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Acronyms	
AFDC	Association for Forest Development and Conservation
AUB	American University of Beirut
CBD	Convention on Biological Diversity
FAO	Food and Agriculture Organisation
FFEM	Fonds Français pour l'Environnement Mondial
GEF	Global Environment Facility
GTI	Global Taxonomic Initiative
IBSAR	Initiative for Biodiversity Studies in Arid Regions
IUCN	World Conservation Union
MAP	Mediterranean Action Plan
MedWetCoast	Conservation of Wetlands and Coastal Zones in the Mediterranean
MOE	Ministry of Environment
NGO	Non-governmental Organization
NRMC	National Research Marine Centre
PAP	Protected Areas Project
SPA	Specially Protected Areas
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
USEK	University Saint Esprit Kaslik

Please provide summary information on the process by which this report 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.

A partnership between the Ministry of Environment, a private academic institution "the Initiative for Biodiversity Studies in Arid Regions (IBSAR)" at the American University of Beirut, and the United Nations Development Program was established to implement the Top-Up Biodiversity Enabling Activity project for Lebanon [LEB/97/G31] through funds from the Global Environment Facility (GEF). The overall objective of the project is to assess national capacity building needs and priorities in the field of biodiversity.

This thematic report was prepared through the Top- Up Biodiversity Enabling Activity Project among other activities developed by the project.

The information provided in the present report was generated from a "National Report on Taxonomy" (Annex I) prepared in December 2004 within the same project to assess national taxonomic priority and capacity building needs. The "National Report on Taxonomy" comes to fulfil the first operational objective of the Global Taxonomic Initiative which is assessing national needs and capacities for the implementation of the Convention on Biological Diversity.

In the "National Report on Taxonomy", the assessment was done using a questionnaire (Annex I.1) designed to assess national capacities and needs related to taxonomy in terms of existing knowledge, available infrastructure, human resources and policies.

- The existing taxonomic knowledge was assessed through the available taxonomic literature, specimens on national biodiversity, faunal and floristic lists, electronic database and passport data (date of collection, precise geographic location, breeding conditions, etc.).
- The existence of taxonomic infrastructure was investigated through the types of collections found at various institutions, the types of specimens (marine, terrestrial, etc.), the quality of the collection, capacity for growth and facilities (adequacy of cabinets, supplies, maintenance, state office and research space), protection of collection from adverse conditions, available information about collections, the presence of budgetary support, long-term planning, etc.
- The research facilities were surveyed inquiring on the presence of libraries, types of holdings, communications and laboratory facilities, research equipment, and research planning policies.
- The human resources supporting taxonomy was evaluated based on the availability of professional research staff, the number of scientists, collections managers, technicians, collectors, trainees or volunteers, the availability of education or training, the education level of individuals working in taxonomy, their numbers, the type of training available, job vacancies at the institutions, cooperation with international organization.

The definition of the priority for taxonomic information targeted the groups considered as critical and the essential taxonomic knowledge and the gaps, the problems faced and need to be solved and the source of the taxonomic information.

The questionnaire was sent to national institutions; universities and national research centres involved directly and/or indirectly in biodiversity researches (Annex I.2).

REPORT ON IMPLEMENTATION OF PROGRAMME OF WORK FOR THE GLOBAL TAXONOMY INITIATIVE

Programme of Work for the Global Taxonomy Initiative
Annex to Decision VI/8

Operational Objective 1. Assess taxonomic needs and capacities at national, regional and global levels for the implementation of the Convention

1. Has your country undertaken any taxonomic needs assessments and identified priorities in this regard?	
a) no (please specify the reasons)	
b) no, but assessment is under way	
c) yes, some needs assessments made (please provide details)	
d) yes, comprehensive assessments made (please provide details)	X
Further comments on country-based taxonomic needs assessments and identification of priorities	
A detailed and comprehensive questionnaire was designed and sent to all national institutions. An analysis and individual discussions were undertaken further to the report preparation (Annex I)	
2. Has your country worked with other countries in the region to undertake regional taxonomic needs assessments and identify priorities in this regard?	
a) no (please specify the reasons)	X
b) no, but some collaborative projects are being considered or planned	
c) yes, some activities undertaken (please provide details)	
d) yes, many activities undertaken (please provide details)	
Further comments on regional taxonomic needs assessment and identification of priorities	
No collaboration or cooperation has been done in this regard with any country in the Middle East and North African Region. Taxonomic issue is not listed as a top priority among other biodiversity related issues.	
3. Is your country involved in any activities as part of a global taxonomic needs assessment?	
a) no	X
b) yes (please provide details)	
Further comments on the involvement in the activities for the global taxonomic needs assessment	

4. Is your country undertaking any activities of public education and awareness to promote the implementation of the programme of work for the GTI?	
a) no	
b) yes, some programmes developed and some activities undertaken (please provide details)	X (see further comments at end of report)
c) yes, comprehensive programmes developed and many activities undertaken (please provide details)	
Further comments on public education and awareness programmes and activities	
See further comments at end of report.	

Operational objective 2. Provide focus to help build and maintain the systems and infrastructure needed to obtain, collate and curate the biological specimens that are the basis for taxonomic knowledge

5. Is your country working to strengthen global and regional capacity building to support access to and generation of taxonomic information[1]?	
a) no (please specify the reasons)	X
b) no, but some programmes under development	
c) yes, limited capacity building (please provide details)	
d) yes, significant capacity building (please provide details)	
Further comments on global and regional capacity building to support access to and generation of taxonomic information	
No Initiative has been undertaken in that issue due to the lack in human resources, infrastructure and gaps in national policies and strategic planning (Refer to Annex I).	
6. Is your country working with other countries to create and/or strengthen the networks for regional cooperation in taxonomy?	
a) no	X
b) no, but consultation is under way	
c) no, but some plans and programmes are under development	
d) yes, some activities undertaken for this purpose (please provide details)	
e) yes, comprehensive activities undertaken for this purpose (please provide details)	
Further comments on strengthening of existing networks for regional cooperation in taxonomy	

[1] Responses to question 5 are expected to focus on, but not limited to (a) human capacity building; (b) infrastructure capacity building.

Operational objective 3. Facilitate an improved and effective infrastructure/system for access to taxonomic information, with priority on ensuring that countries of origin gain access to information concerning elements of their biodiversity

7. Is your country involved in the development of a coordinated global taxonomy information system, in particular the infrastructure to access digitized data/information?	
a) no	X
b) no, but some plans are being considered	
c) yes, to a limited extent (please provide details)	
d) yes, to a significant extent (please provide details)	
Further comments on involvement in the development of a coordinated global taxonomy information system	

Operational objective 4. Within the major thematic work programmes of the Convention include key taxonomic objectives to generate information needed for decision-making in conservation and sustainable use of biological diversity and its components

8. Has your country made any taxonomic studies and inventories at the national level, which provide a basic assessment of forest biological diversity, in particular in areas under current threat for habitat conversion, or of high conservation value?	
a) no (please provide the reasons)	
b) no, but some programmes are under development	
c) yes, some studies and inventories made (please provide details)	X (see further comments at end of report)
d) yes, comprehensive studies and inventories made (please provide details)	
Further comments on taxonomic studies and inventories made for a basic assessment of forest biological diversity	
See further comments at end of report.	

9. Has your country undertaken any taxonomy-related activities relating to marine and coastal biodiversity, in particular taxonomic work related to identification of ballast water organisms and monitoring health of mangrove systems through their invertebrate fauna?	
a) no	
b) not applicable	
c) no, but some programmes are under development	X (see further comments at end of report)
d) yes, some activities undertaken (please provide details)	
e) yes, many measures undertaken (please provide details)	
Further comments on taxonomy-related activities identified in the programme of work on marine and coastal biodiversity	
See further comments at end of report.	

