

National Taxonomic Needs and Priorities

This document compiles information on taxonomic needs and priorities contained in National Reports, National Biodiversity Strategies and Action Plans (NBSAPs), the Report on the Implementation of the Global Taxonomy Initiative Programme of Work (Report on GTI) and Regional GTI workshops.

This document intends to reflect the main references made to taxonomic needs, but is not necessarily comprehensive. It does not contain information from all 3rd National Reports, only those that had been received at the time of analysis in mid-2006. For access to National Reports, NBSAPs and Reports on GTI, please visit the CBD website at www.biodiv.org

Country	Source	Taxonomic Needs and Priorities
Albania	1 st Natl Report	Information on biodiversity in Albania is generally lacking. There are still flora and fauna taxonomic groups, which are unknown or have not been studied. The information on well-known taxonomic groups is lacking in terms of species.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Same as 1 st national report
Algeria	1 st Natl Report	Taxonomy not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Basic national taxonomic needs assessment completed -Manque de formation en la matière -Manque d'experts en la matière
	Report on GTI	Not Submitted

	NBSAP	<p>Connaissances génétiques, taxonomiques, organisationnelles et paysagères de la diversité biologique sauvage ou agricole insuffisantes, amplifiées par les carences en systématique. Les effectifs systématiciens botanistes ou zoologues ne permettent pas d'assurer une prise en charge taxonomique à tous les niveaux de valorisation.</p> <p>(...)</p> <p>Aucune opération d'inventaire systématique de la flore et de la faune n'est réalisée, ni en cours. La typologie globale de référence de la faune et de la flore, de leurs conditions écologiques et structurales est inexistante. Il n'y a pas de centre de références systématiques qui catalogue les types taxonomiques.</p>
	Regional GTI workshops	<ul style="list-style-type: none"> -Unclear if a comprehensive taxonomic needs assessment has been completed -Unclear whether collections are actively created, protected against decay, adequately staffed, or electronically databased. -It is unclear whether groups of organisms have been listed for priority research. Taxa that should be listed include endangered endemic plants. -Inadequate staff. -Unclear if inventories of invertebrates & fungi have been completed. -Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, scientific collecting equipment and project related research funding. In general taxonomy is not adequately addressed.
Antigua and Barbuda	1 st Natl Report	Taxonomy not mentioned.
	2 nd Natl Report	Not Submitted.
	3 rd Natl Report	Not Submitted.
	Report on GTI	<p>Some national taxonomic needs assessments made</p> <p>Taxonomic needs assessments: A taxonomic needs assessment was prepared on GMO' s by a combined effort by the Central Board of Health (CBH), the Environmental Division, the Plant Protection Unit, and Abbott Farms. The assessment included basic taxonomic research and surveys with focus on protected areas, caves, and other fragile ecosystems. → [secretariat note: the location of the report referred to is not given]</p>
	NBSAP	Taxonomy not mentioned.
Argentina	1 st Natl Report	Taxonomy not mentioned
	2 nd Natl Report	No national taxonomic needs assessment

	3 rd Natl Report	Not Submitted
	Report on GTI	No national taxonomic needs assessment completed, but assessment is under way We are beginning to compile the information knowledge and needs taxonomic in Argentina.
	NBSAP	Not Submitted
Armenia	1 st Natl Report	Taxonomy not mentioned
	2 nd Natl Report	No national taxonomic needs assessment On both items the assessment and study are implemented as a result of the personal initiative of certain experts.
	3 rd Natl Report	Basic national taxonomic needs assessment made In the first Armenian biodiversity report and within UNDP/GEF “Needs assessment for the establishment of primary capacities for biodiversity” (2002) project they have analyzed the present state of study, maintenance and use of biodiversity; identified the needs and obstacles; development possibilities and perspectives, including in taxonomy. From the present capacities one can mention the existence of the relevant institutions; highly qualified staff and scientific schools; to a certain extent also scientific-technical base and scientific links and rich collections. From the identified needs one can mention: expansion and deepening of classification activities on genetic and ecosystem levels; training of the specialists for individual non-studied taxons of plants and non-studied or less studied classification groups of animals; insufficient and disproportional study of fauna (only 30%); expansion of international cooperation on the genetic level for taxonomy surveys and especially for education and training of personnel. Insufficiency of high quality personnel in the line of certain professions (including forestry, taxonomy, resources sciences); The insufficiency of financial, human and technical resources constrains the possibilities of taxonomy studies. With the efforts of 8-10 classifiers of classification and geography division of plants of the Institute of Botany of NAS they continue to develop and publish the multi-volume “Flora of Armenia”. At present they work over 11th volume that will comple te the inventory of vascular plants in Armenia (around 3500 species and sub-species). At present there are not classification activities of various taxonomy groups of vascular plants (family, tribe, elatives, etc.).
	NBSAP	<i>Quality of information</i> Although groups such as the higher plants (about 3500 species) and vertebrates (about 500 species) have been intensively studied in Armenia, little work has been done on other taxa (including invertebrates and some lower plants). The information on species richness in these groups may therefore be significantly underestimated.

		<p>Further assessments are therefore needed of biological resources and of conservation status of key group. At present financial constraints severely limit scientific research in Armenia, and no funds are available to support inventories or long-term monitoring of fauna and flora.</p> <p><i>Flora</i></p> <p>Not all groups of Armenian plants are well known. Most research has been conducted on vascular plants especially angiosperms. Other plant groups are not well studied.</p> <p>Much of the taxonomic research was conducted during the Soviet era, when financial support for science was high. During this period Armenia supported many high-calibre scientists working in the field of biodiversity research. However, the recent economic hardships have resulted in a lack of money for research or for scientists' salaries. Therefore, limited research is currently conducted on biodiversity in Armenia. Despite these difficulties the intellectual and technical capacities for research within Armenia remain high. The challenge is to apply this resource to key questions relating to biodiversity conservation</p>
Australia	1 st Natl Report	Need to accelerate research into the taxonomy, geographic distribution and evolutionary relationships of Australian terrestrial, marine and other aquatic plants, animals and micro-organisms, giving priority to the least known groups, including non-vascular plants, fungi, invertebrates and micro-organisms.
	2 nd Natl Report	Advanced stages of national taxonomic assessment
	3 rd Natl Report	Basic national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	<p><i>Inventory</i></p> <p>Accelerate research into the taxonomy, geographic distribution and evolutionary relationships of Australian terrestrial, marine and other aquatic plants, animals and microorganisms, priority being given to the least known groups, including non-vascular plants, invertebrates and microorganisms. Where appropriate, methodologies should be standardised. This can best be achieved by strengthening the role of the Australian Biological Resources Study, including an extension of the Study program to cover microorganisms. Resources available to Commonwealth and State and Territory institutions involved in taxonomic work and in the study of ecosystem and genetic diversity should also be maintained or enhanced. The completion of a comprehensive inventory of Australia's ecosystems should be treated as a matter of urgency in research funding.</p> <p><i>Training</i></p> <p>Facilitate and support the development of collaborative taxonomic training programs by existing institutions such</p>

		<p>as museums, herbariums and universities for:</p> <ul style="list-style-type: none"> a. specialist taxonomists, particularly to work on inadequately studied groups; b. biological diversity technicians; c. ecologists; d. members of the public and community organisations assisting in biological diversity projects.
Austria	1 st Natl Report	<p>A special effort should be made to teach taxonomy of species rich groups (e.g. insects, spiders, etc...) in university curricula in order to satisfy the demand for much-needed taxonomists.</p> <p>Austria's participation in international programs to collect and document biodiversity should be intensified and expanded (i.e., in the International Biodiversity Information Network, Systematics Agenda 2000, Diversitas, European Working Group on Research and Biodiversity, and activities in the European Environmental Agency). Austria is actively participating in the Plants Committee of CITES.</p>
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>A basic assessment has been carried out within a preliminary study on the implementation of the Global Strategy of Plant Conservation.</p> <p>Further assessments have been made within a feasibility project on Austria's participation in GBIF. (See www.biodiv.at GBIF: Feasibility study).</p>
	Report on GTI	<p>Some national taxonomic needs assessments made</p> <p>In the context of a feasibility study of GBIF in Austria (Götzl & al., 2003), also gaps in taxonomic needs were detected. In addition, seeking such information was part of a GSCP questionnaire for a preliminary status report on target 1 of the GSPC (Kiehn, unpubl., 2003). [secretariat note: the references for these citations were not provided]</p> <p>There is already a wide range of GTI-relevant data available in Austria. Nevertheless, there is a need for action in terms of update, documentation, digitisation and access to these data via internet.</p> <p>Taxonomy is not at all a well funded subject at Austrian Universities and Museums.</p>
	NBSAP	Taxonomic needs and priorities not mentioned

