context

The Lebanese Ministry of Environment initiated the implementation of the Top-up Biodiversity Enabling Activities Project for Lebanon in April 2002 in collaboration with the United Nations Development Programme (UNDP) and the financial support of the Global Environment Facility (GEF). The goal of the project were to assess national capacity building needs and priorities in biodiversity conservation including biological, social and economic aspects.

In 2004, within the context of the Biodiversity Enabling Activities Project, the MOE and UNDP commissioned IBSAR-AUB, the Initiative for Biodiversity Studies in Arid Regions (IBSAR) at the American University of Beirut (AUB), to complete the project tasks including the elaboration of an addendum, reported in this document, to the National Biodiversity Strategy and Action Plan (NBSAP).

Below is summary information on the process by which this addendum has been prepared, including information on the types of stakeholders who have been actively involved in its preparation and on material which was used as a basis for the report

The development of the addendum was completed after a year of consultation with national experts and stakeholders and following an in depth review of ongoing national projects and consultancies as well as the CBD guidelines and future strategic goals

Phase I

Literature and web searches and personal visits to organizations were made to provide the backbone information on all published scientific reports and national consultancies.

Phase II

A list of all stakeholders actively involved in biodiversity was compiled. Stakeholders included individuals representing government agencies, NGOs, universities, and research stations. A large number of stakeholders participated in the completion of the report. This was achieved either through workshops or by setting up individual meetings with the stakeholders.

Phase III

An alignment process was developed between the NBSAP, all the articles with their COP 6 and COP 7 decisions, and the perceived and evaluated national capacity. It is worth noting that in most cases biodiversity stakeholders were not aware of most of the COP decisions.

Phase IV

An expert consultation workshop was held at the Ministry of the Environment during which the process for preparing this document was elaborated. Stakeholders contributed to the discussion by providing their views, comments and suggestions on how to improve the report and contributed information to further complete the addendum and highlighted main issues to be addressed at the national level.

Phase V

A first draft was circulated to all stakeholders who expressed interest in reviewing the document. The comments and feedback of the reviewers were incorporated in the report

2. Background: The Lebanese National Strategy and Action Plan

Lebanon, a signatory of the Convention on Biological Diversity, is officially addressing its obligations to the convention through the Ministry of Environment. In this context, Lebanon published in 1988 its National Biodiversity Strategy and Action Plan thus addressing articles 6 and 26 which call for the development of National Strategies and Action Plans to conserve, study, and sustainably use biological diversity, and the reporting to the Conference of Parties (CoP) on measures taken to implement provisions of the Convention.

The preparation of the NBSAP involved 44 national experts who contributed in various capacities (contributors, technical consultants, steering committee) and two international consultants. Local communities were also actively involved in the preparation of the document: Awareness campaigns were conducted and community participation was sought by organizing regional workshops in which approximately 500 individuals from all regions in Lebanon participated in the process.

The NBSAP prepared short, medium, and long term action agendas based on an analysis of the situation and the **identification of constraints** (Table 1)

Table 1. Identification of constraints that led to development of Lebanon's NBSAP

Thematic areas	
Identified constraints	<p>Terrestrial ecosystems and natural habitats</p> <ul style="list-style-type: none"> ▪ Deforestation: for urban or agricultural expansion ▪ Quarrying: Impact is not limited to location but extends to neighboring and downhill habitats. ▪ Logging for firewood and charcoal production, as well as for wood industries. ▪ Fire: originating from arson (for the same reasons as pursued by deforestation) or accidentally induced (by the carelessness of picnickers, and the unaware behavior of occasional visitors) ▪ Overgrazing: mainly in the rangelands and, due to their present state of accentuated degradation, the extension of this practice to nearby forests. ▪ Hunting: practiced on a large scale and throughout the year, despite the present legislation that forbids hunting totally. It aggravates the dangers that already threatens the Lebanese avifauna (intoxication by pesticides) and the negative impacts on the equilibrium of the ecosystems (increase of pest populations) ▪ Pollution: by uncontrolled dumping, disposal and discharge of all kinds of waste (domestic, agricultural, urban, industrial) into these ecosystems. ▪ Urban development: correlated to anarchistic housing projects and urban centers, construction of new roads and highways without taking into account the environment with all its components. ▪ Lack of co-ordination, law enforcement incentives and individualism. ▪ Loss of habitat leading to loss of genetic resources and variability and the disappearance of fragile ecosystems. ▪ Decrease in under ground water surfaces and capacities, as a consequence of the increase in runoff water along the slopes.
	<p>Fresh water biodiversity</p> <ul style="list-style-type: none"> ▪ Insufficient integration of environment and development in national planning and project execution. ▪ Land tenure laws are not well defined, specifically along water bodies and riverbanks. ▪ Communication between the scientific community and policy makers is very insufficient. ▪ Relative increase in the river flows and, in such cases, the risk of flooding and its direct impact on riverbank vegetation and ecosystems (Ripisylves). ▪ Fresh water biosystematists are very scarce.
	<p>Marine biodiversity</p> <ul style="list-style-type: none"> ▪ Lack of institutional capacity ▪ Outdated legislation ▪ Weak law enforcement ▪ Budgetary restrictions ▪ Absence of co-ordination and harmonization of various competing needs and requirements. ▪ Focus restricted to fishing without consideration of other interests ▪ Lack of incentives for alternative activities. ▪ Absence of in-service or adult education campaigns.
	<p>Agrobiodiversity</p> <ul style="list-style-type: none"> ▪ Population pressure; internal, regional and international migration; and associated development. ▪ Conversion of agricultural and wild lands to urban uses. ▪ Lack of agricultural land use planning and zoning. ▪ Environmental illiteracy among the Lebanese people. ▪ Introduction of new crop and livestock varieties and modern production technology. ▪ Expansion of crop monocultures. ▪ Lack of scientific research. ▪ Indiscriminate use of agro-chemicals. ▪ Lack of an effective extension office. ▪ Lack of agricultural education, training centers and environmental programs. ▪ Economic competition between agricultural sector and other sectors. ▪ Reluctance of government officials to implement environmental policies. ▪ Lack of consistent, comprehensive data on the diversity components at the national level. ▪ Environmental policies are not enforced or implemented. ▪ Absence of co-ordination of available data among agencies. ▪ Lack of scientific research, ecological maps and ecological research stations. ▪ Limited co-ordination between the CBD, intergovernmental and NGOs, the private sector, local communities and academic institutions
	<p>Urban biodiversity</p> <ul style="list-style-type: none"> ▪ Urban landscape planting schemes do not rely on native species