10. Has your country developed taxonomic support for implementing relevant actions identified in the programme of work on dry and sub-humid lands biodiversity, in particular identification of key indicator taxa like lichens?	
a) no (please provide reasons and plans for improvement)	X
b) not applicable	
c) no, but some programmes are under development	
d) yes, some activities undertaken(please provide details)	
e) yes, many activities undertaken (please provide details)	
Further comments on taxonomic support for implementing the programme of work on dry and sub-humid lands biodiversity	

11. Has your country developed taxonomic support for implementing relevant actions identified in the programme of work on inland waters biodiversity, in particular regional guides to freshwater fish and invertebrates as an input to ecosystem monitoring for river and lake health?	
a) no	
b) no, but some programmes are under development	X (see further comments at end of report)
c) yes, some activities undertaken(please provide details)	
d) yes, many activities undertaken (please provide details)	
Further comments on taxonomic support for the implementation of the programme of work on inland waters biodiversity	
See further comments at end of report.	

12. Has your country undertaken any taxonomy-related activities identified in the programme of work on agricultural biodiversity as well as relevant activities identified in the International Pollinator Initiative and the International Soil Biodiversity Initiative?	
a) no	

b) no, but some activities are being planned	X
c) yes, some activities undertaken (please provide details)	
d) yes, comprehensive activities undertaken (please provide details)	

Further comments on taxonomy-related activities for the implementation of the programme of work on agricultural biodiversity

A five year regional project on 'The Conservation and Sustainable Use of Dryland Agrobiodiversity in the Near East' (1999-2004) funded by the GEF and implemented by the Lebanese Agriculture Research Institute (LARI) and UNDP brought together several countries from the Northern Arabian Peninsula (Jordan, Syria and the Palestinian Authority, Lebanon) and international organizations. The project aims at promoting the conservation and preservation of important wild relatives and landraces of agricultural species by introducing and testing in-situ and on-farm mechanisms and techniques of conservation and sustainable use of agro-biodiversity in three pilot sites located in the Beqa'a plain in Lebanon. Implementing partners include several local academic and research institutions and NGOs.

Many experts were involved in this project to characterize the floristic richness and study the genetic diversity and potential uses of selected wild relative species.

13. Is your country developing any taxonomic support for the implementation of the programme of work on mountain biodiversity, in particular identification of biodiversity components unique to mountain ecosystems?

a) no	
b) no, but some programmes are under development	X
c) yes, limited support (please provide details)	
d) yes, significant support (please provide details)	

Further comments on taxonomic support for the implementation of the programme of work on mountain biodiversity

Same as operational Objective 4 section (see question 3 above).

14. Has your country developed taxonomic support for the implementation of the programme of work on protected areas?

a) no	
b) no, but some programmes are under development	
c) yes, some programmes in place and are being implemented (please provide details)	X (see further comments at end of report)
d) yes, comprehensive programmes are being implemented (please provide details)	

Further comments on taxonomic support provided to the implementation of the programme of work on protected areas

See further comments at end of report.

Operational objective 5. Within the work on cross-cutting issues of the Convention include key taxonomic objectives to generate information needed for decision-making in conservation and sustainable use of biological diversity and its components

15. Has your country taken any measures to strengthen capacity for the inventory and classification of biodiversity and its components in the development of a national strategy on access and benefit-sharing?	
a) no	X
b) no, but some programmes are under development	
c) yes, some measures taken (please provide details)	
d) yes, comprehensive measures taken (please provide details)	
Further comments on the measures to strengthen capacity for the inventory and classification of biodiversity and its components in the development of a national strategy on access and benefit-sharing	
Measures to strengthen capacity for the inventory and classification of biodiversity as well as promoting indirectly capacity building will be implemented through the application of regulatory measures stated in the Draft national law on Access and Benefit Sharing (Article 7) which was prepared by MoE and finalized in May 2005.	
16. Has your country developed taxonomic support to address the issues of invasive alien species?	
a) no	X
b) no, but relevant policy and programme under development	
c) yes, some policies and programmes in place (please provide details)	
d) yes, comprehensive policies and programmes in place (please provide details)	
Further comments on taxonomic support to address the issues of invasive alien species	
17. Has your country developed taxonomic information system to support the maintenance, preservation and protection of traditional knowledge, innovations and practices of indigenous and local communities in accordance with Article 8(j) and related provisions?	
a) no	
b) not applicable	
c) no, but some programmes are under development	
d) yes, some activities undertaken but a system is not in place yet (please provide details)	X
e) yes, a taxonomic information system in place (please provide details)	
Further comments on the taxonomic information system to support the maintenance, preservation and protection of traditional knowledge, innovations and practices of indigenous and local communities	
Measures to create a Biodiversity Information System are stated under the draft law on access and benefit sharing and include protection of the rights and knowledge of the local communities (Article 12).	

18. Has your country undertaken any taxonomy-related activities that support the implementation of the ecosystem approach and the work in the field of assessments, monitoring and indicators?	
a) no	X
b) no, but some programmes are under development	
c) yes, some programmes in place (please provide details)	
d) yes, comprehensive programmes in place (please provide details)	
Further comments on programmes and activities to support the implementation of the ecosystem approach and the work in the field of assessments, monitoring and indicators	

If your country wishes to provide additional information on implementation of this programme of work, please do so in the following space

RE 4 b)

While activities to promote the implementation of the programme of work of the GTI are not undertaken as part of a national policy on taxonomy; awareness activities, public education and capacity building have been undertaken in line with various project activities. The projects which contributed in part or in total in the implementation of the programme of work of the GTI are the following:

1. Under the umbrella of a nationwide project entitled "Strengthening of National Capacity and Grassroots in situ Conservation for Sustainable Biodiversity Protection" also recognized as the Protected Areas Project (PAP), techniques for flora identification and monitoring through a multifaceted cooperation were transferred to the management teams in three nature reserves namely Al-shouf, Horsh Ehden and Palm Islands. The project, which is executed by the MOE and managed by UNDP since 1996 with the financial support from the GEF and technical assistance from the IUCN, covered the three above mentioned nature reserves. The project focused on the integration of biodiversity conservation and sustainable human development. The project initially intended to involve local communities in the management plan of the reserve. At later stages sustainability constituted the main aim. The uniqueness of this project was the proposed partnership model whereby the MOE, local and international NGOs and 'in-country' scientific institutions cooperated and coordinated their activities to promote both long-term ecological and short-term economic objectives of wildlife conservation and sustainable use of natural resources. The MOE was responsible for providing oversight and guidance to the project. Many activities related to public awareness and education were undertaken by the project, those related to taxonomy are mainly the following:

1.a. Cooperation between an academic institution (AUB), a national NGO (GreenLine) and the management teams in the nature reserves resulted in development of local herbaria, with the basic techniques and practices for their establishment provided through training workshop, weekly follow up visits to the reserves and to some extent participatory practices to identify plant species at the Post Herbarium of AUB.

1.b. Training workshops to initiate practices on species identification with natural reserve management teams were held in Line with the Flora and Fauna Monitoring Programmes in the nature reserves (1998-2001) carried out within the same project.

2. The Darwin Initiative project on coastal vegetation (1999-2002): A collaborative project implemented by the Plant Sciences Department at the American University of Beirut, Royal Botanical Garden Kew (England) and the University of Reading aiming at assessing and identifying the coastal flora of Lebanon.

Training workshop has been conducted to build capacities on taxonomic practices for various stakeholders as well as management teams of the nature reserves in Lebanon.

3. Collaboration between local NGO namely "Association for Forest Development and Conservation" (AFDC), Hans Seidel Foundation (German Foundation) and the Al-Shouf Cedars Nature reserve is established to build capacities of local communities.