Azerbaijan	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
Bahamas	1 st Natl Report	Not Submitted
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>Under the Biodiversity Enabling Activities project, a Needs Assessment for Capacity Building and Institutional Strengthening in Taxonomic Research and Development in the Bahamas was undertaken by CABI Bioscience (Cheeseman and Kairo, 2004). This report recognized that there were few, if any, individuals in The Bahamas who would describe themselves as taxonomists, but there is a fragile network of institutions whose work involves elements of taxonomy, of individuals who have some taxonomic knowledge of particular taxa, and of institutions involved in education and awareness of biodiversity issues. A Biodiversity Information Management System is lacking, though a Clearing House Mechanism was recently inaugurated, and the BEST Commission Website is also a source of information. Some Bahamian data is also available through the GBIF Portal. Recommendations from the Taxonomic Needs Assessment report include:</p> <ul style="list-style-type: none"> -Involvement of The Bahamas in regional and global taxonomic capacity building programmes, and networks. -At the policy level, a renewed commitment to the objective and recommendations of the Bahamas Biodiversity Country Study, and the National Biodiversity Strategy and Action Plan, and recognition of taxonomy in achieving these objectives and recommendation. (For example in issuing CITES and import permits). -Also at the policy level, these must be commitment to public awareness and inclusion of biodiversity in the schools' curricula. -Building on existing capacity especially the development and maintenance of a biodiversity information system, eventually linking to a Geographic Information System (GIS). -Development of taxonomic aides, especially user-friendly well-illustrated field guide, and electronic identification keys to be used by layperson and schools. -Strengthening of existing networks within The Bahamas, informal and semi-formal, institutional and non-institutional need to be strengthened, and the formation of a National Biodiversity Forum is suggested. <p>Most of these recommendations have yet to be implemented, but some taxonomic information is regularly</p>

		accessed online from Species 2000, the Missouri Botanic Gardens, Fairchild Tropical Gardens, and others. Some of these recommendations can be readily implemented, but a lack of suitably qualified staff remains a constraint for the immediate future.
	Report on GTI	<p>Some national taxonomic needs assessments made</p> <p>The following taxonomic capacity assessments are being completed by CAB International under the Biodiversity Enabling Activities Project, scheduled for completion in July 2004:</p> <ul style="list-style-type: none"> -Assessment of existing knowledge about national biodiversity -Assessment of current national taxonomic infrastructure -Assessment of current national human resources in taxonomy -Assessment of national user needs for taxonomy -Development of relevant databases, and plans for training and to ensure accessibility of information for target groups. <p>Mentions the following documents that include needs and assessments: “Biodiversity Enabling Activities: Needs Assessment for Capacity Building and Institutional Strengthening in Taxonomic Research and Development in The Bahamas”.</p> <p>Carey, E (1996) Consultants’ Reports on Needs Assessment Survey of Biosystematic Collections in the Sub-region: Bahamas. In Proceedings of the First Meeting of the LOOP Co-ordinating Committee CARINET, the Caribbean LOOP of BioNET INTERNATIONAL, November 4-5, 1996, Port of Spain, Trinidad (eds St C. Forde & R. Barrow), pp.16-18. CARINET, Trinidad & Tobago.</p>
	NBSAP	The Bahamas Country Study Report (1995) is The Bahamas' most recent attempt to provide an overview of the country's biodiversity. Even so, its accounting of the taxonomic and ecological status of biodiversity in The Bahamas is considered preliminary. As the Report states, "knowledge of Bahamian species diversity is fragmentary. An estimate based upon the survey of scientists and literature reported here suggests that possibly only 5% of all species present in the country are reported to date. This would mean that a full 95% remains unreported or undescribed.
Bahrain	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Not submitted
	3 rd Natl Report	Not submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted

Bangladesh	1 st Natl Report	Not submitted
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	NBSAP	Not Submitted
Barbados	1 st Natl Report	Aside from investigations of pests of economic importance, their natural enemies and other associates, there have been few efforts to systematically collect any taxonomic groups of insects in Barbados.
	2 nd Natl Report	No national taxonomic needs assessment made Within the Ministry of Agriculture and Rural Development however there is a lack of trained personnel to carry out taxonomic auditing and there are also insufficient funds available to employ the requisite personnel to conduct the necessary auditing.
	3 rd Natl Report	No national taxonomic needs assessment made
	NBSAP	Aside from investigations of pests of economic importance, their natural enemies and other associates, there have been few efforts to systematically collect any taxonomic groups of insects in Barbados. There is no quantitative information on the distribution and abundance of insects and allied species on a species by species basis in Barbados except for significant crop pests such as the diamond-back moth <i>Plutella xylostella</i> (Jones 1985, Gibbs 1993), or significant livestock parasites e.g. the tropical bont tick (<i>Amblyomma variegatum</i>). Need to provide scholarships for tertiary level studies in fields related to biodiversity management e.g. taxonomy, ecology, and biotechnology
	NCSA	
Belarus	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	Although taxonomic studies have been conducted in the country for more than two centuries, until now we do not

		have complete lists, alone full size monographs on selected groups of plants and fungi. Taxonomic records are more common for endangered or threatened taxa.
Belgium	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment In October and December 2001, symposia on the Belgian flora and fauna will be organised. The aims of both symposia are to assess the needs in taxonomic research and to highlight the priorities for future work.
	3 rd Natl Report	Basic national taxonomic needs assessment made Between 1998 and 2002, questionnaires were sent to Belgian and foreign experts in view of preparing the country study 'Biodiversity in Belgium' (*). There were questions on the number of species (for a given taxon) found in Belgium, the trends in species numbers, the causes for species increase or decrease, the regions with highest species richness, the existence of species lists, the status of taxonomical knowledge, the number of specialists for the given taxon in Belgium and in neighbouring countries, the existence and localisation of collections, etc. If no Belgian expert could be identified for a target group, the questionnaire was sent to experts in neighbouring countries or even to specialists worldwide. For zoological taxa, 316 questionnaires were returned, 194 being completed by Belgian experts and 122 by foreign specialists. A summary, per taxon, of the information gathered via these questionnaires can be found in 'Biodiversity in Belgium'. These questionnaires are not 'taxonomic needs assessments' <i>per se</i> , but provide information for the groups for which answers were received. In October and December 2001, two symposia (***) were organised, one on the Belgian flora and one on the Belgian fauna. Their objectives were to evaluate the status of knowledge, assess the needs in taxonomic research and highlight the priorities for future work. A short overview of Belgian taxonomic capacity has been carried out by the Belgian Biodiversity Platform (now integrated into Bio-in-Bel) for the European Platform for Biodiversity Research Strategy (EPBRS). It has been published as part of a paper called 'Supporting European taxonomy – current state and possible future actions' (***). (*). Peeters, M., Franklin, A. & Van Goethem, J.L. (eds), 2003. Biodiversity in Belgium. Royal Belgian Institute of Natural Sciences, Brussels: 416 pp. (**) Peeters, M & Van Goethem, J.L. (eds), 2002. Proceedings of the Symposium 'Status and trends of the Belgian fauna with particular emphasis on alien species', Brussels, 14.12.2001. Bulletin of the RBINS, Biologie, Vol. 72 – Supplement, 297 pp. (**) Rappé, G., Busschots, K. & and Robbrecht, E. (eds), 2003. Proceedings of the Symposium 'Botanical Biodiversity and Belgium's expertise', National Botanical Garden of Belgium, Meise, 19-20.10.2001, Scripta Botanica Belgica, 24, 214 pp. (***) Dimitrova, D. (ed.), 2003. Supporting European taxonomy - current state and possible future actions. EPBRS meeting held under the Italian Presidency in Florence, 20-24 November 2003.

	Report on GTI	<p>Some national taxonomic needs assessments made</p> <p>-Between 1998 and 2002, questionnaires were sent to Belgian and foreign experts in view of preparing the country study 'Biodiversity in Belgium' (*). There were questions on the number of species (for a given taxon) found in Belgium, the trends in species numbers, the causes for species increase or decrease, the regions with highest species richness, the existence of species lists, the status of taxonomical knowledge, the number of specialists for the given taxon in Belgium and in neighbouring countries, the existence and localisation of collections, etc. If no Belgian expert could be identified for a target group, the questionnaire was sent to experts in neighbouring countries or even to specialists worldwide. For zoological taxa, 316 questionnaires were returned, of which 194 were completed by Belgian experts and 122 by foreign specialists. A summary, per taxon, of the information gathered via these questionnaires can be found in 'Biodiversity in Belgium'. These questionnaires are not 'taxonomic needs assessments' per se, but provide information for the groups for which answers were received.</p> <p>1. In October and December 2001, two symposia (**) were organised, one on the Belgian flora and one on the Belgian fauna. Their objectives were to evaluate the status of knowledge, assess the needs in taxonomic research and highlight the priorities for future work.</p> <p>- A short overview of Belgian taxonomic capacity has been carried out by the Belgian Biodiversity Platform (now integrated into Bio-in-Bel) for the European Platform for Biodiversity Research Strategy. It has been published as part of a paper called 'Supporting European taxonomy - current state and possible future actions' (EPBRS, 2003). (*) PEETERS, M., FRANKLIN, A. & VAN GOETHEM, J.L. (eds), 2003. Biodiversity in Belgium. Royal Belgian Institute of Natural Sciences, Brussels: 416 pp.</p> <p>(**) PEETERS, M & VAN GOETHEM, J.L. (eds), 2002. Proceedings of the Symposium 'Status and trends of the Belgian fauna with particular emphasis on alien species', Brussels, 14.12.2001. Bulletin of the RBINS, Biologie, Vol. 72 - Supplement. 297 pp.</p> <p>(**) RAPPÉ, G., BUSSCHOTS, K. & ROBBRECHT, E. (eds), 2003. Proceedings of the Symposium 'Botanical Biodiversity and Belgium's expertise', National Botanical Garden of Belgium, Meise, 19 -20.10.2001, Scripta Botanica Belgica, 24, 214 pp.</p>
	NBSAP	Taxonomic needs and priorities not mentioned.
	NCSA	
Belize	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned.