3. Lebanon's Second National Report to the CBD: Aligning National Strategy with CBD thematic areas and cross cutting issues and taking a first view at progress achieved

By the time Lebanon was reporting the first progress towards implementing its objectives to the CBD through its second national report, a discrepancy was unveiled between how the structure and priorities of the Lebanese NBSAP and the themes and cross cutting issues that had been developed by the CBD. While reporting Lebanon's progress to the CBD it became clear that although Lebanon's National Biodiversity Strategy and Action Plan was an important step for addressing biodiversity issues in Lebanon as it served as the basic framework by which biodiversity conservation and its sustainable utilization has been structured reporting progress according to the CBD template revealed that the Lebanon NBSAP did not encompass all issues raised by the CBD. Furthermore the absence of a clear implementation strategy resulted in partial and incomplete completion of stated tasks and actions as the majority of actions stipulated in the NBSAP were either in progress (40%) or had not been initiated (34%) (Table 2).

Table 2: Analytical Review of Lebanon's Short and Medium Term Objectives Based on the National Biodiversity Strategy and Action Plan – Source: Lebanon Second National Report to the CBD

Article	Completed	In Progress	Uninitiated
Article 5: Cooperation			
Short Term (1999-2001)			
Review all international and regional conventions, protocols and agreements regarding biodiversity to determine their relevance to the State of Lebanon, and prepare a framework for effective participation.			X
Medium term (2001-2003)			
Develop partnership and co-ordinate action with all concerned parties such as the government, the industry, and NGK's, and conduct public awareness campaigns targeting society at large.		X	
Establish a service to facilitate the exchange of material between farms, and disseminate local or regional collection to appropriate sites.			X
Article 6: General measures for conservation and sustainable use			
Medium term (2001-2003)			
Develop appropriate institutional arrangements for effective strategy and action plan.			X
Article 7: Identification and Monitoring			
Medium term (2001-2003)			
Develop, finalize and monitor an exhaustive database. Regular updating of this data bank would ensure a preventive approach towards the moderation of the impacts of natural hazards as well as a quick response to anthropogenic environmental changes (terrestrial & natural habitats).		X	
Establish a data base system for fresh water richness and endangered species.			X
Conduct a comprehensive survey of the situation of the coastal zone and review land use maps and legislation. Legislate for the necessity of co-ordination within the public sector in particular.	X		
Establish a national database for crops, weeds and livestock, including a database for tracking livestock migration and immigration.			X
Decisions on Taxonomy was not addressed in the NBSAP			
Article 8: In situ Conservation			
Short Term (1999-2001)			
Protection of remarkable natural habitats , characterised by their ecology (endemic species, uniqueness...) , their historical and /or socio-cultural and background (cedar forests , the valley of Qannoubine called "the valley of the Saints" , Aammig wetlands		X	
Regulating hunting, including obligatory tests for acquiring necessary permits.		X	
Recruit locals to work on site (guards, technicians, etc.) and provide suitable training.	X		
Characterise and classify protected areas. (mapping, protection, rehabilitation , updating inventories) .		X	
Establish core (Biodiversity warehouses) and buffer zones with access to fire-fighters and restricted vehicles.		X	
Medium term (2001-2003)			
Establish nature reserves on several sites representing the major eco-geographical areas of Lebanon, that have a wide diversity of naturally growing plants and animals, and with as many wild relatives of agricultural crops as	X		

Article	Completed	In Progress	Uninitiated
possible.			
Collect entry fees, and reduce prices for the local population.	X		
Locate rehabilitation nurseries within the protected areas and use indigenous species.	X		
Article 8 H: Alien Species			
Short Term (1999-2001)			
Exercise very close and strict conditions on introducing new species.			X
Encourage the use of native rather than introduced species for aquaculture, mariculture and agriculture.		X	
Establish environmental screening procedures for importation of plant and animal species. Ban or strictly control the import of potentially invasive species, and establish quarantine controls on all imports.			X
Article 8 J: Traditional Knowledge and Related Provisions			
Medium term (2001-2003)			
Create partnerships with the local population, particularly the fishermen and local municipalities. NGK's could play a catalytic role in this.		X	
Article 9: Ex-Situ Conservation			
Short Term (1999-2001)			
Help in establishing zoos and aquaria		X	
Medium term (2001-2003)			
Expand fresh water fish farms to reduce pressure on natural habitats.		X	
Strengthen plant aquaculture to produce protein and organic matter efficiently.		X	
Establish traditional farms to maintain and propagate the traditional or "heritage" varieties or breeds that are being replaced by "modern" varieties.			X
Establish at least one botanical garden for ex-situ conservation of perennial crops including cultivated trees, annuals and biennials.			X
Establish botanical gardens in cities , national parks			X
Article 10: Sustainable use of biological diversity			
Short Term (1999-2001)			
Establishing ecological tourism associated with public awareness and environmental education.			X
Identification of the potentialities of the Lebanese natural habitats and terrestrial ecosystems.		X	
Enhance the economic impact of monitoring programmes such as coastal quality monitoring for bacterial indicators, in order to enhance the market value of the local beaches and produce.		X	
Implement legislation for the sustainable use of natural resources.			X
Introduce sustainable harvesting into some protected areas like honey production.		X	
Articles 11: Incentive Measures			
Medium term (2001-2003)			
Develop incentives, taxation measures and penalties.			X
Article 12: Research and Training			
Short Term (1999-2001)			
Develop agrobiodiversity extension programs and training centers.	X		
Support environmental and socio-economic research.		X	
Support all institutions involved in environmental and biodiversity conservation including municipalities.		X	
Develop a national GIS lab.			X