To fulfil the needs of management teams, interested individuals and eco-guide operators; a workshop was held on initiating practices on plant identification gathering wider participants from various regions in Lebanon (April 2004).

RE 8 c)

Various inventories on forests have been performed at national level among which the Biodiversity Country Study Report prepared in 1996 by the Ministry of Agriculture in collaboration with "UNEP through funds from the GEF. TheBiodiversity Country Study includes inventories of fauna and flora in various ecosystems in Lebanon and is constituted of nine volumes one of which is completely dedicated to forests biological diversity. Furthermore taxonomic basic assessment on forest biodiversity has been undertaken within various projects activities:

1. The PAP executed inventories for Horsh Ehden and Al-shouf Cedars forests nature reserves (Tohme et al., 1999).

2. The Forest Resource Assessment (FRA), a project funded by the FAO and implemented by the Ministry of Agriculture, has undertaken inventories and assessment in selected forest transects all over the country (2003),

3. A study in Rihane Mountain areas (located in South Lebanon) was undertaken by a local NGO "GreenLine Association for Conservation" and a private sector " South for Construction" (1999). Based on this preparatory studies and other one, Rihane areas is awaiting its declaration as protected area.

4. An assessment of biodiversity in Yammouneh area (located in the Bekaa region) was carried out by the project "Income generation through sustainable use of natural resources in Yammouneh" funded by the Global Environment Facility (GEF) through PDF–B (Project Development Funds). The project was executed by the Ministry of Environment and the World Bank (GEF implementing agency) in collaboration with the American University of Beirut and a local NGO "GreenLine Association for Conservation" (2001).

5. A GEF Project on the 'Development of an action plan for integrated management of forests and assessment of insect infestation in cedar forests in the Mediterranean region with particular emphasis on two cedar forests located in the North of Lebanon namely Tannourine-Hadath El-Jebbeh Cedar forest' implemented by the Ministry of Environment and UNEP in collaboration with American University of Beirut (2004) will be executing surveys and inventories on fauna and flora species in the forests covered by the project.

6. Inventaire exploratoire des conditions écologiques de la réserve naturelle d'Horsh Ehden au Liban. Belgique: Faculté Universitaire des Sciences Agronomiques de Gemboux. Pp. 116 (Thesis). (Brunin, E. 2000).

7. PhD Study on Perspectives for Sustainable use of Cedar forest in Lebanon (Sattout, E. 2004).

8. Master Study on Ecogeographic Studies of endemic plants in Ehden forest reserve (Sattout, E. 1998).

9. Scientific study report on the plant diversity of Ehden forest natural reserve. Lebanon: Ministry of Environment. (Semaan, M. & R. Haber 1998).

RE 9 c)

Contribution to the implementation of the programme of work on marine and coastal biodiversity was made through different projects and studies :

1.Etude de la Diversite Biologique du Liban: Faune et Flore Marines et Côtières. Republic of Lebanon, Ministry of Agriculture/UNEP, project GF/6105-92-72. (Lakkis, S., G. Ghazi, Lakkis, V.N., and R. Zeidane. 1996).

2. The PAP has been implementing taxonomic initiative in Palm Islands nature reserve where plant inventories have been performed in the reserve.

3. The MedWetCoast project has implemented biodiversity inventories and assessment in Tyre coast Nature Reserve (refer to question 6)

4. Biodiversity surveys in two coastal and marine sites located in South Lebanon (Damour and Naquora) were achieved within the Coastal Areas Management Programme (CAMP) funded by UNEP/MAP and implemented by the Ministry of Environment. This activity was conducted in aim to carry out the necessary assessment for the declaration of Naqoura marine and coastal area and Damour beach and Damour river basin as Specially Protected areas at national and Mediterranean level under the SPA protocol related to Barcelona Convention.

5. The Darwin Initiative project on coastal vegetation (1999-2002): A collaborative project implemented by the Plant Sciences Department at the American University of Beirut, Royal Botanical Garden Kew (UK) and the University of Reading aiming at assessing and identifying the coastal flora of Lebanon.

6. Floristic assessment of selected communities along the Lebanese coastal zone. Lebanon: American University of

Beirut. Pp. 103. (Thesis). (Dagher, M. R. 2001).

7. Floristic assessment of selected communities along Lebanese littoral zone. Lebanon: American University of Beirut. Pp. 88. (MSc. Thesis). (Dardas, M. M. 2000).

8. Etude preliminaire du phytoplankton des eaux cotieres Libanaises par la methode d'Utermohl, Rapp. Comm. Int. Mer Medit. 27(7): 83-84 (Abboud, M., 1981).

9.Hydrographic conditions and plankton of the Lebanese marine water., VII Science Meeting, LAAS, 21-24 March 1981, Beirut (Lebanon), p. 86. (Abboud-Abi Saab, M., Lakkis, S. & Zeidane, R., 1981).

10.Survey of Microplankton in Lebanese coastal waters, Proceedings III Conf. Arab Biologists 3-6 November 1984, Amman, (Jordan), p.67. (Abboud-Abi Saab, M. 1984).

11.Detailed list on biodiversity studies and publications will be posted on the Lebanese Biodiversity Clearing House which is under construction accessible through: http://www.moe.gov.lb/

RE 11 b)

Taxonomic support for the implementation of the programme of work on inland water biodiversity was integrated within the MedWetCoast Project Activities.

The MedWetCoast Project (2002-2006) is a Mediterranean initiative under the Ramsar Convention. It is a regional project that includes along with Lebanon, Albania, Tunisia, Morocco, and the Palestinian Authority. The regional component is managed and coordinated by the Regional Facilitation Unit (RFU) based in the Tour du Valat in France. The MedWetCoast Lebanon project's overall development objective is to conserve globally endangered species and their habitats recognizing nature conservation as an integral part of sustainable human development while improving the capacity of governmental and non-governmental agencies to address Biodiversity conservation issues in two main sites: The Tyre Coast Nature Reserve and the Wetland of Aamiq. The project in Lebanon is funded by the FFEM Fonds Francais pour l'Environment Mondial (FFEM). The national executing agency for the project is the Ministry of Environment. The project is managed by UNDP.

The MedWetCoast project has undertaken a species inventory in Aamiq wetland located in the Beqaa area.

RE 14 c)

Through two projects executed by the MOE to support the implementation of programme of work on protected areas, taxonomic support was given while integrated in the projects activities:

1. The MedWetCoast project (MoE/UNDP/FFEM) which address biodiversity conservation and sites management issues in two sites: the Tyre Coast Nature Reserve and the Wetlands of Aammiq.

Among the project objectives is the Contribution to the closing of the Mediterranean circle in terms of biodiversity protection and sustainable management of wetlands and coastal zones through cost effective regional networking for ***transfer of lessons, interchange and training***. ***An eco-guide training series is performed on flora and fauna identification to support the implementation of management programmes of these two reserves.***

2. Under the umbrella of PAP (MOE/UNDP/GEF), techniques for flora identification and monitoring through a multifaceted cooperation were transferred to the management teams in three reserves namely Al-shouf Cedars,

Horsh Ehden and Palm Islands.

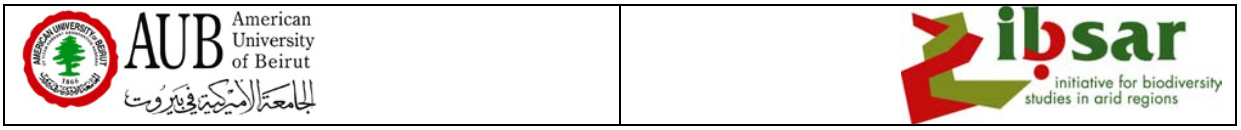
Taxonomic support was given to the management teams in the nature reserves and resulted in development of local herbaria, with the basic techniques and practices for their establishment provided through training workshop.