	NCSA	
	Regional GTI workshops	Needs: (Training, Infrastructure for collections, make info available to the public) Priorities: Training Limitations: Insufficient budget, limited infrastructure, lack of specialized literature, lack of trained personnel
Benin	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Early stages of national taxonomic needs assessment Une étude d'évaluation des besoins nationaux en matière de taxonomie est en cours et permettra d'élaborer un programme national pour la taxonomie.
	3 rd Natl Report	National taxonomic needs assessment completed
	Report on GTI	Not Submitted
	NBSAP	<p>Besoin de formation de spécialistes dans divers groupes taxonomiques: Les principales recommandations qui sont formulées pour une meilleure connaissance des insectes et pour une meilleure valorisation de cette ressource sont :</p> <ul style="list-style-type: none"> - Former davantage de spécialistes en entomologie (taxonomie, écologie), et par domaine spécifique - mettre en place les infrastructures de travail dans les laboratoires spécialisés (insectarium, équipement technique, entretien, personnel, etc) - développer des programmes de collecte systématique et en toutes saisons sur toute l'étendue du territoire national à l'instar des récoltes botaniques - développer des programmes de recherche sur les espèces utiles - faire davantage usage des muséums dans les travaux pratiques - mettre en place un système de gestion des collections et d'échanges de données entomologiques entre les laboratoires spécialisés. <p>Les principales recommandations qui sont formulées pour un meilleur contrôle des Arthropodes non hexapodes sont:</p> <ul style="list-style-type: none"> - des études approfondies et soutenues sur l'inventaire des Arthropodes non hexapodes - les études sur la biologie des espèces prioritaires ayant un intérêt économique - la création d'un musée de la faune du Bénin - la détermination des espèces indicatrices des biotopes - la réalisation des cartes de répartition de chaque groupe taxonomique - la formation de spécialistes en zoologie dans les divers groupes taxonomiques - la poursuite des collections pour leur conservation au musée des invertébrés de l'IITA. <p><i>Stratégie Nationale et Plan d'Action pour la Conservation de la Diversité Biologique au Bénin</i></p>

		<p>Les principales recommandations à prendre en considération pour la sauvegarde et la valorisation des champignons sont :</p> <ul style="list-style-type: none"> - la poursuite des inventaires taxonomiques - la conservation des écosystèmes - la culture et la vulgarisation des espèces indigènes - la recherche scientifique sur les techniques de conservation et de culture au laboratoire - la formation de scientifiques et des acteurs de la filière mycologique - la publication et la vulgarisation des travaux.
	NCSA	
	Regional GTI Workshops	<p>Needs assesment is under way as part of the work programme of WAFRINET and the local LOOP of BioNET-INTERNATIONAL.</p> <ul style="list-style-type: none"> -Some of the collections are not adequately curated against decay, adequately staffed, or electronically databased. -Staff numbers in taxonomic institutions are inadequate to address diversity issues. -Groups of organisms have been listed for priority research (insects: some dipterans). -It will be necessary to develop financing projects for the following: Lepidoptera and Coleoptera of agricultural importance, Hymenoptera of agricultural and biological importance, Acariens of agricultural importance and fungi. <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional.</p> <p>-Running costs and lack of staff, physical infrastructure, scientific and collecting equipment, project related research funding and basic taxonomic literature and library facilities.</p> <p>-In general taxonomy is not adequately addressed in Benin</p>
Bhutan	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	No national taxonomic needs assesment made
	Report on GTI	Not Submitted

	NBSAP	<p>-All of the potential avenues for both expanding economic benefits from biodiversity and better ensuring its conservation are currently constrained by the shortage of basic scientific knowledge about the identity, status, and distribution of species and genetic resources in the country.</p> <p>-Bhutan has few if any trained taxonomists or ecologists working for the government.</p> <p>-Invest in the building up of the National Herbarium. Explore the establishment of additional biological collections. In addition to the herbarium, a seed genebank, one of the essential biological collections for any country, is currently being established in the country.</p> <p>-Encourage Bhutanese biologists to obtain specialized training in plant and invertebrate taxonomy.</p> <p>-Bhutan, like any small country, will need to rely extensively on international taxonomists as it builds its knowledge of its biodiversity. However, the value of the international expertise can be magnified if the country also has researchers with advanced training in this field. Additional Bhutanese technical expertise in this field will also contribute to the country's ability to set policies regarding the scientific exchange of information and samples.</p> <p>-Encourage international taxonomists to visit Bhutan and help with inventory and collections.</p> <p>-Allow exchange of biodiversity samples for non-commercial research purposes only.</p> <p><i>Research on Wild Floristic Diversity</i></p> <p>The Flora of Bhutan (FOB) Volumes has now been completed. It provides the baseline information, which serves as a basis for identifying and prioritizing future plan of actions. To complement the already existing information of the FOB further research needs to be done on the ecology, and phytogeography of the already documented species. Further the FOB does not cover the lower group of plants such as the Pteridophytes, bryophytes and the lichens, which also needs to be researched and documented as part of the wild floristic diversity in Bhutan.</p> <p><i>Objectives</i></p> <ul style="list-style-type: none"> · To have a complete inventory of the floristic diversity of Bhutan (including ethno-botanical information). · Co-ordinate and establish linkages with relevant national organizations for plant collection expeditions. · To identify and complete the information for the missing plant groups in the FOB Volumes. · To strengthen the National Herbarium as a reliable reference collection for researchers, conservationist, ecologists, botanist and naturalists. <p><i>Actions</i></p> <ul style="list-style-type: none"> · To identify and recruit specialized technical assistance for taxonomic assessment of diversity at species level. · To initiate surveys and collections of Pteridophytes, bryophytes and the lichen flora of Bhutan starting with the survey and collection of ferns and their allies. · In addition to herbarium specimens, initiate carpological and wood collections of economically important plant species. · To identify critical plant groups and habitats that may require special conservation efforts.
	NCSA	<p>The biodiversity thematic assessment lists the following skills development and training needs: Training in herpetology, mammalogy, entomology, mycology, and plant taxonomy for the staff of NCD to conduct biodiversity assessments and monitoring. NCD staff also needs training in survey of species population,</p>

		distribution and habitat, risk assessment, and research and monitoring techniques.
	Regional Taxonomy Workshops	
Bolivia	1 st Natl Report	Nothing on national taxonomic needs assessments
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned.
	NCSA	
	Regional Taxonomy Workshops	
Bosnia and Herzegovina	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	No national taxonomic needs assessments made
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Botswana	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	No national taxonomic needs assessments made
	3 rd Natl Report	Basic national taxonomic needs assessment made Botswana still needs much taxonomy work, especially for the micro - organisms. Although some taxonomy

		<p>research has been done in the country a lot has to be done on appropriate reference collections and research in general.</p> <p>Currently biodiversity expertise especially in the area of taxonomy and bio-systematic is low and is limited to the University, herbaria, museum and Department of Agricultural Research. Facilities are also poor and there are a very few that are well established or well equipped.</p>
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	<p>-A comprehensive needs assessment has not been completed.</p> <p>-Major collections are adequately curated, protected against decay, electronically databased but are not adequately staffed</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues.</p> <p>-No groups of organisms have been listed for priority research. What is known to need priority are ecosystems e.g. Okavango Delta, Tswapong hill, Miombos of the Kasane.</p> <p>-Documented taxonomic information is not available and accessible in Botswana</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and lack of staff, project-related research funding and basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed in Botswana</p>
Brazil	1 st Natl Report	<p>An international workshop is being organised for the first semester of 1998 as the next step in the execution of the project. Two factors limit the rate of production of new monographs on taxonomic revisions:</p> <ol style="list-style-type: none"> 1) the small number of taxonomists studying the Neotropical flora 2) the scarcity of resources for taxonomists to carry out their research. <p>For these reasons, the principal objectives of the proposal are:</p> <ul style="list-style-type: none"> • Identify the plant groups for which taxonomic appraisals are particularly important for decisions on conservation and sustainable use; • Encourage and provide total support for new taxonomic revisions, and support those currently underway; • Increase the number of botanists studying the taxonomy of the Neotropical flora and guarantee the continuity of their research by training young taxonomists; • Make taxonomic data available for use by conservationists and decision-makers; prepare texts and distribution maps from existing monographs (<i>Flora Neotropica Monographs</i> and similar publications); promote their publication on the World Wide Web; • Make the taxonomic data freely available to individuals in all tropical American countries; promote the repatriation of data on plant collections to their countries of origin.
	2 nd Natl	National taxonomic needs assessment completed