Article	Completed	In Progress	Uninitiated
Article 13: Public Education and Awareness			
Short Term (1999-2001)			
Implement environmental education in schools.	X		
Develop an education campaign on biodiversity conservation, to increase public awareness of the threats to agrobiodiversity.		X	
Expand public awareness and qualities of local Biodiversity		X	
Medium term (2001-2003)			
Develop training programmes and awareness campaigns, particularly as regards the importance of conservation of biodiversity.		X	
Article 14: Impact Assessment and Minimizing Adverse Impacts			
Short Term (1999-2001)			
Impact assessment of projects dealing with water storage (dams, lakes) is needed prior to project execution.		X	
Conduct environmental impact assessment surveys prior to construction of treatment plants.		X	
Conduct environmental/economic assessments for new construction projects, buildings, roads, etc., in agricultural areas.		X	
Medium term (2001-2003)			
Establish contingency plans to combat pollution or mitigate their harmful effects.			X
Article 15: Access to Genetic Resources			
Short Term (1999-2001)			
Apply regulations on imported germplasm (plant, animals, fish, birds)			X
Article 16: Access to and Transfer of Technology was not addressed in the NBSAP			
Article 17: Exchange of Information			
Short Term (1999-2001)			
Co-ordinate and minimise overlap in reporting.			X
Article 18: Technical and Scientific Cooperation			
Short Term (1999-2001)			
Establish a national biodiversity committee or department to oversee agrobiodiversity policies and programmes		X	
Review bilateral and multilateral development and technical assistance programmes related to biodiversity or having biodiversity components, and prepare a framework to optimise participation.			X
Establish a centralised co-ordinating body (National Biodiversity Unit).		X	
Strike a National Biodiversity Committee to oversee strategy and action plan implementation.		X	
Establish a National Biodiversity Unit to co-ordinate, oversee and organise activities related to the conservation, study and use of Biodiversity.		X	
Medium term (2001-2003)			
Organise a network of observation stations centred around the National Centre for Marine Sciences or the NCSR, and assist in the rehabilitation of research centres in general			X
Integrate action with international activities and pool expertise.		X	
Article 19: Handling of Biotechnology and Distribution of its Benefits			
Short Term (1999-2001)			

Article	Completed	In Progress	Uninitiated
Investigate potential linkages with the Biotrade Initiative, the ICGB Program and other international initiatives, particularly with regard to controlling bioprospecting and ensuring sustainable benefits.			X
Establish an expert committee on biotechnology and genetic engineering to advise on regulatory requirements for dealing with biotechnology and genetically engineered organisms.			X
Develop biosafety policy, legislation and regulations dealing with the handling, release and disposal of exotic or genetically engineered organisms.			X
Article 20: Financial Resources			
Short Term (1999-2001)			
Ensure that all development assistance agencies with programmes in Lebanon are aware of the Biodiversity strategy and Action Plan, and develop a framework for inter-ministerial co-ordination to prevent conflicting externally supported development activities.			X
Article 21 Financial Mechanism			
Short Term (1999-2001)			
Explore and implement funding arrangements for both priority and long-term activities identified in the strategy and action plan.			X
Ecosystem Approach was not addressed in the NBSAP			
Biological Diversity and Inland Waters			
Short Term (1999-2001)			
Wetland conservation areas should be established and aquaria set-ups must be implemented.		X	
Medium term (2001-2003)			
Forest control programmes should expand to cover river basin habitats.			X
Marine and Coastal Biological Diversity			
Short Term (1999-2001)			
Develop National Action Plan within the framework of Mediterranean Action Plan.		X	
Agriculture Biological Diversity			
Short Term (1999-2001)			
Provide more executive authority to the Ministry of Environment to protect agrobiodiversity.		X	
Support research on sustainable use of resources, applied agrobiodiversity, grazing pressure and biological diversity, and encourage research on native forage crops.		X	
Reduce excessive use of agrochemicals through publications on integrated pest management, broad-spectrum pesticides, multiple cropping/season, extension programmes, etc.		X	
Issue guidelines for the conservation of agrobiodiversity.	X		
Assess the present status of agrobiodiversity at the national level.		X	
Medium term (2001-2003)			
Rehabilitation of abandoned or degraded zones.		X	
Develop a framework to assess the potential impact of agrochemical on biodiversity, and to identify the levels of biodiversity that are likely to be affected.		X	
Join efforts with municipalities and NGO's to use and conserve local		X	

Article	Completed	In Progress	Uninitiated
germplasm.			
Forest Diversity			
<i>Short Term (1999-2001)</i>			
Preventing and combating forest fires.		X	
<i>Medium term (2001-2003)</i>			
Reforestation, along with related issues as forest management, plant nurseries , choice of species to be used in this process.		X	
Biological Diversity of Dry and Sub-humid Lands			
<i>Medium term (2001-2003)</i>			
Regulate grazing.		X	
Develop guidelines and standards for designing and implementing an agrobiodiversity-monitoring network on arable land.		X	

The report highlighted areas of deficiencies which included taxonomy, monitoring, alien species, *ex-situ*, sustainable use, incentive measures, genetic resources, technology transfer, technical and scientific cooperation, biotechnology and information exchange.

The lack in taxonomic capacity was later addressed by the Ministry of Environment through a needs assessment study. However the document also indicated the low priority allocated for monitoring activities as these require continuous research, observation and sustainable financial resources none of which are made available through funded projects.

A lack of data was reported indicating that Lebanon did not have the basis to determine whether the country faces a problem with alien species.

The study indicated that Lebanon had not adopted any national measures for *ex-situ* conservation a priority that has received little attention and resource allocations. With respect to sustainable use the document revealed that there was no clear strategy and a severe lack in awareness and common vision concerning this issue. Incentives measures for biodiversity conservation and sustainable use was reported as a new field for Lebanon and there were no clear vision for the establishment and implementation of incentives measures through a national program. The majority of projects undertaken for biodiversity issues did not integrate sustainable utilization. Sustainable use of biodiversity was restricted to ecotourism activities and the protected areas to a limited degree.

With respect to biotechnology, genetic resources and technology transfer these were reported as in their preliminary stage in Lebanon due to low priority given from both the government and research institutions in addition to drastically limiting financial support and infrastructure. Even in the limited instances where technology is

transferred to Lebanon, the lack of applied research was translated mostly into useless technology not adapted to Lebanon.

The document indicated a serious deficiency in information exchange at the national level. Lebanon lacked a coordination unit and a proper mechanism for the exchange of information on the national level. Even though there are measures to exchange information, there is a serious lack of willingness to share information therefore many activities are completed and information generated but no measures are undertaken to disseminate information at the national level. The document indicated that information was not readily available and instead the inefficiency in the exchange of information has led to significant problems for biodiversity progress which is reflected in the double employment whereby many institutions work on the same issues and projects.