Fauna and flora surveys were carried out in the five sites covered by the two projects: four nature reserves (Al-shouf Cedars, Horsh Ehden, Palm Islands and Tyre Coast) in addition to Aammiq wetland which is a private property, furthermore biodiversity assessment and monitoring was conducted in the five sites.

Annexe I. Taxonomy Assessment report
National Capacities and Needs

LEBANON 2005 TAXONOMY REPORT
NATIONAL CAPACITIES & NEEDS

TOP-UP BIODIVERSITY ENABLING ACTIVITY PROJECT
LEB/03/010 & LEB/97/G31



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DECEMBER 2004.

ABBREVIATIONS

AUB	American University of Beirut
CBD	Convention on Biological Diversity
GEF	Global Environment Facility
GTI	Global Taxonomic Initiative
IBSAR	Initiative for Biodiversity Studies in Arid Regions
MOE	Ministry of Environment
NGO	Non-governmental Organization
NRMC	National Research Marine Centre
UNDP	United Nations Development Program
USEK	University Saint Esprit Kaslik

I. INTRODUCTION

The taxonomic understanding of flora and fauna kingdoms complements long-term and place-based studies of the role of biodiversity in ecosystem functions. Taxonomic information is primordial and vital to allow societies to assess, conserve, manage, understand and enjoy the natural world. As per Quentin *et al.*, 2004, taxonomic community must rally around a common vision, critically evaluate its needs, set an ambitious research agenda, and embrace emerging technologies in order to facilitate biodiversity studies and conservation.

Through the Convention on Biological Diversity, governments have acknowledged the existence of a "taxonomic impediment" to the sound management of biodiversity. Worldwide communities requested government and concerned international organizations to recognize the essential role of taxonomy and its contribution to sustainable development. These requests were echoed at the 3rd Global Taxonomy Workshop convened under the World Summit on Sustainable Development (WSSD). They underpinned the need to support taxonomic institutions to rapidly document the biodiversity which forms the basis of sustainable human livelihoods and to promote the necessary linkages between taxonomic centers and civil society. Communities asked to build and develop adequate capacity in all regions for taxonomy to play this essential role.

The Global Taxonomic Initiative (GTI), an initiative established by the Conference of the Parties (COP) convened by the CBD secretariat, was created to reduce the gaps in knowledge in taxonomy (including systematic) in many parts of the world. The initiative aims at resolving the problems arising from the shortage of trained taxonomists and curators and consequently at reducing the impact of these deficiencies. It also seeks to improve decision-making in conservation, use and benefit sharing of biological diversity and in conservation, sustainable use and equitable sharing of the benefits derived from genetic resources. A programme of work was planned under the GTI consisting of 5 operational objectives:

1. Assess taxonomic needs and capacities at national, regional and global levels for the implementation of the Convention;
2. Provide focus to help build and maintain the human resources, systems and infrastructure needed to obtain, collate and curate the biological specimens that are the basis for taxonomic knowledge;
3. Facilitate an improved and effective infrastructure/system for access to taxonomic information; with priority on ensuring that countries of origin gain access to information concerning elements of their biodiversity;
4. Include key taxonomic objectives - within the major thematic work programmes - to generate information needed for decision-making in conservation and sustainable use of biological diversity and its components;
5. Include key taxonomic objectives - within the work on cross-cutting issues - to generate information needed for decision-making in conservation and sustainable use of biological diversity and its components.

This report was prepared by Dr. Elsa J. Sattout, Associate Researcher and fulfilling the role of National Project Coordinator among the members of the sub-contracted party IBSAR (Initiative for Biodiversity Studies in Arid Regions- a group of experts from the American University of Beirut) with the collaboration of many IBSAR members and national institutions. It is prepared under the Top- up Biodiversity Enabling Activity Project [LEB/97/G31] and it comes to fulfill the first operational objective of the GTI which is assessing national needs and capacities for the implementation of the CBD.

The project was initiated in April 2002 and is funded by the Global Environment Facility (GEF). It is implemented by the Ministry of Environment (MOE) with the collaboration of the United Nations Development Programme (UNDP) and subcontracted to IBSAR based at the AUB. The overall objective of the project is to assess national capacity building needs and priorities in the field of biodiversity.

II. Methodologies

The questionnaire was designed to assess national capacities and needs related to taxonomy on the existing knowledge, available infrastructure, human resources and policies supporting taxonomic components and the national priorities and capacity development needs (Annex I).

- The existing taxonomic knowledge was assessed through the available taxonomic literature, specimens on national biodiversity, faunal and floristic lists, electronic database and passport data (date of collection, precise geographic location, breeding conditions, etc.).
- The existence of taxonomic infrastructure was investigated through the types of collections found at various institutions, the types of specimens (marine, terrestrial, etc.), the quality of the collection, capacity for growth and facilities (adequacy of cabinets, supplies, maintenance, state office and research space), protection of collection from adverse conditions, available information about collections, the presence of budgetary support, long-term planning, etc.
- The research facilities were surveyed inquiring on the presence of libraries, types of holdings, communications and laboratory facilities, research equipment, and research planning policies.
- The human resources supporting taxonomy was evaluated based on the availability of professional research staff, the number of scientists, collections managers, technicians, collectors, trainees or volunteers, the availability of education or training, the education level of individuals working in taxonomy, their numbers, the type of training available, job vacancies at the institutions, cooperation with international organization.
- The definition of the priority for taxonomic information targeted the groups considered as critical and the essential taxonomic knowledge and the gaps, the problems faced and need to be solved and the source of the taxonomic information.

The questionnaire was sent to national institutions; universities and national research centers involved directly and/or indirectly in biodiversity researches (Annex II).

III. Results

The response rate was 59%. Not all institutions addressed work on national flora and fauna collections. Further contacts were made to demand on specific notes encountered in the filled surveys.

III.1. The human resources, capacity development and international and national cooperation

Most of individuals working in flora and fauna identification are botanists and/or biologists; one pharmacologist is hosted at the Holy Spirit University - she was the founder of the herbarium and is the curator as well. However specialized scientists are not commons, the present working scientists have succeeded to fill in some national needs regarding taxonomy. The number assessed is 29 scientists and 14 trainees (Table 1).

Table 1. Human resources and profile of the people working in the field of taxonomy in Lebanon.

Number of scientists dealing with taxonomy	29
Number of trainees	14
Educational level	BS & MSc
Type of training	Basics on taxonomy (General)

The lack in general taxonomist and/or specialized ones is the result of closed job vacancies in this field at the national and institutional level as only 22 % from the institutions surveyed expressed the need and are posting one job vacancy (Table 2). This reflects the low importance given to the identification of biodiversity resources and absence of its acknowledgement as basic tool for conservation planning programme.

Lebanon has gone forward in conservation policy instead of investing efforts in assessing biodiversity richness. However, the present situation does not imply that there is no need for new taxonomic studies and species assessment, this is essential for a country as Lebanon recognized as a mini-hotspots areas located in one of the 25 worldwide identified hotspots (Science, 2000).

In some institutions, the coverage of identification of taxa is initiated based on individual interest and awareness on the importance of assessing national resources and updating old flora and fauna references.
The lack in specialized taxonomist has been revealed and the need for human resources (specialized taxonomists) was accentuated. 64% of the institutions have botanists and/or biologist working on taxonomy and just 36% host professional collection managers. The major collectors (80%) are either students preparing materials for a given course in the department curricula or field coordinators working on biodiversity related projects (i.e. Darwin project, Protected Areas Project, Bioprospection, etc) and botanists (i.e. Dr. Georges Tohme at LCNRS).

Table 2. Percentage number of institutions hosting taxonomic facilities and initiating cooperative programmes with international organizations.