Report	<p>Seven Documents were produced in 2000, which review knowledge of Brazilian Biodiversity: freshwater biodiversity, vertebrate biodiversity, marine invertebrates, terrestrial invertebrates, genetics, terrestrial plants, and microorganisms (there is a web link but it is too faint to read). They are summarized in the document Biodiversidade Brasileira: síntese do estado atual do conhecimento. Lewinsohn 2000 Final Report presented to The CBD SBF/MMA (UNDP Project BR/97/G31)</p> <p>PPBio: Developed by the ministry of Science and Technology, this program is based on the working groups: collections, inventories and information dissemination. Among its objectives are the guarantee of the maintenance, growth and qualification of collections, and the systematic generation of information on biological diversity.</p> <p>CNPq: “Science and Technology for the Atlantic Forest” is a cooperative programme between Brazil and Germany. One of the project support themes of interest is the characterization of the Atlantic forest’s diverse ecosystems. This focuses on addressing the gaps, contrasting degrees of knowledge and uneven geographic coverage in terms of biological inventories. A greater understanding of the biogeography of the Atlantic forest will generate the competence needed to identify indicator species and species groups and allow for the establishment of micro-scale monitoring programmes. Also important is the need to develop a national capacity to manage information. (www.cnpq.br/servicos/editas/ct/index-mata-atlantica.htm).</p> <p>Plants of the Northeast programme/ Subprogram for information, dissemination and training. The principal goals of this programme focus on increasing our knowledge of taxonomy of the flora in the Brazilian Northeast.</p> <p>Rio de Janeiro Botanical Garden is the reference center for botanical collections, and has given priority to the qualitative and quantitative improvement of its collection, as well as research methods and conditions for its preservation.</p>
3 rd Natl Report	<p>Some national taxonomic needs assessments made</p> <p>In 1983 and 1987 the Ministry of Science and Technology, through the National Research Council, produced documents based on a study made among scientists and institutions that described the situation of botany in Brazil, including information on taxonomy (Nogueira & Malhem, 1987). After the Convention on Biological Diversity, Siqueira & Joly (1995), Peixoto & Barbosa (1998) and Peixoto (1999) produced documents showing the development of botany, focusing specifically on the scientific collections that support taxonomic studies and floristic surveys. The Tropical Data Base, BDT, a department within the non-profit, non-governmental André Tozello Foundation created with the aim to promote science and technology in Brazil, engaged in the preparation of a series of reports on the project 'Biodiversity: Perspectives and Technological Opportunities'. The project was carried out in 1995/96 and aimed at characterizing the country's capacity in major areas that may contribute to the preservation, use and management of its biodiversity (fauna, flora and microbiota). The reports have been</p>

available electronically since 1998 at <http://www.bdt.fat.org.br/index>, and include a diagnosis of Botanical, Zoological and Microbiological Collections in Brazil, and an analysis of the information system, the collections technological infrastructure, guidelines and recommendations to promote their access. In 2000, the Brazilian Academy of Science, supported by American States Organization (ASO/OEA) and FINEP, the Brazilian Financing Agency for Technology and Science, through the Program to Support Scientific Collections, organized the elaboration of the report 'Brazilian Zoological Collections'. This report was done by researchers from São Paulo State University (USP), Rio de Janeiro Federal University (UFRJ), the National Institute for Amazon Research (INPA) and Paraná Federal University (UFPR).

In 1999, a series of seven volumes, named 'Biodiversity of the State of São Paulo: Synthesis of knowledge at the end of the 20th Century', made an unpublished diagnosis of all groups of live organisms known in the State of São Paulo available (Portuguese and English versions at <http://www.biota.org.br/publi/livros>). The volumes synthesized the already existing scientific knowledge about São Paulo's biota, outlining capabilities of the research groups within the State and the existing infrastructure for “in situ” and “ex situ” conservation. This is series is closely related to the Research Program on Sustainable Conservation of Biodiversity, named "BIOTA/FAPESP Program, the Virtual Institute of Biodiversity", created officially at 1999 and supported by FAPESP itself (Foundation to Support the Research at São Paulo State). The major aim of BIOTA-FAPESP is to inventory and characterize the biodiversity of the State of São Paulo, and define the mechanisms for its conservation and sustainable use.

In 1997, a project to profile the current knowledge on Brazilian biodiversity was conceived initially at the Biodiversity Working Group, an independent advisory board linked to CNPq (Brazilian National Council of Research), and further at the Section of Biodiversity and Forests of the Ministry of the Environment of Brazil (MMA). It was funded by the Global Environment Facility and supported by the United Nations for the Development Program (UNDP), the Brazilian Agency of Cooperation, and CNPq. This project resulted in a general report, 'Synthesis of the Knowledge of the Biological Diversity in Brazil' (Lewinsohn and Prado, 2000), and other seven reports related to specific groups (different authors): microbial biodiversity, vertebrates, freshwater organisms (except vertebrates), marine invertebrates, terrestrial invertebrates, Terrestrial vascular plants and genetic diversity (2003, available at <http://www.mma.gov.br/port/sbf/index.cfm>). These reports resulted in a diagnosis of the current capacity and knowledge on Brazilian biodiversity bringing, therefore, guidelines to assist the selection of priorities for further development of this knowledge and its application. The following items were searched as priorities and included in the report according to the available information: current status of the taxonomy of each group; the state of knowledge of its biodiversity in Brazil and in the world; extent of sampling in different biomes, habitats or geographic regions of the country; the value of each group for different applications and lines of interest; genetic studies of or within the group; current human resources; state and extent of biological collections; and the needs and proposed priorities to advance knowledge of the group. In 2002, the project 'Biological collection to support survey, sustainable use and conservation of biodiversity' was elaborated to provide data and information that could promote and facilitate the design and implementation of instruments and that could guide specific actions of the government on this area. Considering a previous project

		<p>funded by CNPq, 'Motion Project of Biological Collection', the 2002 project undertook the commitment to evaluate the "ex situ" collection state of the art and included three activities of evaluation: management of biological collections, the extent of taxonomic groups identified by specialists in the collections, and an experiment to estimate the costs and capabilities needs to turn the collections electronically accessible. The results were edited by Peixoto (2003) with many collaborators and analyzed the policy actions needed in general an in specific taxonomic groups as invertebrates, vertebrates, lower and higher plants.</p> <p>In 2002 the Ministry of the Environment published a report about evaluation and identification of priority areas and actions for conservation, sustainable use and benefit sharing in relation to the Brazilian biodiversity (MMA 2002a http://www.mma.gov.br/estruturas/chm/_arquivos/biodivbr.pdf). This work comprised a wide process of consultation of experts on Brazilian biodiversity, bearing knowledge of each greatest national biome (executive summaries and other reports: MMA 1999, MMA 2000, Capobianco <i>et al.</i> 2001, MMA 2001, MMA 2002b, MMA 2002c, Cardoso da Silva <i>et al.</i> 2004). One of the results was the establishment of a set of priority actions on scientific researches, including taxonomic initiatives and improvements. In an event organized by CRIA (Reference Centre of Environmental Information), Peixoto & Barbosa (2002) presented a document about the situation of the Brazilia herbaria, regional flora studies and taxonomists training in graduation programs 1 Brazil. In the same event, Berry <i>et al.</i> (2002) presented a proposal for a joint work gathering several institutions and scientists from Brazil and abroad and that would have as the starting point the update of the plant names in Martius Flora Brasiliensis. The scientific communities also supported these documents by creating, through specific commissions, discussion groups for the themes related to the needs identified for the progress of botany in Brazil: the Flora of Brazil Commission and Brazilia herbaria network, in the range of the Brazilian Botanical Society (www.botanica.org.br). This society has also been promoting seminars in its annual meetings that seek to summarize the current knowledge available about specific themes and to propose actions for the advancement of botanical knowledge (Araújo <i>et al.</i>, 2002; Jardim <i>et al.</i>, 2003). The Brazilian Botanical Gardens, gathered in a network, are defining priorities, an specifically in the two last years, making efforts to characterize and make available the data related to the biodiversity deposited in these institutions (rede Brasileira de Jardins Botânicos, 2000). A concrete activity was planned in 2003 by CNPq, who gathered a group of taxonomists (botanists and zoologists) with the aim to identify gaps in the taxonomic knowledge of the Brazilian biota, and . The group should to elaborate, as a first step, a supporting fellowship program with the aim to fill these gaps. This activity is still to be implemented.</p>
	Report on GTI	<p>Some national taxonomic needs assessments made</p> <p>Through the Neotropical Flora organization a program was created that pointed the needs and priorities for the progress of taxonomic knowledge in the Neotropic. The Brazilian Environment Ministry is working on the concept of the project (Collection, systematization and use of taxonomic information to conservation and sustainable use of neotropical flora). This initiative is in cooperation with others countries and its objectives include the identification of priorities in the area of taxonomy of neotropical flora, capacity-building and the elaboration of taxonomic studies (keys, synopsis, monographs and others). The project will be supported by the Global Environment Facility - GEF and Food and Agricultural Organization – FAO. The preparatory stages are</p>

		<p>scheduled for 2004 and 2005 and the implementation will start on 2006.</p> <p>Brazil participates in the South American Cooperation on Biodiversity (CYTED) in which countries that have already developed Biodiversity National Strategies discuss common actions, integration and cooperation to implement the Strategies. The problems related with taxonomy (Knowledge of Biodiversity and Genetic Resources Components) and the “ex situ” collections were discussed and priorities were defined.</p> <p>During 2003 and 2004, delegations from Mexico and India came to Brazil and discussed with the Ministry of Science and Technology the development of joint actions in taxonomy</p>
	NBSAP	No relevant information
	NCSA	
	Regional Taxonomy Workshops	
Brunei Darussalam	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	<p>No national taxonomic needs assessment completed, but assessment is under way</p> <p>The country has undertaken some taxonomic projects with regard to higher plants. The floral assessments have been carried out at the Brunei National Herbarium (BRUN). The faunal taxonomic assessments are centred at the Museums Department and University Brunei Darussalam.</p> <p>Specific plant taxonomic needs on study of Pteridophytes and Bryophytes. Highest priority for implementation is capacity-building of relevant staff. Lacking of staff in specialize fields of plant taxonomy, with the existing staff do not have sufficient academic training and experience in taxonomic research.</p>
	NBSAP	<p>Améliorer la connaissance (des ressources biologiques) de la diversité biologique;</p> <p>Il s'agira, pour l'essentiel, de:</p> <ul style="list-style-type: none"> - faire des inventaires taxonomiques de la faune et de la flore; - former le personnel nécessaire pour la taxonomie; - rechercher, collecter et déterminer les nouvelles espèces et variétés éventuelles.
	NCSA	
	Regional	