On the other hand, the report showed a positive progress in the following areas however, various recommendations were made to further improve upon them *In situ*, traditional knowledge, research, training, awareness and education and EIA.

Apart from the protected areas project, *In situ* conservation efforts have been limited to small scale projects, private initiatives and research studies, all of which are reported in this document. Indigenous knowledge has been included in all projects and reports mainly out of obligation to maintain the status quo and to please the international donors. The report indicated that the scientific community must become aware of this gap and bestow their effort to translate the scientific jargon of biodiversity into comprehensible information for the general public.

With respect to EIA their application was still limited mostly to areas requiring more acceptance on the national level and the Ministry has received many EIA relating to various sectors. The majority of EIA are undertaken within a limited framework of specific projects mainly for international projects because they are imposed by the donor especially by World Bank funded projects.

In regards to financial issues, the majority of funds made for biodiversity initiatives in Lebanon are through collaborative projects with international donors. The Lebanese contribution is very minimal in terms of both direct financial assistance and infrastructure support. Apart from the national-based constraints, the top down approach of projects are hindering efforts because they are not tackling the immediate priorities and concerns in Lebanon.

Environmental legislation recently received significant support and power. In August 2002, the Law of Protection of the Environment has been officially released covering the basic issues relating to environment, with a biodiversity component. The new Law will provide the Ministry of Environment with more legal power to enforce and implement biodiversity related initiatives.

Lebanon has not developed a clear vision of ecosystems which is illustrated in the majority of proposals and projects submitted which use the word "site" rather than "ecosystem." The five ecosystems mentioned in the report have been tackled through individual project in collaboration with international institutions and funding agencies, often overlapping, rather than through a national strategy or framework.

The report summarizes the findings by highlighting Lebanon's progress with respect to the CBD objectives indicating that Lebanon had many programs and initiatives in place that address the first objective of the CBD, "conservation of biodiversity", however the second objective "sustainable use" has received less attention and the third objective "fair and equitable sharing of the benefits" were severely lacking.

During 2004-2005 a second update of the progress on the NBSAP objectives was produced following consultations with stakeholders, project leaders, and focal points.

Table 2. A second review (2005) of the status of Lebanon's NBSAP objectives

Article	Completed	In Progress	Uninitiated
Article 5: Cooperation			
Short Term (1999-2001)			
Review all international and regional conventions, protocols and agreements regarding biodiversity to determine their relevance to the State of Lebanon, and prepare a framework for effective participation. <i>Each agreement is considered apart. There is no holistic framework to initiate cooperation</i>			
Medium term (2001-2003)			
Develop partnership and co-ordinate action with all concerned parties such as the government, the industry, and NGO's, and conduct public awareness campaigns targeting society at large.			
Establish a service to facilitate the exchange of material between farms, and disseminate local or regional collection to appropriate sites.			
Article 6: General measures for conservation and sustainable use			
Medium term (2001-2003)			
Develop appropriate institutional arrangements for effective strategy and action plan.			
Article 7: Identification and Monitoring			
Medium term (2001-2003)			
Develop, finalize and monitor an exhaustive database. Regular updating of this data bank would ensure a preventive approach towards the moderation of the impacts of natural hazards as well as a quick response to anthropogenic environmental changes (terrestrial & natural habitats).			
Establish a data base system for fresh water richness and endangered species.			
Conduct a comprehensive survey of the situation of the coastal zone and review land use maps and legislation. Legislate for the necessity of co-ordination within the public sector in particular.			
Establish a national database for crops, weeds and livestock, including a database for tracking livestock migration and immigration.			

Long term (2004-2014)			
Develop an environmental monitoring programme for pollutants and other bio-indicators			
Establish an environmental research station to study the ecological changes over time			
Article 8: In situ Conservation			
Short Term (1999-2001)			
Protection of remarkable natural habitats, characterised by their ecology (endemic species, uniqueness...), their historical and /or socio-cultural and background (cedar forests, the valley of Qannoubine called "the valley of the Saints", Aammiq wetlands.			
Regulating hunting, including obligatory tests for acquiring necessary permits.			
Recruit locals to work on site (guards, technicians, etc.) and provide suitable training.			
Characterize and classify protected areas. (Mapping, protection, rehabilitation, updating inventories).			
Establish core (Biodiversity warehouses) and buffer zones with access to fire-fighters and restricted vehicles.			
Medium term (2001-2003)			
Establish nature reserves on several sites representing the major eco-geographical areas of Lebanon that have a wide diversity of naturally growing plants and animals, and with as many wild relatives of agricultural crops as possible.			
Collect entry fees, and reduce prices for the local population.			
Locate rehabilitation nurseries within the protected areas and use indigenous species.			
Long term (2004-2014)			
Protection and management of the ripisylves Ministerial decision has been issued to protect the buffer zones of ripisylves and each infrastructure needs permission and should obey criteria. Action Plan needed for these ecosystems.			
Establish natural reserves and marine parks representing major eco-geographical areas			
Compile an updated national database of local biotopes, flora and fauna. This has been done not at national level, but initiatives were taken at local level and privately.			
Specify species that are under-utilized or with potential for economic impact. A PDF B document was prepared.			
Highlight the unique nature of terraces and the coastal historical settlement sites since prehistory (e.g. sites used for the manufacture of stone tools in Raouche)			
Set up recreational areas, tourist centres and open-air theatres to attract visitors for enjoyment, education, participation and economic involvement			
Set up, wherever possible, zoos, aquaria and aviaries for educational and touristic purposes Private and local initiatives have been taken			
Article 8 H: Alien Species			
Short Term (1999-2001)			
Exercise very close and strict conditions on introducing new species.			
Encourage the use of native rather than introduced species for aquaculture, mariculture and agriculture.			
Establish environmental screening procedures for importation of plant and animal species. Ban or strictly control the import of potentially invasive species, and establish quarantine controls on all imports.			
Article 8 J: Traditional Knowledge and Related Provisions			
Should be addressed in all thematic programmes not only in marine biodiversity and fisherman practices			
Medium term (2001-2003)			
Create partnerships with the local population, particularly the fishermen and local municipalities. NGK's could play a catalytic role in this.			
Identify all types of traditional industries that were marine oriented such as salt production and sponge fishing			
Long term (2004-2014)			
Highlight the cultural, traditional and artistic significance of the sea by encouraging non-destructive traditional sports			