HUMAN RESOURCES	YES	NO
Botanist & Curators	64	36
Professional collection managers	36	64
Technicians	36	64
Students	45.5	54.5
Collectors	80	20
Trainees or volunteers	20	80
Education & Training available	27	73
Facilities available	0	100
Job vacancies	22	78
National taxonomists working in foreign countries	0	100
Foreign taxonomists working in national institutions	9	91
Training opportunities provided in foreign countries	36	64

The capacity development components are not frequent as 73% of the institutions do not offer training courses and the facilities to do so is limited to few institutions (Table 2). The education and training courses are much restricted to give basics and general information on taxonomy (Table 1).

The funds allocated by the various institutions for their staff to attend training in foreign countries are the main obstacle for capacity development in the various institutions approached. Only 36% of the institutions (Table 2) have presented opportunities to acquire training abroad and the sources of funds are cooperative projects with international organizations.

III.2. Existing national infrastructure

The assessment of the capacities highlighted the existing resources on taxonomy, even though there is a lack in central national herbarium; instead there are two private herbaria.
One hosts an internationally significant collection and belongs to the AUB; the Post Herbarium hosted at the Faculty of Arts and Sciences and open to the public. Post collections have been rearranged into a modern taxonomical structured collection. The herbarium collections comprise flora from the Middle East and some specimens from Europe and North America. These collections are housed in cabinets and are being digitized. The herbarium also contains collection of phytopharmacological material.

The herbarium is run by a member of the faculty who is preparing a PhD study on taxonomy and has been trained previously at Reading University in the UK. In the last years, this herbarium have been receiving specimens collected under various projects hosted at the Plant sciences department the Darwin project on Coastal vegetation and the Bioprospection project.
At the AUB, the animal spirit collections include various terrestrial, marine and freshwater invertebrates, fishes, amphibians, reptiles and some mammals. The dry collections include skin and skeletal specimens of mammals and birds. These collections are not really well managed. An entomological collection is well housed in bioequip drawers and the pests are well controlled. This collection covers Lebanon and the region and some other parts of the world.

A newly established private herbarium is based at the Faculty of Agronomy at the University Holy Spirit Kaslik. The herbarium was funded in 2000. It is the second faculty which foresees a job vacancy for a specialized taxonomist. The faculty has put a long-term planning and budgetary policy to build a solid herbarium sheltering wild and endemic plants of Lebanon and is currently supporting a PhD study. The project studies and field work training feeds in the completion of the specimens' collection while the curator identify and classifies the plants.

The results revealed that some countries' institutions have the initials of basic infrastructure to develop and reinforce the development of herbaria, museum and libraries as 73% of the institutions house biodiversity collection and a range of 86% of the institutions addressed expressed a capacity for growth and 84% has the ability for specimens' curation. The only weak point revealed was the absence of budgetary support and planning policies; only 40% has put forward long-term policies for taxonomic researches and studies –these are represented by the American University of Beirut and the University of Holy Spirit Kaslik (Table 3). The results revealed that libraries having communication facilities are less frequent than those with laboratory facilities.

Table 3. Percentage number of institutions with various components of taxonomic infrastructure.

TAXONOMIC INFRASTRUCTURE	YES	NO
Housing collections of biodiversity	73	27
Capacity for growth	86	14
Curation of Specimens Collection	84	16
Available information about the collections	75	25
Available policies related to biodiversity collections, budgetary support, long-term planning.	40	60

III.3. Taxonomic knowledge and coverage

Specimens' collections revealed to be less frequent (67% of the institutions) than the available data on national species (82%) among which 80% attach passport data to the specimen collections (Table 4). This might be related to the lack in spaces, cabinets, maintenance systems and resources allocated of curation, management and preservation.

Table 4. Percentage number of institutions hosting taxonomic knowledge.

TAXONOMY KNOWLEDGE	YES	NO
Available data on national species	82	18
Available specimens collection of national biodiversity	67	33
Database associated with specimens	80	20

The national taxonomic coverage and types of specimens hosted are:

- *Terrestrial:* Wild and endemic plants, butterflies, reptiles, insects (University Holy Spirit, Lebanese University, American University of Beirut, Arz Shouf Nature Reserve, Lebanese Agricultural Research Center - Tel Amara)
- *Marine:* Phytoplancton, zooplankton, macro-invertebrates, freshwater fishes, and saline water fishes (Exclusive at the Marine Research Center, American University of Beirut).

Table 5. Taxonomic type coverage in the various institutions

GROUPS	AUB	USEK	NRMC	AL-SHOUF RESERV E
Plants	600	212	-	800
Reptiles	409	-	-	20
Insects	8830	-	-	150
Birds	1419	-	-	-
Mammals	550	-	-	-
Fishes	6585	-	-	-
Various invertebrates**	701	-	-	-
Macro & Zooplankton	-	-	200*	-
Phytoplankton	-	-	500*	-

* Digitized photos

** Excluding insects

III.4. Resources and national research policies supporting taxonomy

More than 60% of the national institutions host resources for taxonomic needs and 100% have general research equipment (Table 6). Therefore, the infrastructure is available if future plans foresee the development of taxonomic studies and collection in the various national institutions. The affecting parameters would be as mentioned above the presence of serious policy, plans and programmes to strengthen national initiatives on taxonomy and link it to international ones and/or to the Global Taxonomic Initiatives under the CBD and associated with biodiversity assessment, conservation and management.

Event though 80% of the institutions expressed the presence of scientific research, these research studies and plans do not pertain to the taxonomic fields instead the interest is targeted to other biological, economic and social components. The only institutions which have drawn strategic plans in this field are the American University of Beirut and the Holy Spirit University Kaslik.

Table 6. Percentage number of national institutions with confined resources and opportunities for international cooperation.

RESOURCES FOR TAXONOMIC NEEDS	YES	NO
Hosting library at the institution	91	9
Available collections related to natural sciences	67	33
Library having communications facilities	70	30
Library having laboratories facilities	91	9
Institution having general research equipment	100	0
Available institutions having strategies & frameworks to develop & promote in country research	80	20

The listed national priorities for taxonomic groups considered most critical have been numerous from general to specific responses. These included insects, other invertebrates, plants and fishes; endemic and wild plants; invertebrates; fishes, macro-algae, benthic fauna and flora, lower organisms (mushrooms, microryza, etc…)
Specific responses defined genera and families to be investigated such as *Astragalus* spp. and *Quercus* spp. which their classification needs to be reviewed; the Fabaceae as well as plants with medicinal, edible and industrial potential.
Consequently, there is a need for specialized personnel in various taxa groups who would update the information on each group.

IV. Situation analysis

A difference between the targeted institutions in terms of infrastructure, knowledge and human and financial resources was observed within this study. There is no focused aim for taxonomic activities especially from national perspectives and prospects. Some individual and personal interests were revealed in taxonomic studies. Therefore, a strategic plan to remediate the lack and to fulfill the needs of the various parties at the national level is needed.

The weakness and strength identified are the following:

A. Strength

- Existing resources (Old herbaria with regular curation hosting complete taxa collection and internationally recognized),
- Museum with rich collections,
- Available solid systems such as at the AUB,
- Individual initiative and capacity development,
- Contacts with international taxonomists and herbaria/museum.

B. Weakness

- Old national herbaria for the Lebanese flora (needs for update),
- Lack in National policy and strategy for taxonomic programmes,
- Out of date of nomenclature systems,
- Lack in intensive specialized basic courses,
- Herbaria established or specimen collected based on individual effort in some institutions,
- Research funding is minimal and obviously inexistent in most institutions,
- Tools and means for collection not available for all institutions,
- Lack of regular international and local training procured to people working in taxonomy,
- People specialized in defined taxa.