	Taxonomy Workshops	
Bulgaria	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment The taxonomic investigations in Bulgaria are at different stage of development. Predominant part of the taxonomic groups of animals and plants are profoundly investigated. The research data are collected in 23 volumes of “Fauna of Bulgaria” and 12 volumes of “Flora of Bulgaria”(see questions 32; 34). Basic evaluation for the state of the taxonomic investigations in the country has been made during the elaboration of the National Biodiversity Conservation Strategy, 1994. The evaluation has been actualized in 1999/2000 on the occasion of the National Biodiversity Conservation Plan’s elaboration. Priority directions and needs for further investigations are determined for each group, but national taxonomic plan of operation according to the requirements of CBD is not yet developed. The investigations are carried out purposeful in frames of the annual plans of academic institutes and universities. Classical as well as state of the art methods are applied at the development of the taxonomic schemes. No activities are undertaken regarding the initiative for global taxonomy. Bulgaria will need technical, as well as financial support for applying of this initiative.
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	
	NCSA	
	Regional Taxonomy Workshops	
Burkina Faso	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Early stages of national taxonomic needs assessment La taxonomie a été reconnue prioritaire dans notre stratégie et plan d’action sur la diversité biologique. Cependant pour traduire cette volonté, le pays développe des initiatives pour évaluer ces besoins, établir un plan d’action, désigner un correspondant national pour l’initiative mondiale en matière de taxonomie.
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted

	NBSAP	Taxonomic needs and priorities not mentioned.
	NCSA	
	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has been completed for invertebrate and vertebrate animals, nonvascular and vascular plants and fungi.</p> <p>-Major collections are adequately curated, protected against decay, but are not electronically databased or adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address diversity issues</p> <p>-Groups of organisms have been listed for priority research: Capparidaceae,</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, physical infrastructure, scientific and collecting equipment, electronic equipment, project-related research funding and basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed in Burkins Faso.</p>
Burundi	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Bien que certains secteurs restent peu explorés, on peut se permettre de dire actuellement qu'on possède beaucoup de données relatives à la flore du Burundi. Il reste à résoudre certains problèmes d'ordre taxonomique et à rassembler sous forme de catalogues toutes les données dont les plus importantes se trouvent surtout dans les universités et Musées étrangers.
	NCSA	
	Regional Taxonomy Workshops	
Cambodia	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Basic national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	<i>Reptile and Amphibian Species</i>

		<p>Surveys on Reptiles and Amphibians are either historical or relatively recent and have not been rigorously taxonomically studied or effectively peer reviewed. As such an estimate of overall species numbers has not been made.</p> <p><i>Forest and Wild Plant Resources</i></p> <p>There are serious gaps in the information pertaining to the distribution and occurrence of wild plant species and wild relatives of crops. It is primarily due to lack of systematic scientific studies of their taxonomic description and delineation.</p>
	NCSA	
	Regional Taxonomy Workshops	
Cameroon	1 st Natl Report	
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <ul style="list-style-type: none"> -There is a need for more taxonomists at both senior and junior levels (for plants and animals). - There is need for sustainable maintenance of the national herbarium and the Limbe Botanic garden herbarium. - There is need for a museum of natural history.
	Report on GTI	Not Submitted
	NBSAP	<p>Strengthen national taxonomy capacity (Marine and Coastal Biological Diversity, tropical forest ecosystem, Tropical Wooded Savannah Ecosystem, freshwater ecosystem and in the semi-arid ecosystem)</p> <p>Develop and/or strengthen biodiversity prospecting at the national and regional level by strengthening existing national institutions and local NGOs for, <i>inter alia</i>, taxonomic work.</p> <p>Carry out economic valuation of biodiversity biodiversity starting with taxonomic prospecting work</p>
	NCSA	
	Regional Taxonomy Workshops	<p>A comprehensive taxonomic needs assessment has not been completed.</p> <ul style="list-style-type: none"> -Major collections are protected against decay but are not adequately curated, electronically databased or adequately staffed. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues.

		<p>-There are currently a few well-qualified taxonomists in the country, but most of them are near retirement and no provisions have been made to replace them.</p> <p>-Taxonomy is taught at university and colleges but not properly and the curriculum is generally not revised.</p> <p>-The following list of organisms have been listed for priority research: Violaceae, Rubiaceae, Mimosoideae, Sterculiaceae, and Orchidaceae</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, physical infrastructure, scientific and collecting equipment, electronic equipment, project-related research funding and basic taxonomic literature and library facilities</p> <p>-Generally taxonomy is not adequately addressed in Cameroon</p>
Canada	1 st Natl Report	<p>-Inventory efforts have focused on larger organisms that have been described, including most vertebrates, larger insects, higher plants and ferns. We must continue to improve our understanding of their distribution, ecological relationships and status. A smaller number of species of fur bearers, ungulates, fish and waterfowl, as well as endangered species, have been or are being intensely studied and managed. Numerous other organisms, including most species of insects, fungi, non-vascular plants, bacteria and protozoa, have not been identified or, if they have been, have not been well studied. In addition, very little is known about the genetic diversity of Canada's flora and fauna. There is a need, therefore, for a significant amount of work to be carried out in the area of taxonomy and biosystematics.</p> <p>There are two basic challenges regarding biological inventories:</p> <p>The first challenge is to make better use of the data and information that we have already collected to support land and resource decision making.</p> <p>The second basic challenge is to improve our biological inventories at all levels. Ecosystem-level inventories need to be refined, and gaps in our inventory at the species level must be filled. Development of cost-effective technologies to improve understanding of genetic resources is also necessary to conserve and properly manage some resources.</p>
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>Needs assessment is being carried out by key federal sectors that are also the members of the Federal Biosystematics Partnership.</p>
	3 rd Natl Report	Question addressing taxonomic needs assessment not answered.
	Report on GTI	<p>Some national taxonomic needs assessments made</p> <p>In 1995 a report was completed by a consultant who worked mostly with federal agencies; "Systematics an Impending Crisis" and "La Systématique Une crise imminente". In 2002 a report entitled, "Capacity Gap</p>

		Analysis and Statement of Requirement” was completed for the Federal Biosystematics Partnership and noted key federal needs for taxonomic expertise (e.g., non-tariff trade barriers, invasive species, and human disease vectors) and capacity gaps related to these needs.
	NBSAP	<p>There is currently a shortage of taxonomists and biosystematists experts who identify and describe species. Moreover, very few university students are entering these fields, making it very difficult to replace retiring scientists.</p> <p>Improve biophysical inventories at ecosystem, species and genetic levels by conducting biological inventories, based upon jurisdictional priorities, that take into consideration vulnerable, threatened and endangered species and ecosystems, critical habitats, little-studied taxonomic groups, taxonomic groups of economic importance, areas of high diversity and areas where human development and disturbance are the most significant.</p> <p>Enable agencies and individuals to conduct biological and biophysical inventories by:</p> <ol style="list-style-type: none"> a. developing ways to collectively identify funding sources and determine priorities for inventories; and b. ensuring that there is sufficient expertise available to conduct inventory work, including taxonomists, biosystematists, parataxonomists, museum professionals, ecologists, geneticists and other experts.
	NCSA	
	Regional Taxonomy Workshops	
Cape Verde	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy	-A comprehensive taxonomic needs assessment has not been completed -Major collections are protected against decay, adequately staffed but are not adequately curated or electronically

	Workshops	<p>databased.</p> <ul style="list-style-type: none"> -There are no strict taxonomists per se in Cape Verde. -Taxonomy is taught at Universities but it is not know how often the curriculum is revised. -There are no groups of organisms that have been listed for priority research. -Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, project-related research funding. -Generally taxonomy is not adequately addressed.
Central African Republic	1 st Natl Report	Not Submitted
	2 nd Natl Report	No national taxonomic needs assessment conducted
	3 rd Natl Report	Not Submitted
	Report on GTI	<p>L'évaluation des besoins en renforcement des capacités en matière de Taxonomie est entreprise afin de bien cerner les contraintes inhérentes à l'exercice de la taxonomie en République Centrafricaine et de proposer des axes stratégiques permettant corriger les insuffisances afin de doter le pays des ressources humaines, des moyens matériels et financiers nécessaires au développement des sciences taxonomiques pour combler le manque d'informations sur l'identité des éléments constitutifs de la biodiversité.</p> <p>Une bonne connaissance des ressources biologiques implique la maîtrise de leur identité, leur biologie, notamment leur capacité de régénération et leur valeur socioéconomique réelle voire potentielle. Le renforcement des capacités devra consister en la création des conditions favorables à l'acquisition dynamique du savoir-faire scientifique et technique par les acteurs de la biodiversité, ce qui permettra la mise en place d'un système permanent de gestion des informations sur la biodiversité indispensable pour sa gestion durable.</p> <p>Ce travail vise, l'élaboration d'une stratégie et d'un plan d'action relatifs au renforcement des capacités dans le domaine de la Taxonomie. Il s'agit des éléments de politique envisagés comme des moyens prioritaires pouvant permettre de surmonter les difficultés qui empêchent le plein exercice de la taxonomie dans les années futures dans l'optique d'appuyer la mise en oeuvre du Plan d'Action découlant de la stratégie nationale en matière de diversité biologique. Il présente la situation générale de la Taxonomie en République Centrafricaine, recommande des éléments de stratégie et en propose le chronogramme de mise en oeuvre. Cette étude d'identification et d'évaluation des besoins en renforcement des capacités dans le domaine de la taxonomie montre que la situation de la taxonomie en République Centrafricaine est caractérisée par l'insuffisance en ressources humaines, le sous-équipement des institutions en infrastructures de recherche, un manque cruel de moyens financiers et le manque de coordination entre les acteurs. Les besoins exprimés concernent par conséquent le renforcement des effectifs et du niveau des taxonomistes, la dotation des institutions en infrastructures appropriées et la mobilisation des moyens financiers et du partenariat scientifique pour la relance de la taxonomie.</p> <p>Les stratégies et les actions proposées sont accompagnées d'un délai souhaité de mise en oeuvre qui, s'il était pris en compte serait un pas important supplémentaire dans la volonté des pouvoirs publics de notre pays d'assurer la</p>