Local and private initiatives have been taken considered as pilot project.			
Decisions on Taxonomy			
Article 9: Ex-Situ Conservation			
Short Term (1999-2001)			
Help in establishing zoos and aquaria			
Medium term (2001-2003)			
Expand fresh water fish farms to reduce pressure on natural habitats.			
Strengthen plant aquaculture to produce protein and organic matter efficiently.			
Establish traditional farms to maintain and propagate the traditional or "heritage" varieties or breeds that are being replaced by "modern" varieties.			
Establish at least one botanical garden for <i>ex-situ</i> conservation of perennial crops including cultivated trees, annuals and biennials.			
Establish botanical gardens in cities , national parks			
Article 10: Sustainable use of biological diversity			
Short Term (1999-2001)			
Establishing ecological tourism associated with public awareness and environmental education.			
Identification of the potentialities of the Lebanese natural habitats and terrestrial ecosystems.			
Enhance the economic impact of monitoring programmes such as coastal quality monitoring for bacterial indicators, in order to enhance the market value of the local beaches and produce.			
Implement legislation for the sustainable use of natural resources.			
Introduce sustainable harvesting into some protected areas like honey production.			
Long term (2004-2014)			
Enhance the concept of integrated developing traditional industries and other related activities associated with coastal areas such as olive oil and carob production			
Develop new sectors such as mariculture in order to improve employment conditions of marine operators including fishermen (cooperatives). Local environmental conditions are more favourable than the western Mediterranean Basin			
Articles 11: Incentive Measures			
Medium term (2001-2003)			
Develop incentives, taxation measures and penalties.			
Article 12: Research and Training			
Short Term (1999-2001)			
Develop agrobiodiversity extension programs and training centers.			
Support environmental and socio-economic research.			
Support all institutions involved in environmental and biodiversity conservation including municipalities.			
Develop a national GIS lab.			
Long term (2004-2014)			
Encouraging and supporting research projects (fundamental as well as applied) related to the specific goals set for the development of terrestrial ecosystems.			
Providing qualified staff to carry out efficiently the identified measures, on condition that necessary funds are to be ensured properly			
Research, building of capacities and studies on fresh water biodiversity should be expanded and supported			
Local initiatives, it should be expanded at national scale.			
Article 13: Public Education and Awareness			
Short Term (1999-2001)			
Implement environmental education in schools.			
Develop an education campaign on biodiversity conservation, to increase public awareness of the threats to agro-biodiversity.			
Expand public awareness and qualities of local Biodiversity			
Medium term (2001-2003)			

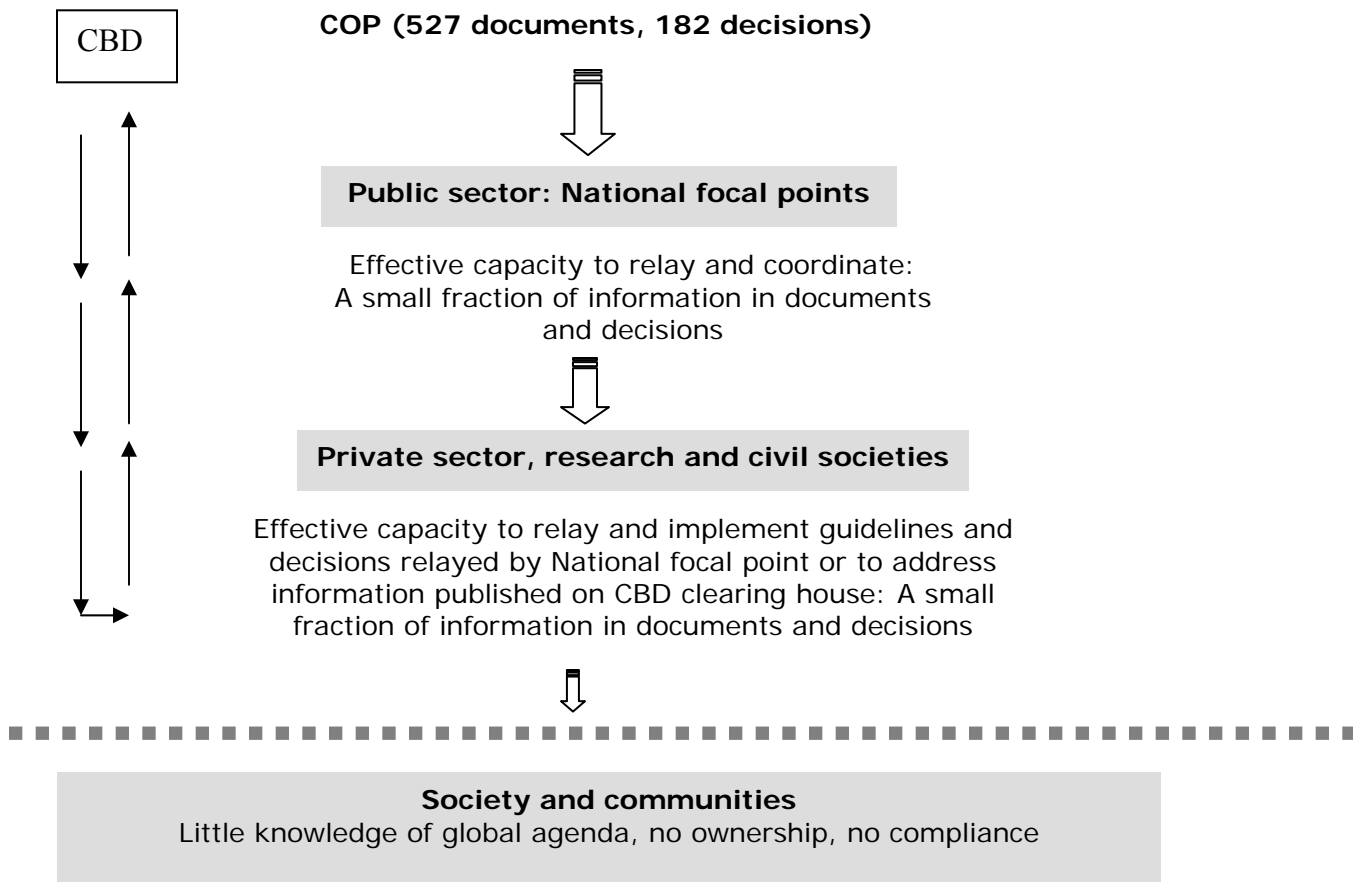
Develop training programmes and awareness campaigns, particularly as regards the importance of conservation of biodiversity.			
Article 14: Impact Assessment and Minimizing Adverse Impacts			
Short Term (1999-2001)			
Impact assessment of projects dealing with water storage (dams, lakes) is needed prior to project execution.			
Conduct environmental impact assessment surveys prior to construction of treatment plants.			
Conduct environmental/economic assessments for new construction projects, buildings, roads, etc., in agricultural areas.			
Medium term (2001-2003)			
Establish contingency plans to combat pollution or mitigate their harmful effects.			
Article 15: Access to Genetic Resources			
Short Term (1999-2001)			
Apply regulations on imported germplasm (plant, animals, fish, birds)			
Article 16: Access to and Transfer of Technology			
<i>Missing</i>			
Article 17: Exchange of Information			
Short Term (1999-2001)			
Co-ordinate and minimise overlap in reporting.			
Article 18: Technical and Scientific Cooperation			
Short Term (1999-2001)			
Establish a national biodiversity committee or department to oversee agrobiodiversity policies and programmes			
Review bilateral and multilateral development and technical assistance programmes related to biodiversity or having biodiversity components. Prepare a framework to optimise participation.			
Establish a centralised co-ordinating body (National Biodiversity Unit).			
Strike a National Biodiversity Committee to oversee strategy and action plan implementation.			
Establish a National Biodiversity Unit to co-ordinate, oversee and organise activities related to the conservation, study and use of Biodiversity.			
Medium term (2001-2003)			
Organise a network of observation stations centred around the National Centre for Marine Sciences or the NCSR , and assist in the rehabilitation of research centres in general			
Integrate action with international activities and pool expertise.			
Article 19: Handling of Biotechnology and Distribution of its Benefits			
Short Term (1999-2001)			
Investigate potential linkages with the Biotrade Initiative, the ICGB Program and other international initiatives, particularly with regard to controlling bioprospecting and ensuring sustainable benefits.			
Establish an expert committee on biotechnology and genetic engineering to advice on regulatory requirements for dealing with biotechnology and genetically engineered organisms.			
Develop biosafety policy, legislation and regulations dealing with the handling, release and disposal of exotic or genetically engineered organisms.			
Article 20: Financial Resources			
Short Term (1999-2001)			
Ensure that all development assistance agencies with programmes in Lebanon are aware of the Biodiversity strategy and Action Plan, and develop a framework for inter-ministerial co-ordination to prevent conflicting externally supported development activities.			
Article 21 Financial Mechanism			
Short Term (1999-2001)			
Explore and implement funding arrangements for both priority and long-term activities identified in the strategy and action plan.			