The missing key element for the taxonomic field expansion and sustainability is the low concern given to policies and strategic plans for taxonomic operations practices. A national policy including work plans with defined time table and detailed framework has to be put in place demanding cooperation and exchange of expertise.
However, the existing capacity allows for the time being to do training addressed to parataxonomists and collaboration with foreign specialized taxonomists. As stated in SBSTTA meeting (SBSTTA, 1996), persons with some basic training in collection or/and in identification (parataxonomists) of some taxonomic level can generate very useful information on local diversity. This approach can be relied on as alternative to the present national situation in Lebanon as it represents a sound compromise position and one increasingly used in rapid survey techniques (SBSTTA, 1996).
It is obvious that there is a need to complement the efforts and to create a platform to promote cooperation, communication and to create an inter-linkage within and between institutions to exchange expertise, ensure complementarity in roles and to avoid double effort. A network of institutions can be put in place where each party fulfills a specific and defined role, thus through the combination of all efforts (botanists, taxonomists, biologist, etc.) a national country specific taxonomic studies can be completed for animal and plants kingdom.

V. Future scopes: Basis for long term vision

The better use of existing taxonomic information is a desirable policy and one that can be effectively addressed at the Global rather than the national level. It could also retrieve many of the taxonomy problems overwhelming developing countries (SBSTTA, 1996).
There is a serious need to update the Lebanese flora and fauna relying on old collection of flora and fauna species and to set up national strategic plans where holistic vision is the main catalyzer to decide on the path to be followed.

In Lebanon, relying on existing solid taxonomic infrastructure will allow the establishment of national and central Museum gathering national specimens of flora and fauna species. The update of Post herbarium is a necessity and it is already listed on the policy of the AUB. This internationally recognized flora collection can be viewed as the back up to create the national central herbaria.

Create a national nuclei dealing with taxonomy and cooperating with the MOE to respond to the need of conservation plans and to put their objectives and goals. This will boost the development of more focused taxonomic activities. Institutions having built strong links with Taxonomic international organizations can support other various national institutions to hold taxonomic research studies and thus enhance cooperation between them. This cooperation will help drawing a clear picture and designing scheme of work to fill in all the gaps by either existing solid institutions or through international cooperation and training sessions.
National institutions can divide the tasks and each one can be specified in one according to the available knowledge, infrastructure and human resources available within its system. This does not imply to convert or take over the identity of each institution instead it is to strengthen the existing systems and ensure their excellence in specified tasks. This approach underpins the need for a national meeting to discuss role to be filled in by each institutions according to a SWOT analysis.

Recommendations:

1. Integrating of national database into regional and/or international context:

- Standardized passport data for taxa:
  At regional level there is a need to create a system for habitat classification and categorization Adopt international guidelines for information collection
- Unified nomenclature systems (Updating of names according to world checklist, International Code of Botanical Nomenclature and International Code of Zoological Nomenclature)
- Performing checklists for each habitats or NBSAP Thematic areas in Lebanon.

2. Compliment the existing resources and initiatives:

- Establishment of a national central mechanism to ensure complimentarity between the different institutions and rely on the strength and weakness of each party to design and implement a solid system,
- Design a strategic plan for national cooperation and distribution of specialties according to available infrastructure and knowledge.

3. Capacity development and training:

- Integrating more developed courses on taxonomy in Universities curricula with a perspective of application to conservation plans and programmes,
- Ensure participation in the related CBD events and participate in training activities organized by international organizations to fit countries requirements.

VI. Identification of international and regional organization for collaboration

- Bionet, The global Network for Taxonomy: URL: http://www.bionet-intl.org/
- The Royal entomological Society: URL: http://www.royensoc.co.uk/
- The Royal Botanic Gardens, Kew, UK: URL: http://www.rbgkew.org.uk/
- The Harvard University Herbaria: URL: http://www.huh.harvard.edu/

- Missouri Botanical Garden, USA: URL: http://www.mobot.org
- Muse National de l'Histoire Naturelle (MNHN), France : URL : http://www.mnhn.fr/
- Expert Center for Taxonomic identification: URL: http://www.eti.uva.nl/
- Center for Biological Information Technology: URL: http://www.cbit.uq.edu.au/
- CSIRO Entomology: URL: http://www.ento.csiro.au/about_insects/index.html

Source of funds:
- International Fund for Science (IFS): http://www.ifs.se/
- Swedish International Development Cooperation Agency

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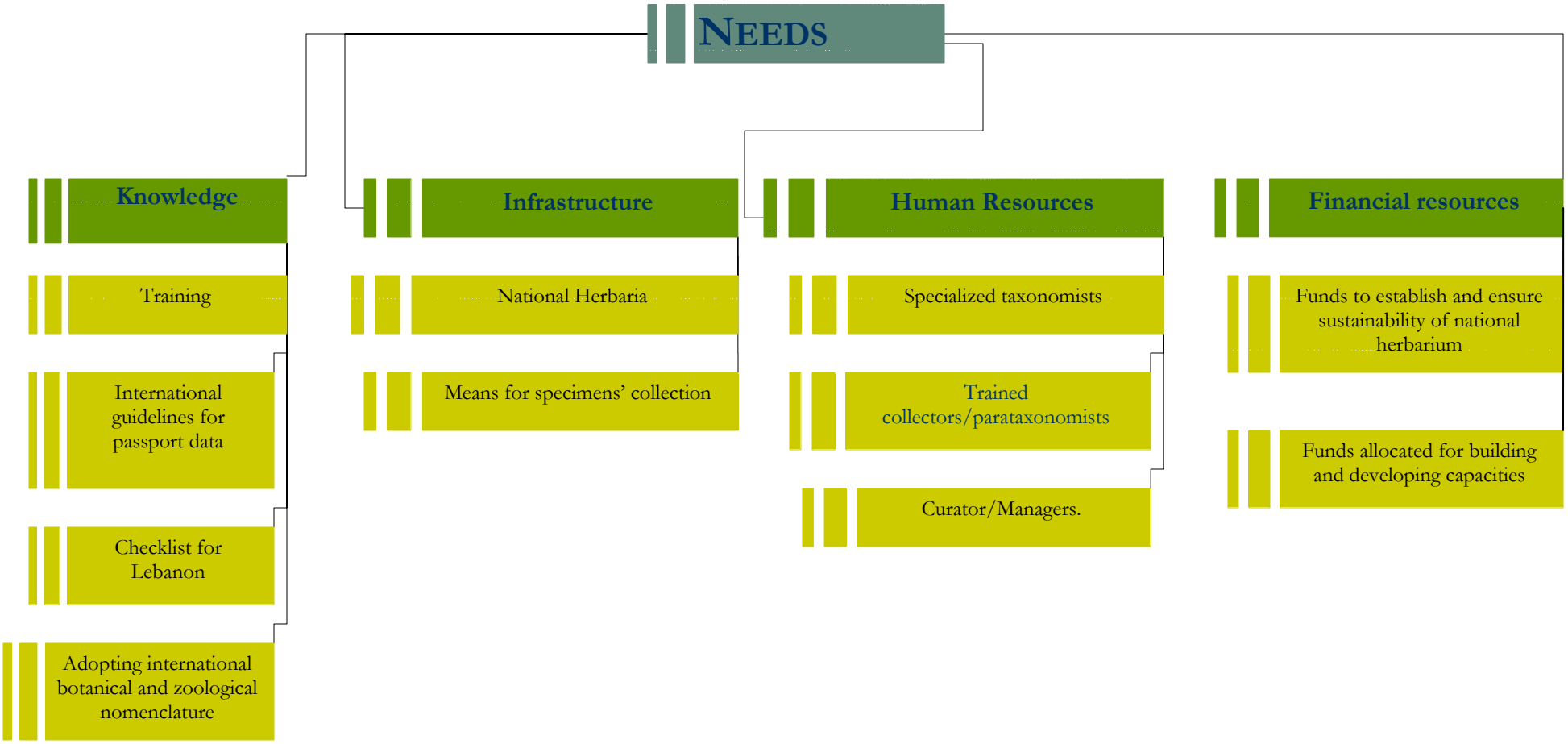
NEEDS
Knowledge
Training
International guidelines for passport data
Checklist for Lebanon
Adopting international botanical and zoological nomenclature
Infrastructure
National Herbaria
Means for specimens' collection
Human Resources
Specialized taxonomists
Trained collectors/parataxonomists
Curator/Managers.
Financial resources
Funds to establish and ensure sustainability of national herbarium
Funds allocated for building and developing capacities

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Annexe I.1. Questionnaire (English and Arabic versions)

Assessing available taxonomy knowledge

1- Does your institution have any data about national species (taxonomic literature, faunal and floristic lists, reports, electronic databases)?