		<p>promotion du développement durable et de contribuer à la protection de l'environnement mondial.. La connaissance de la diversité biologique, mieux, de la valeur réelle voire potentielle des ressources génétiques est une garantie pour leur utilisation durable et réellement profitable aux générations actuelles et futures. La taxonomie qui est la voie d'acquisition de cette garantie est donc l'outil primordial de gestion de la biodiversité, un impératif du développement durable.</p>
	NBSAP	<p><i>Stratégies :</i></p> <p>Promouvoir des études d'inventaire et d'évaluation de la flore dans tous les écosystèmes du pays.</p> <p>Renforcer les capacités en matière de taxonomie en favorisant la formation des botanistes qualifiés;</p> <ul style="list-style-type: none"> - Identifier, inventorier et localiser les espèces endémiques, les espèces rares ou menacées de disparition en vue de leur conservation ex-situ ; - Evaluer en permanence le statut des espèces et des écosystèmes naturels de manière à prévenir leur disparition; - Adopter et prendre des mesures appropriées pour sauvegarder les espèces et les écosystèmes menacés et vulnérables ; - Favoriser la restauration des écosystèmes dégradés. <p>La République Centrafricaine, à l'instar de la plupart des pays d'Afrique au sud du Sahara, dispose d'une grande variété d'écosystèmes, riches en flore, en faune et en microorganismes, qui demeurent cependant peu connus en raison de la faiblesse du système taxonomique du pays.</p> <p><i>Ressources humaines</i></p> <p>Le personnel taxonomique est composé d'Enseignants, d'Ingénieurs des Eaux et Forêts et d'Ingénieurs d'Agriculture dont la plupart occupent des postes de responsabilité dans leur Ministères respectifs ; très peu oeuvrent sur le terrain au sein des Directions régionales et des projets de conservation et de développement ; une infime partie est réellement impliquée dans des travaux de recherche taxonomique.</p> <p><i>Enseignement de la taxonomie</i></p> <p>La taxonomie est enseignée dans les établissements universitaires, notamment la Faculté des Sciences et l'Institut Universitaire de Développement Rural (ISDR). Toutefois, les programmes sont sommaires et ne sont pas régulièrement mis à jour en raison de la pénurie en spécialistes et en infrastructures. La formation des taxonomistes au niveau du 3^e cycle se fait à l'étranger, mais très peu de gens y accèdent pour cause de difficulté d'obtention de bourses d'étude. A cet égard, quelques bourses internationales dont les conditions d'éligibilité mettent l'accent sur l'excellence sont disponibles :</p>

Infrastructure Taxonomique

La majeure partie des n'est ni adéquate, ni opérationnelle à cause de leur vétusté. Les immeubles, les différents laboratoires et le matériel scientifique tels que les armoires de spécimens, les microscopes, les autoclaves, les incubateurs, les congélateurs, etc. que possède l'Institut Centrafricain de Recherche Agronomique (ICRA) sont hérités de l'ancienne station biologique de Boukoko, qui a fermé depuis une trentaine d'années, et sont tous surannés et hors d'usage. Les infrastructures de la Faculté des Sciences de même que celles de l'Institut Supérieur de Développement Rural (ISDR), ont été fournies depuis la création de ces institutions dans les années soixante dix et ne sont guère renouvelées jusqu'à présent.

Un arboretum et des collections in vivo des écotypes locaux de cultivars de caféiers, de kolatiers, de palmiers et de bananiers sont disponibles à Maboké et à Boukoko, mais ces infrastructures ne sont pas entretenues, ni protégées des feux de brousse, et ne sont par conséquent pas adéquates. L'herbier du projet FAC 192 qui se trouvent dans l'enceinte du CASDFT est certes relativement bien conservé, mais il n'est ni connu du public, ni accessible. D'autres collections biologiques existent dans des structures disséminées dans le pays, où elles ne sont pas activement conservées, ni protégées contre la détérioration.

En revanche l'herbarium de la Faculté des Sciences sise à l'ex ORSTOM de Bangui et celui du projet ECOFAC basé à N'gotto, où les chercheurs et les étudiants entreposent leurs collections sont activement conservés et paraissent prometteurs.

Des taxa prioritaires pour la recherche ne semblent pas avoir été définis, mais au vu des objectifs des inventaires ci-dessus évoqués et des informations taxonomiques disponibles, il est évident qu'une priorité de fait a été accordée aux groupes taxonomiques clés résumés. Par contre, les plantes non-vasculaires, notamment les champignons, les bryophytes et les algues (des eaux intérieures), ainsi que les petits mammifères, les autres invertébrés (Annélides, Insectes), les Batraciens, et les micro-organismes semblent avoir été négligés.

Les informations taxonomiques secondaires sont signalées, mais ne sont pas disponibles. Il s'agit par exemple des plantes endémiques dont la liste n'est pas établie à ce jour, des espèces exotiques envahissantes comme l'herbe du Laos et le tilapia du Nil dont la dynamique, le déterminisme et la capacité de nuisance n'ont fait l'objet d'aucune étude jusqu'à présent ; de même les listes rouges, les indicateurs et les organismes à potentialité économique ne sont pas documentés.

Obstacles taxonomiques

Il ressort du diagnostic ci-dessus que quatre principales contraintes représentent des obstacles majeurs au développement de la taxonomie en République Centrafricaine et partant à la mise en œuvre de la Stratégie Nationale en matière de Diversité Biologique :

1°/ Le manque de ressources humaines
 Le manque de personnel se traduit par la pénurie de taxonomistes dans les centres de recherche et le sous-effectif dans les institutions académiques ; le sous-effectif ne permet pas d'entreprendre une évaluation de la diversité biologique en faisant face à la question de la diversité

2°/ Le manque d'infrastructures et d'informations taxonomiques
 Cette situation limite la prestation des rares taxonomistes existants dans leurs activités de recherche, d'enseignement et de conservation de la biodiversité

3°/ La carence en moyens financiers
 Elle ne permet pas la mise en œuvre des projets de recherche et empêche les institutions d'être opérationnelles

4°/ Le peu d'attention accordée à la taxonomie et le manque de synergie
 Le faible niveau d'attention accordée à la taxonomie explique l'inexistence de centres de référence et de bases de données taxonomiques dans le pays, l'absence et l'insuffisance de la taxonomie dans les programmes scolaires et universitaires, et la non prise en compte de la taxonomie dans les activités et le budget des projets de conservation ; le faible niveau de partenariat aux niveaux sous-régional, régional et international, avec les ONG de conservation de la biodiversité voire avec les réseaux taxonomiques procède de l'insuffisance d'attention faite à la taxonomie

Besoins en matière de taxonomie

Les besoins de renforcement des capacités en matière de taxonomie se résument en six points. Il s'agit du renforcement de la capacité humaine, du renforcement de l'infrastructure, de la dotation en informations taxonomiques, de la mobilisation des moyens financiers, du renforcement de l'enseignement de la taxonomie et du renforcement du partenariat et de la synergie entre les acteurs. Ces besoins se présentent de la manière ci-dessous selon les niveaux de capacité ; le tableau 5 en fait la synthèse.