Biological Diversity and Inland Waters			
Short Term (1999-2001)			
Wetland conservation areas should be established and aquaria set-ups must be implemented.			
Medium term (2001-2003)			
Forest control programmes should expand to cover river basin habitats.			
Long term (2004-2014)			
Mountain lakes have to be extended all appropriate areas in protected areas	?	?	?
Marine and Coastal Biological Diversity			
Short Term (1999-2001)			
Develop National Action Plan within the framework of Mediterranean Action Plan.			
Develop new legislation or modernize existing ones as regards fishing periods, fishing technology, gear, etc. to protect turtles and marine mammals			
Long term (2004-2014)			
Study the potential of marine fresh water sources			
Put into place coordinating mechanism of stakeholders			
Agriculture Biological Diversity			
Short Term (1999-2001)			
Provide more executive authority to the Ministry of Environment to protect agrobiodiversity.			
Support research on sustainable use of resources, applied agrobiodiversity, grazing pressure and biological diversity, and encourage research on native forage crops.			
Reduce excessive use of agrochemicals through publications on integrated pest management, broad-spectrum pesticides, multiple cropping/season, extension programmes, etc.			
Issue guidelines for the conservation of agrobiodiversity.			
Assess the present status of agrobiodiversity at the national level.			
Medium term (2001-2003)			
Rehabilitation of abandoned or degraded zones.			
Develop a framework to assess the potential impact of agrochemical on biodiversity, and to identify the levels of biodiversity that are likely to be affected.			
Join efforts with municipalities and NGO's to use and conserve local germplasm.			
Long term (2004-2014)			
Establish a central gene bank, where the different aspects of ex-situ conservation are performed via survey, collection and preservation of genetic resources and evaluation and indicators.			
Develop a better understanding of impacts of the loss of genetic variability due to chemical stress			
Forest Diversity			
Short Term (1999-2001)			
Preventing and combating forest fires.			
Medium term (2001-2003)			
Reforestation, along with related issues as forest management, plant nurseries, choice of species to be used in this process.			
Long term (2004-2014)			
Scientific and technical studies to promote development and sustainable use of medicinal plants and meliferous species			
Biological Diversity of Dry and Sub-humid Lands			
Medium term (2001-2003)			
Regulate grazing.			
Develop guidelines and standards for designing and implementing an agrobiodiversity-monitoring network on arable land.			
Long term (2004-2014)			
Solving the problem of overgrazing: identification and promotion of adequate fodder plants and pasture areas			

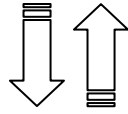
3. 2005 Addendum to Lebanon's NBSAP: Achieving significant reduction in the current rate of loss of biological diversity by 2010 by adopting a bottom up approach to the CBD recommendations.

The 2005 addendum for the Lebanon National Biodiversity Strategy and Action Plan was *developed taking into consideration both global needs and aspirations as well as local needs, capacities, and aspirations*. Within this context, further development of an action plan to implement the NBSAP was based on the flexibility provided by the CBD for contracting parties to develop and update their NBSAPs. This was especially important after the project revealed that very few biodiversity stakeholders were aware and/or interested in the global goals and targets set by the CBD as the scale of the decisions both in terms of requested actions, reporting, and implementation activities are received top down by the Lebanese society at large.