2- Does your institution have collections containing specimens of national biodiversity?

3- Is there any data associated with specimens in collection?

If yes, please specify the type of information available (date of collection, precise geographic location, sex, breeding condition, habitat type, host identification, food preferences, soil or sediment type etc.)

Assessing available taxonomic infrastructure

1- Does your intuition house collections of biodiversity?

Yes No

If yes please go to the questions No2 to No 8

2 - What are the types of the collections? (Museums, herbaria, botanic gardens, culture collections, seed banks)

3- What are the taxonomic coverage and the types of specimens housed?

4- Please specify the quality of the collection (whether it is identified, sorted, available for research)

5- Does the collection have capacity for growth?

6- Please specify the quality of the available facilities (adequacy of cabinets, supplies, maintenance, specimen preparation areas, staff office and research space)

7- Is your collection protected from fire, pests, and other adverse conditions?

8- Is there any available information about the collections?

If yes, please specify whether through printed catalogues, whether collection is electronically managed, whether the collection is linked electronically to other collections and to systemic databases.

9- Does your institution have policies related to biodiversity collections, budgetary support, long- term planning etc.?

10- Does your institution host any library?

If yes please go to question No11 to No13

11- Does the library have collections related to natural sciences and biodiversity?

12- What are the types of holdings? (Books, electronic databases)

13- Does your library have communications capabilities (such as electronic access to holdings…)

14- Does your institution have laboratory facilities?

If yes, please specify the type.

15- Does your institution have general research equipment (microscopes, field vehicles, etc.)?

16- Does your institution have strategies and frameworks to develop and promote in-country research (funding procedures, project evaluation, legislation, permit access policies, multilateral institutional agreements)

Assessing available human resources supporting taxonomy

1- Does your institution have professional research staff dealing with taxonomy?
If yes, please go to the next question

2- How many scientists? What are the areas of their expertise (taxonomic coverage)? Please specify their status (age, participation in professional activities within the country and internationally, training)

3- Does your institution have professional collection managers?

4- Does your institution have technicians working in the field of taxonomy?

5- Do you have any students in the field of taxonomy (undergraduate, graduate, and postocdoctoral)?

6- Do you have any collectors?

7- Do you have any trainees or volunteers working in the field of taxonomy?

8- Does your institution have any education or training available in the field of taxonomy?

If yes, please go to the question No to

9- What is the level of education available (B.S., M.S., Ph.D)

10- What hat are the numbers and kind of trainees?

11- What is the type of training available (degree granting, undergraduate, graduate, postgraduate, etc.)?

12- What are the facilities available for training?

13- Are there any posts available in your institution for taxonomists or specialists working in related fields? If yes, please specify the number and kind of posts available.

14- Do you have information about national taxonomist working in foreign countries?

15- Is there any foreign taxonomist working in your institution?

16- Does your institution provide any training opportunities in foreign countries?

Assessing national priorities for taxonomic information

1- What taxonomic groups are considered to be most critical?

2- What kind of taxonomic knowledge about those groups is most essential?

3- What gaps in knowledge about those groups need to be filled?

4-What kinds of problems need to be solved with taxonomic information?

5- Where do you currently obtain taxonomic information?

تقييم الحاجات والقدرات الوطنية في حقل التصنيف

في اطار مشروع Biodiversity Enabling Activities الممول من برنامج الامم المتحدة للتنمية والمنفذ من قبل وزارة البيئة بالتعاون مع المبادرة لدراسة التنوع الاحيائي في المناطق الجافة IBSAR)) في الجامعة الاميركية في بيروت يتم بدء العمل على جمع المعلومات في مجالات متعلقة بالتنوع البيولوجي .

ومن ضمن نشاطات المشروع تقييم الحاجات الوطنية لبناء القدرات في مجال علم التصنيف النباتي والحيواني. ويهدف هذا التقييم الى تعزيز التعاون في مجال علم التصنيف بين مختلف المؤسسات والباحثين والى تحديد الاولويات الوطنية المتعلقة في هذا المجال. وفي هذا الاطار تم تحضير استمارة بهدف تداولها وتعبئتها من قبل العاملين في هذا المجال وذلك لتقييم الوضع الحالي للبنية التحتية الوطنية لعلم التصنيف، المعلومات التوفرة والحاجات المرجوة/المطلوبة لبناء القدرات.

تقييم المعلومات المتوافرة عن التصنيف :

-1هل تمتلك مؤسستكم أي معلومات حول الأصناف الوطنية (مراجع، لوائح بنباتات وحيوانات المنطقة، تقارير, بنك معلومات إلكتروني)؟

-2هل تمتلك مؤسستك مجموعات تحتوي على عينات من التنوع البيولوجي الوطني؟

-3هل هناك أي معلومات متوافرة عن العينات الموجودة في المجموعة؟

إذا كان جوابكم نعم الرجاء تحديد نوع المعلومات المتوافرة (تاريخ التجميع, الموقع الجغرافي بالتحديد, الجنس, حالة التزاوج, نوع المسكن, الضيف, الطعام المفضل, نوع التراب أو الترسب...إلخ (

تقييم بنك معلومات التصنيف الموجود:

-1 هل تحوي مؤسستكم مجموعات من التنوع البيولوجي؟
نعم لا
إذا أجبتم بنعم الرجاء الإنتقال إلى أسئلة رقم2 –سؤال رقم8

-2 ما نوع هذه المجموعات (متاحف, حدائق نباتية, معشبات, مجموعات إستنبات, بنك بذور(

-3 ما مدى التغطية التصنيفية وما نوع العينات الموجودة؟

-4 الرجاء تحديد جودة المجموعة (إذا كانت معرفة, منسقة, جاهزة للأبحاث(

-5 هل هناك قدرة لتنمية هذه المجموعة؟

-6 الرجاء تحديد جودة التسهيلات المتوافرة (وجود عدد كاف من الخزائن, التجهيزات, الصيانة, مان لتجهيز العينات, مكاتب للعاملين ومكان لإجراء الإختبارات(

-7 هل مجموعتكم محمية من الحرائق, الحشرات المؤذية وغيرها من العوامل السلبية؟

-8 هل هناك معلومات متوافرة عن هذه المجموعات؟

إذا أجبتم بنعم فالرجاء تحديد إذا كان ذلك من خلال قائمة, إذا كانت مدارة إلكترونياً, إذا كانت موصولة إلكترونياً بغيرها من المجموعات أو ببنك معلومات عام

-9 هل تمتلك مؤسستكم قوانين متعلقة بمجموعات التنوع البيولوجي, الدعم المادي, التخطيط الطويل الأجل, إلخ...