Au niveau individuel

1°/ *Renforcement des capacités humaines*

- Perfectionnement des spécialistes existants
- Formation de spécialistes dans les disciplines qui en manquent
- Formation des para-taxonomistes, techniciens récolteurs, classificateurs et conservateurs
- Emploi et utilisation effectifs des taxonomistes et para-taxonomistes
- Encadrement et sensibilisation des utilisateurs et des communautés autochtones

Au niveau institutionnel

2°/ *Renforcement de l'infrastructure*

- Réhabilitation des infrastructures existants :
 CENAREST(ex ORSTOM) :Bangui
 ICRA :Bangui, Boukoko, Maboké, Soumbé,Grimari

Faculté des Sciences :Bangui
ISDR :M'baïki
CTE :Bouar

- Création des infrastructures suivantes :
 - Herbarium national
 - Laboratoire de Mammalogie
 - Laboratoire d'Herpétologie
 - Laboratoire d'Hydrobiologie
 - Laboratoire d'Entomologie
 - Laboratoire d'Ornithologie
 - Laboratoire de Microbiologie et/ou Laboratoire de Biologie moléculaire
- Dotation en matériel scientifique :
 - Matériel de collecte* : Véhicules, sécateurs, filets, pièges, nasses, etc.
 - Matériel d'analyse* : Microscope de dissection, microscope composé, ordinateurs et logiciels, SEM, TEM, laboratoire moléculaire, machine PCR
 - Matériel de conservation* : Réfrigérateurs, congélateurs, armoires de spécimens, installations de séchage, incubateurs, autoclaves

3° Mobilisation des ressources financières

- Pour le fonctionnement des institutions
- Pour le financement de la recherche dans le cadre des projets de conservation et de développement
- Pour le financement des grands projets de recherche
- Pour le financement des bourses de formation en taxonomie

4° Dotation en informations taxonomiques

- Collections de référence (spécimens types)
- Bases de données électroniques
- CD ROM
- Flores
- Ouvrages de systématique (révisions de genres, descriptions d'espèces nouvelles)
- Accès aux spécimens d'origine centrafricaine expatriés
- Collecte d'informations sur les groupes taxonomiques négligés :
 - Champignons
 - Bryophytes
 - Algues (des eaux intérieures)
 - Petits mammifères
 - Batraciens
 - Annélides
 - Insectes
 - Protozoaires

Bactéries et
Virus

Au niveau systémique :

5°/ *Renforcement du partenariat, de la collaboration et de la synergie entre les acteurs*

- Adhésion aux réseaux taxonomiques :REBAC, RAE, AETFAT, BioNeT-INTERNATIONAL ;
- Collaboration avec les institutions taxonomiques du Sud et du Nord ;
- Accroissement du partenariat avec les ONGs internationales de conservation de la Biodiversité ;
- Renforcement de la collaboration entre les acteurs nationaux (décideurs politiques, taxonomistes, para-taxonomistes, utilisateurs) ;

6°/ *Renforcement de l'enseignement de la taxonomie*

Introduction de la taxonomie dans les programmes scolaires.

Amélioration et mis à jour régulier des programmes universitaires.

Objectifs stratégiques

Le but recherché est le « renforcement des capacités taxonomiques de la République Centrafricaine en vue de produire des informations récentes sur la diversité biologique aux niveaux des gènes, des espèces et des écosystèmes » pour sous-tendre la mise en œuvre de la stratégie nationale en matière de diversité biologique.

Les trois objectifs stratégiques suivants ont été retenus:

- 1°/ Développer et mobiliser les ressources humaines au service de la taxonomie ;
- 2°/ Réhabiliter les institutions et créer les infrastructures taxonomiques; et
- 3°/ Mobiliser les moyens financiers au profit de la taxonomie.

Stratégies	Actions	Résultats
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			2.1.2 Dotation des centre de référence en matériel et en informations taxonomiques adéquats	1.1.2.1 Les différents laboratoires sont bien équipés et fonctionnent normalement
		2.2 Renforcer les effectifs des ressources humaines dans les institutions taxonomiques	2.2.1 Affectation des spécialistes, des techniciens et du personnel d'appui en nombre suffisant dans les structures de recherche	2.2.1.1 Les taxonomistes, spécialistes et techniciens sont affectés dans les institutions de formation et les centres de recherche où ils sont répartis et responsabilisés dans les laboratoires en fonction de leur spécialité
		2.3 Assurer aux institutions taxonomiques une sécurité, voire une autonomie financière	2.3.1 Amélioration du niveau de décaissement des fonds alloués aux institutions de formation et aux centres de recherche	2.3.1.1 Les budgets de fonctionnement sont décaissés à terme et sont efficacement utilisés
			2.3.2 Promotion des mécanismes d'autofinancement	2.3.2.1 Des mécanismes d'autofinancement comme l'expertise, la vente des productions des laboratoires et autres prestations de service sont mis en œuvre et rapportent de l'argent aux organismes de recherche
			2.3.3 Diversification des sources de financement	2.3.3.1 Plusieurs sources de financement tels que subventions, dons, bourses et prix sont négociés et concourent à pérenniser le financement des institutions de recherche

Tableau XII : Actions pour l'Objectif 3 « Mobiliser les moyens financiers au profit de la taxonomie »

Stratégies	Actions	Résultats
3.1 Créer un fonds pour la conservation de la biodiversité	3.1.1 Rehaussement du niveau des taxes forestières et du pourcentage destiné à la CASDFT	3.1.1.1 Le niveau des recettes de la CASDFT s'améliore, un compte biodiversité est ouvert et finance les activités taxonomiques
	3.1.2 Création et application immédiate d'une taxe minière de destruction des écosystèmes des zones humides	3.1.2.1 La taxe de destruction des écosystèmes aquatiques est créée et les montants sont versés à la CASDFT pour alimenter le compte biodiversité
	3.1.3 Ouverture d'un compte biodiversité au sein de la CASDFT	3.1.3.1 Un compte biodiversité existe au sein de la CASDFT ; il est régulièrement alimenté par une partie des taxes forestières et la taxe minière de destruction des écosystèmes des zones humides
3.2 Intensifier le partenariat scientifique sur la taxonomie et les enjeux de la biodiversité	3.2.1 Exploitation des possibilités offertes par la convention concernant les moyens financiers et le transfert de technologie avec l'appui du GTI	3.2.1.1 Les articles 16,17 et 18 de la CDB sont mis en œuvre dans le respect des intérêts réciproques des partenaires
	3.2.2 Multiplication des accords inter-universitaires liant l'Université de Bangui aux grandes universités africaines, européennes et américaines	3.2.2.1 Divers accords inter-universitaires sont signés et profitent aux enseignants, chercheurs et étudiants des deux parties dans le domaine de la taxonomie

			<p>3.2.3 Signature des accords de collaboration avec les centres de référence en matière de taxonomie</p>	<p>3.2.3.1 Des accords de collaboration sont signés avec les centres de référence en matière de taxonomie tels que Muséum d'histoire naturelle de Paris, Jardin Botanique National de Belgique, Royal Botanic Gardens, Kew, Chicago field museum of natural history ;</p> <p>3.2.3.2 Des taxonomistes Centrafricains sont admis en stage de perfectionnement et à diverses formations données par les centres de référence en matière de taxonomie, partenaires de la RCA ;</p> <p>3.2.3.3 Des missions de prospections biologiques des centres de référence partenaires sont accueillies en RCA, leurs travaux sont restitués et des exemplaires de leurs collectes sont déposés sur place ;</p> <p>3.2.3.4 Des spécimens biologiques collectés par les chercheurs Centrafricains sont acceptés et déterminés dans les centres de référence partenaires.</p>
			<p>3.2.4 Signature des accords de siège avec les ONGs internationales de conservation de la biodiversité</p>	<p>3.2.4.1 les ONGs internationales de conservation de la biodiversité comme le WWF, l'UICN et le WCS ont des représentations en RCA</p>

Conclusion Générale

L'identification et d'évaluation des besoins en renforcement des capacités dans le domaine de la taxonomie à montré que la situation de la taxonomie en République Centrafricaine est caractérisée par l'insuffisance en ressources humaines, le sous-équipement des institutions en infrastructures de recherche, un manque cruel de moyens financiers et le manque de coordination entre les acteurs. Les besoins exprimés concernent par conséquent le renforcement des effectifs et du niveau des taxonomistes, la dotation des institutions en infrastructures appropriées et la mobilisation des moyens financiers et le partenariat scientifique

		pour la relance de la taxonomie.
	NCSA	
	Regional Taxonomy Workshops	
Chad	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	A comprehensive taxonomic needs assessment has not been completed. - Major collections are electronically databased, adequately curated and adequately staffed but are not protected against decay. - Staff numbers in taxonomic institutions are inadequate to address diversity issues. - Taxonomy is taught at colleges and universities but it is not clear how often the curriculum is revised. - Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, physical infrastructure, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities - Generally taxonomy is not adequately addressed.
Chile	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	No national taxonomic needs assessment conducted En cuanto al conocimiento formal sobre la riqueza y características de la biota chilena, la investigación en Chile tiene dos siglos, periodo en el cual se ha acumulado un valioso acervo de conocimientos. Pese a ello queda mucho por hacer, ya que a la fecha se carece de un panorama razonablemente completo de la diversidad biológica de Chile. Aún existen deficiencias en taxonomía y sistemática, faltan inventarios taxonómicos de grupos y regiones poco estudiados, especialmente especies de flora y fauna silvestre con problemas de conservación. Al analizar el estado de conservación al nivel de especies, la información que se tiene al respecto indica que la