A. Current situation: Pressure to comply to global agenda including the addition of priorities and foci is masking effective capacities to monitor progress and confusing national priorities

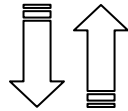


B. Projected need: CBD developing broad guidelines and a flexible system for aligning national inputs from various countries. CBD directives integrating national agenda at all levels and capacities



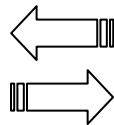
Public sector: National focal points

National focal points have clear and simplified directives and timely support to readily relay to stakeholders and effectively integrated into National Strategy and Action Plan.



Private sector, research and civil societies

Actively participate in generating relevant knowledge, and entrepreneurial initiatives. Lead to conservation of biodiversity based on current capacities and project needs for incremental and systematic development of capacities and initiatives



Society and communities

Updated knowledge of global agenda, clear understanding of local, regional and international dimensions of strategy, active participation in development and updating agenda, monitoring biodiversity, voluntary compliance to national policies and regulations



According to Article 6 of the Convention (General measures for conservation and sustainable use) countries shall be based on their ***particular conditions and capabilities***:

- *Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or **adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention** relevant to the Contracting Party concerned; and*
- *Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.*
- The Article creates an **obligation for national biodiversity planning**. The development and adoption of a national biodiversity strategy is thus a cornerstone to implementation of the Convention by Parties. **A national strategy will reflect how the country intends to fulfill the objectives of the Convention in light of specific national circumstances**, and the related action plans will constitute the sequence of steps to be taken to meet these goals.

3.1. The 2005 addendum and the thematic work programs of the CBD:

The 2005 addendum has taken into consideration the thematic work programs defined by the CBD and aligned them with the prevalent thematic areas highlighted by national experts in the NBSAP: This exercise was necessary as the thematic work programs proposed by the CBD were creating confusion among stakeholders. Lebanon consists is predominantly mountainous with overlapping forested lands, woodlands and drylands all typical to the eastern Mediterranean. National experts and stakeholders expressed the wish to maintain the thematic work programs as outlined by the Lebanon NBSAP. It is worth mentioning that urban biodiversity was an important thematic program typically experienced by Lebanon although it does not appear as a work program under the CBD.

CBD Thematic work programs:

- Agricultural biodiversity
- Dry and subhumid lands biodiversity
- Forest biodiversity
- Mountain biodiversity
- Inland waters biodiversity
- Marine and coastal biodiversity
- Island biodiversity

Thematic work programs of Lebanese NBSAP:

- Agricultural biodiversity
- Terrestrial ecosystems and natural habitats
- Fresh waters biodiversity
- Marine biodiversity
- Urban biodiversity

?? →

3.2. The 2005 addendum and the cross cutting issues of the CBD:

The addendum to the NBSAP has also taken in consideration the need to align cross cutting issues of the CBD with those addressed by the NBSAP. These have been identified by national stakeholders and experts based on current capacities, expertise, and financial and human resources. The corresponding issues are shown below:

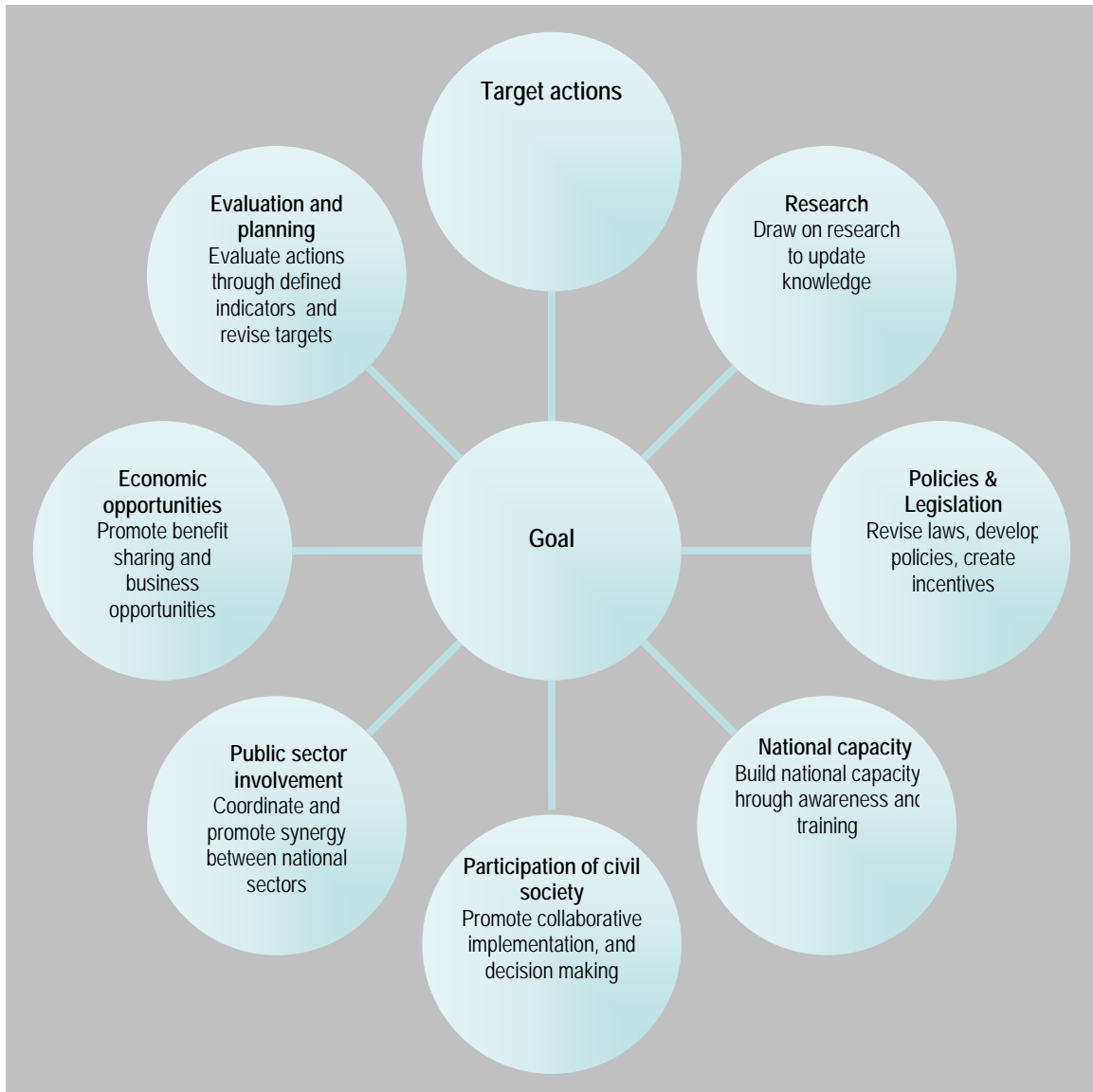
CBD Cross-Cutting Issues	Lebanon NBSAP Cross-Cutting Issues
● Access to Genetic Resources and Benefit-sharing	In-situ conservation Ecosystem Approach Protected Areas
● Invasive Alien Species	Biosafety Invasive Alien Species
● Article 8(j): Traditional Knowledge, Innovations and Practices	International cooperation Global Strategy for Plant Conservation Global Taxonomy Initiative
● Biological Diversity and Tourism	Public sector involvement Impact Assessment Indicators
● Climate Change and Biological Diversity	Participation of civil society Biological Diversity and Tourism
● Economics, Trade and Incentive Measures	Knowledge generation through basic and applied research Article 8(j): Traditional Knowledge, Innovations and Practices
● Ecosystem Approach	Climate Change and Biological Diversity
● Global Strategy for Plant Conservation	Knowledge dissemination and application through awareness raising and capacity building Education and Public Awareness Sustainable Use of Biodiversity Technology Transfer and Cooperation
● Global Taxonomy Initiative	Development and update legislation, policies, mechanisms, and incentives Economics, Trade and Incentive Measures
● Impact Assessment	Benefits sharing and economic opportunities
● Indicators	Access to Genetic Resources and Benefit-sharing
● Liability and Redress - Article 14(2)	