-10 هل تمتلك مؤسستكم مكتبة؟

إذا أجبتم بنعم الرجاء الإنتقال إلى أسئلة رقم 11- رقم 13

11- هل تمتلك مكتبتكم مراجع وكتب متعلقة بالعلوم الطبيعية والتنوع البيولوجي؟

12- ما هي أنواع المحتويات (كتب, بنك معلومات إلكتروني(

13- هل تمتلك مكتبتكم المقدرة على المواصلات (مثل القدرة على الوصول إلكترونياً إلى المحتويات(...

14- هل تمتلك مؤسستكم مختبرات؟

إذا أجبتم بنعم الرجاء تحديد النوع؟

15- هل تمتلك مؤسستكم أدوات عامة للأبحاث (مجهر, آليات للحقل(...,

16- هل تمتلك مؤسستكم الإستراتيجيات وأطر العمل لتنمية وتطوير الأبحاث داخل البلد (الدعم المادي, تقييم المشروع, التشاريع, سياسة لطلب تراخيص دخول, إتفاقيات مؤسساتية متعددة الأطراف(

تقييم الموارد البشرية الموجودة الداعمة للتصنيف:

1- هل تمتلك مؤسستكم هيئة أبحاث محترفة تتعامل مع التصنيف؟

إذا أجبتم بنعم الرجاء الإنتقال إلى السؤال التالي

2- كم هو عدد العلماء؟ ما هو مجال تخصصهم (تغطية التصنيف)؟ الرجاء تحديد وضعهم (العمر, المشاركة في نشاطات إحترافية في البلد وعلى المستوى الدولي, المشاركة في دورات تدريب(

3- هل تمتلك مؤسستكم مسؤولين محترفين عن التجميع؟

4- هل تمتلك مؤسستكم تقنيين يعملون في حقل التصنيف؟

5- هل لديكم طلاب في حقل التصنيف(undergraduate, graduate, and postdoctoral) ؟

6- هل لديكم أي مجمعين؟

7- هل لديكم أي متمرنين أو متطوعين يعملون في حقل التصنيف؟

8- هل يتوفر في مؤسستكم التعليم أو التمرين في مجال التصنيف؟

إذا أجبتم بنعم الرجاء الإنتقال إلى الأسئلة رقم 9- رقم16

9- ما مستوى التعليم المتوفر(B.S., M.S., Ph.D) ؟

10- ما عدد ونوعية المتمرنين؟

11- ما نوع التمرين المتوافر (إعطاء شهادات(.undergraduate, graduate, postgraduate, etc ؟,

12- ما هي التسهيلات المتوافرة للتمرين؟

13- هل يوجد أي مراكز شاغرة في مؤسستكم لمصنفين أو للعاملين في حقول قريبة؟

إذا أجبتم بنعم الرجاء تحديد عدد ونوع المراكز الشاغرة.

14- هل لديكم معلومات عن مصنف وطني يعمل في دولة أجنبية؟

15- هل لديكم مصنف أجنبي يعمل في مؤسستكم؟

16- هل تتيح مؤسستكم فرص التمرن في دول أخرى؟

تقييم الأولويات الوطنية لمعلومات التصنيف:

1- أي فرق تصنيفية تعتبر أكثر أهمية؟

2- أي معلومات تصنيف عن هذه الفرق تعتبر أساسية؟

3- أي ثغرات في المعلومات عن هذه الفرق يجب أن تعبأ؟

4- أي نوع من المشاكل بحاجة للحل عبر إستعمال معلومات تصنيف؟

5- من أين تستقي حالياً معلومات التصنيف؟

Annexe I.2. List of Institutions

I. Faculte d'Agronomie
Université Libanaise
Doyen : Dr. Moustapha MROUE
Adresse : Mont Liban, Horch Tabet.
Téléphone : 01-483306, 489683/4.
Télécopie : 01-489685, 483307.
Adresse électronique : agr1@ul.edu.lb

II. Faculte des Sciences
Université Libanaise
Section I : Mont Liban, Hadath.
Téléphone : 05- 460584, 460100, 463559, 462225.
Télécopie : 01- 460502.
Directeur : Dr. Nasri Cheaito.

Section II : Mont Liban, Fanar.
Téléphone : 01- 680248/9, 680250, 681550/1.
Télécopie : 01-680250.
Directeur : Dr. Antonio Khoury.

Section III : Liban Nord, Tripoli, Koubba.
Téléphone : 06- 385391, 386364/6/8.
Directeur : Dr. Fouad Darazi.

Section IV : Békaa, Zahlé.
Téléphone : 08- 806849, 814607.
Directeur : Dr. Nicolas Alouf.

Section V : Nabatieh, Nabatieh.
Téléphone : 07- 761980, 761976.
Directeur : Dr. Akram Dagher.

III. Faculte de Pharmacie
Universite Libanaise
Doyen : Dr. Aziz GEAHCHAN
Adresse : Beyrouth, Ramlet al-Bayda.
Téléphone : 01-786949, 863113.
Télécopie : 01-786950.

IV. Lebanese American University
Att: School of Pharmacy
Director of Beirut Campus: Mrs. Leila Saleeby Dagher
Office Location: Irwin Hall, 1st floor
Mailing Address: P.O. Box 13-5053/S-14, Chouran
Beirut: 1102 2801, Lebanon
Telephone: +961 1 786456 or +961 1 786464, extension 1129
Fax: +961 1 786454
E-mail: admissions.beirut@lau.edu.lb

V. Faculty of Agronomic Sciences
Dean: Dr. Joseph Wakim
Holy Spirit University of Kaslik
Jounieh P.O.B. 446
Mount Lebanon, LEBANON
Telephone: 961-9-640664/5
Fax: 961-9-642333
E-mail: agro@usek.edu.lb

VI. Faculty of Art & Sciences
Dean: Dr. Khalil Bitar
American University of Beirut
P.O.Box: 11-0236
Beirut –Lebanon

VII. Faculty of Agricultural & Food Sciences
Dean: Dr. Nuhad Daghir
American University of Beirut
P.O.Box: 11-0236
Beirut –Lebanon

VIII. Dr. Georges Tohme
Lebanese National Council for Scientific Research
P.O Box 11-8281
Beirut Lebanon
Tel: 961-1-840260
gtohme@cnrs.edu.lb

IX. Mr. Michel Afram or Dr. Raghed Aassi
Lebanese Agricultural Research Institute
Tel Amara Station - Rayak – Bekaa
P.O Box: 287, Zahlé
Phone: 961-8-900037/47/57
Fax: 961-3-215409 / 961-3-780935
E-mail: agrobio@cyberia.net.lb

X. University of Balamand
Department Of Chemistry, Biology and Environmental Science
Youssef Sorsock Street, St Georges Health complex
P.O.Box 166378 Ashrafieh Beirut 1100-2807
Lebanon
Tel: 961-1-581700
Fax: 961-1-562110

XI. UNIVERSITÉ SAINT-JOSEPH
Directrice de l'ESIAM: Yolla GHORRA
Faculté d'ingénierie
Ecole supérieure d'ingénieurs d'agronomie méditerranéenne
CEU Zahlé - Békaa
BP 159
Hazerta - Zahlé
Liban
Tél : +961 (8) 543 120/1
Fax : +961 (8) 542 522
E-mail: esiam@usj.edu.lb

XII. UNIVERSITÉ SAINT-JOSEPH
Département de Sciences de la Vie et de la Terre
Faculté des sciences
Directeur du département : Mireille KALLASSY AWAD

Campus des sciences et technologies
B.P. 11-514 Riad El Solh
Beyrouth 1107 2050- Liban
Tél : +961 (4) 532661 /2 /3

Poste : 562
Fax : +961 (4) 532657
E-mail : svt@fs.usj.edu.lb

XIII. Notre Dame University
Doris Jaalouk
Department of Sciences
FN&AS Building, 3rd floor, Room S 306
Tel: 09-218-950/51/52 Extension 2113
e-mail: environment@ndu.