3.3. The 2005 addendum an attempt to mainstream the conservation and sustainable use of biological resources across all sectors of the national economy and policy-making framework

The addendum to the NBSAP has used an approach that addresses the objectives of Article 6 (b) which requires that biodiversity considerations be mainstreamed into all aspects of national planning and is closely linked to [Article 10 \(a\)](#), which states that each Contracting Party shall, as far as possible and appropriate:

- *Integrate consideration of the conservation and sustainable use of biological resources into national decision-making.*
- The requirement to mainstream the conservation and sustainable use of biological resources across all sectors of the national economy and policy-making framework is the complex challenge at the heart of the Convention.

Within this context the action plans were further elaborated taking into consideration a complete and holistic strategy for each proposed action regardless of the duration required to complete the task.



The strategy for addressing objectives and targets was through the elaboration of action sheets that allow to address the issue at hand through separate projects and funding or in combination with other priorities. The action sheets include a complete documentation regarding various aspects and impact of this activity as per the strategy developed above. To complete information in the action sheets, all consultancies made to the Ministry of Environment were reviewed, and relevant information included in the action sheets. In addition, a series of workshops was held over a period of one year to gather feedback from national stakeholders. The background and number of participants who contributed to the various workshops

are listed below. Inputs from participants were consolidated as below and incorporated into the action sheets.

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3.4. The 2005 addendum and 2010 Biodiversity Target

The purpose of the 2005 addendum to the NBSAP is to elaborate expressed national needs and aspirations under the umbrella of the Convention on Biological Diversity to ensure that the Convention is embraced in Lebanon by all public and private authorities and stakeholders. Currently, the CBD objectives and guidance has not intercalated itself into national initiatives, and as such the Convention has not yet contributed in any measurable way towards sustainable development.

Lebanon does not play a key role in the Convention on Biological Diversity but the government's commitment to the convention is evidence by the many projects and initiatives it has attracted to fulfill its obligations.

In response to the more recent obligations related to the 2010 biodiversity targets, Lebanon has again revised and aligned its NBSAP through this addendum.

In decision VI/26 the Conference of the Parties adopted the Strategic Plan for the Convention on Biological Diversity. In its mission statement, Parties committed themselves to a more effective and coherent implementation of the three objectives of the Convention,

to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth.

This target was subsequently endorsed by the World Summit on Sustainable Development. In decision VII/30 the Conference of the Parties adopted a framework to facilitate the assessment of progress towards 2010 and communication of this assessment, to promote coherence among the programs of work of the Convention and to provide a flexible framework within which national and regional targets may be set, and indicators identified.

The framework includes seven focal areas, these are:

- (a) **Reducing the rate of loss of the components of biodiversity** including:
 - (i) biomes, habitats and ecosystems; (ii) species and populations; and (iii) genetic diversity;
- (b) **Promoting sustainable use** of biodiversity;
- (c) **Addressing the major threats** to biodiversity, including those arising from invasive alien species, climate change, pollution, and habitat change;
- (d) **Maintaining ecosystem integrity**, and the provision of goods and services provided by biodiversity in ecosystems, in support of human well-being;

- (e) **Protecting traditional knowledge**, innovations and practices;
- (f) **Ensuring the fair and equitable sharing** of benefits arising out of the use of genetic resources; and

The focal areas defining the 2010 commitments have been addressed by the national strategy to various extent based on the country's identified constraints and national peculiarities. These have been elaborated into effective activities and have been the subject of many proposed objectives and action plans within the Lebanese strategy.

A revision of the NBSAP has been performed to highlight Lebanon's efforts towards 2010 commitments. Action sheets have been developed for each proposed action and consolidated within the 2010 defined focal areas, goals and targets whenever possible. The Ministry of Environment has solicited consultancies from national experts to elaborate on proposed activities. Completed expert consultancies addressing marine biodiversity did not cover all NBSAP objectives while those under the fresh water biodiversity thematic area are being developed by a national consultant. All completed information was compiled from information relayed by workshop participants, IBSAR project team, and personal consultations.

In all proposed actions indicators and monitoring activities have been proposed but Lebanon still needs to develop its own indicators and come up with a monitoring strategy that is sustainable beyond short term project funding. An example illustrating the lack of resources that Lebanon is suffering from, is related to the LEDO project (Lebanese Environment and Development Observatory) which has not progressed further following the termination of the project funds despite the highly qualified project team and the participatory approach that was used to develop the indicators. It is recommended that indicators for 2010 and monitoring be developed within the context of LEDO drawing on the guidelines developed for biodiversity indicators and project monitoring which were developed through this enabling activity project.