		<p>mayoría de la biota chilena no ha sido evaluada suficientemente, sin embargo, en casi todos ellos se reconoce que algunas especies de diferentes grupos taxonómicos tienen problemas de conservación. De los vertebrados, sólo los peces marinos no han sido clasificados en términos de su estado de conservación y los anfibios y peces de agua dulce serían los grupos más expuestos a desaparecer en el país.</p> <p>La principal medida adoptada es la dictación del Reglamento y su puesta en marcha, lo cual se enmarca dentro del Plan de Acción de País para la Implementación de la Estrategia Nacional de la Biodiversidad. Se ha fijado como meta poner en pleno funcionamiento este Reglamento, el cual debe generar listados actualizados de clasificación de especies. No se ha fijado, sin embargo, una meta cuantitativa, en relación con el número o proporción de especies a clasificar, pero se da por entendido que el avance debe ser significativo, al mediano plazo (2010) y aún mayor al largo plazo (2015). Otro grupo de iniciativas consideradas tienen que ver con reforzar la investigación en aspectos taxonómicos y de sistematización, de lo cual debiera dar luces un Proyecto GEF de autoevaluación de Capacidades en Investigación (Proyecto de la Comisión Nacional del Medio Ambiente y de la Comisión Nacional de Ciencia y Tecnología).</p>
	Report on GTI	Not Submitted
	NBSAP	<p><i>The State of Biodiversity in Chile:</i></p> <p>Over the last two centuries, scientific studies have accumulated a valuable pool of formal knowledge on the richness and nature of the Chilean biota. However, there is still much knowledge to be gained, as to date we still do not have a reasonably complete overview of the biological diversity in this country. Deficiencies in taxonomy and classification remain and taxonomic inventories for groups of species and little-studied regions are lacking, especially for those flora and fauna species whose conservation is threatened.</p> <p>In specific terms, a summary study carried out in the 1990s showed that there were close to 29,000 species in Chile, though this figure is thought to be quite conservative, given the fact that many taxa have not been adequately surveyed. Inventories are greatly lacking for arthropods and microorganisms such as bacteria, protists, nematodes, rotifers, arachnids, chilopods and diplopods, among others. Thus, it is impossible to say how many of Chile's endemic species are currently threatened, and there is still insufficient knowledge of the potential contribution of those that do exist in areas such as medicine, industry or agricultural genetics.</p> <p>For interspecies (genetic) diversity, there is no survey data such as that which exists for species. Inventories of genetic resources from surveys must be improved to provide more detailed knowledge of the many existing subspecies, which could be considered a preliminary indicator of genetic variability of species in Chile. Genetic diversity is an important source of potential wealth for the country in future, for which reason it is most urgent to regulate access to these resources.</p>

		Focus research efforts on subjects that are relevant to biodiversity protection, such as threatened species, taxonomy, and classification, so as to build knowledge on the real conservation status of each species.
	NCSA	
	Regional Taxonomy Workshops	
China	1 st Natl Report	Courses related with biodiversity conservation, which include taxonomy, ecology and bio-geography, are being overlooked and the supply of the highly professional research personnel and financial resources thereof could not be guaranteed.
	2 nd Natl Report	<p>No national needs assessment completed</p> <p>China allocates some financial resources to promote the biological taxonomy. The Chinese Academy of Sciences and some universities used to have strong institution and adequate infrastructure for taxonomy. Nevertheless, due to the recent reduction of input and the change of subject structuring, the number of talented professionals on taxonomy lost severely. The educational bases are not adequate. The equipment is out of date. The renewal of collection is difficult. The management approach is behindhand. At present, we do not have the worldwide-accepted conditions for collection housing (climate control, fire-prevention system, control of diseases and pests, acceptable on-site health care, and degree of safety). In order to improve the collection housing, the Chinese government allocated RMB 313 million <i>yuan</i> in 1998, for support the renovation of the collection housing conditions in over 10 houses under the Chinese Academy of Sciences. China has not done the need assessment on national taxonomy, and has not formulated the national action plan for biological taxonomy. Although China has appointed a focal point for global initiative of taxonomy, it has not set up its national information center for biological taxonomy.</p> <p>The Chinese Academy of Sciences and a few universities once convened some training on taxonomy, but the training used to focus on the academic exchange with little efforts being put on the professional and technical training. China encourages the bilateral and multilateral training for taxonomists, but it has no specific channel to facilitate the training on this aspect. China also lacks of the training program on biological taxonomy at the national level.</p> <p>In order to make a change to the current status, China has to strengthen its capacity building on the biological taxonomy:</p> <p>(1) Establish the national action plan for taxonomy. Determine the needs for taxonomic information, identify the blocking factors, and raise the targets and plan of the capacity building for taxonomy in China.</p> <p>(2) Set up taxonomic centers at both national and local levels. Establish 5-10 comprehensive collection houses that have great significance with large scale. Provide stable financial support to them. And at the same time, select a series of collection houses that have local characteristics for construction of several local centers for taxonomy.</p> <p>(3) Strengthen the scientific study on biological taxonomy. Besides the work of investigation, discovery, description and cataloguing, conduct actively the intensive study on taxonomic issues related with key problems in</p>

		<p>the construction of national economy and the major issues of biological sciences itself.</p> <p>(4) Strengthen the management of collection houses. Exchange experiences of collection housing extensively, explore multiple mechanisms for operation of collection houses; adopt effective measures to promote the modernised management of the collection houses.</p> <p>(5) Establish partnership between collection houses. Expand the scope and range of collections and information for exchange, encourage the sharing of collections and documents among researchers, and promote extensive collaboration between collection houses. Establish effective network system for sharing of information and knowledge, and provide all-direction services of biological collection and species information for the national economic construction and the sustainable development.</p> <p>(6) Establish extensive international cooperation. Establish contacts with other focal points in the world on the global taxonomy initiative. Participate in the information exchange and communication networking, and change the collections with foreign houses under the principle for mutual benefits.</p>
	3 rd Natl Report	No national taxonomic needs assessment made, but collaborative programs are under development
	Report on GTI	Not submitted
	NBSAP	Taxonomic needs and priorities not mentioned.
	NCSA	
	Regional Taxonomy Workshops	
Colombia	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>The subject of taxonomy is a priority one for the country, but national contributions are limited (it is mainly done for universities and the red lists of endangered species). For this reason, there is a need to recognize and comprehend taxonomy as an essential instrument for the conservation and sustainable development of biological diversity. Relevance should be given to the role of the territorial entities: in this respect a systematic agenda of taxonomy should created, relying on the help of Colombian botanical gardens and herbariums. Likewise, more and better reference collections should be established and their contents should be disseminated. The financing of projects for the biological and taxonomical characterization of ecosystems of interest stands out.</p>
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on	A taxonomic needs assessment and an identification of priorities in Colombia were done in 1999, when the results

	GTI	of a national survey concerning systematics in Colombia were published (<i>Agenda de Investigación en Sistemática/Biodiversidad Siglo XXI. Colombia</i>). We are currently in the process of updating that information to have a more accurate diagnosis. A source of update information is the inform made recently by the Instituto Humboldt (<i>Actualización Estado de la Investigación en Biodiversidad y de la Cooperación Científica y Técnica en Colombia 2003</i> : http://www.humboldt.org)
	NBSAP	Taxonomic needs and priorities not mentioned.
	NCSA	
	Regional Taxonomy Workshops	
Comoros	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made En matière de taxonomie, le pays souffre d'une carence importante en expertise. Les seules recherches menées dans ce domaine portent sur les plantes grâce au concours technique et financier du Muséum d'Histoire Naturelle de Paris. Le MHNP abrite les collections de plantes des Comores.
	3 rd Natl Report	Basic national taxonomic needs assessment completed Dans le cadre d'un projet régional financé par l'Union Européenne une base de donnée des personnes ressources a été crée. Les domaines de compétence de ces personnes étaient variable mais aucune en matière de taxonomie. Actuellement le projet activités habilitantes pour la biodiversité financé par le FEM mène une consultation pour l'identification des besoins en capacités en matière de taxonomie.
	Report on GTI	Not Submitted
	NBSAP	Objectif 2f: Valoriser les capacités nationales dans les domaines touchant à la conservation de la diversité biologique, la gestion des aires protégées et la gestion durable des exploitations des ressources naturelles

		Mesures	Actions	Acteurs	
		Poursuivre l'élaboration d'un répertoire des personnes ressources dans le domaine de l'environnement et la gestion des ressources naturelles	Poursuivre les efforts initiés par le PRE-COI dans l'établissement d'un répertoire structuré de personnes-ressources possédant des connaissances et une expérience approfondies dans les différents domaines qui concernent la biodiversité, en particulier en taxonomie pour tous les groupes d'êtres vivants.	DGE Service de l'Éducation, Sensibilisation et Documentation, DG Éducation Supérieure Min. Éduc. Nat.	
		Valoriser les ressources humaines qui ont bénéficié d'une formation universitaire dans le domaine de l'environnement et la gestion des ressources naturelles	Concevoir et mettre en œuvre des programmes nationaux de formation dans le domaine de l'environnement assurés par les spécialistes nationaux, en accordant la priorité aux domaines où des lacunes importantes entravent la conception et la mise en œuvre de mesures de conservation	DG Éducation Supérieure Min. Éduc. Nat.	
		Valoriser l'expérience accumulée par des compétences nationales dans le domaine de l'environnement et la gestion des ressources naturelles	Organiser des stages de formation pratique assurés par les compétences nationales et ouverts aux recrues dans les domaines de la taxonomie et de l'écologie, de la gestion des aires protégées, tout en accordant la priorité aux domaines où des lacunes importantes entravent la conception et la mise en œuvre de mesures de conservation.	CNDRS, ISFR, DG Éducation Supérieure Min. Éduc. Nat.	

	NCSA	
	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has not been completed</p> <p>-Major collections are protected against decay, electronically databased but are not adequately curated or adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address diversity issues. There are no true taxonomists in the country.</p> <p>-The national strategy of biodiversity conservation does not specify groups of taxa that require priority research.</p> <p>-However, most threatened taxa should be considered first: orchids, tree ferns all endemic forest trees, and small reptiles.</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed.</p>
	1 st Natl Report	Not Submitted
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Basic national taxonomic needs assessment completed Des études complémentaires à l'élaboration de la SNPA-DB ont été menées en 2005 en vue d'évaluer les capacités et les besoins en renforcement des capacités en matière de taxonomie.
	Report on GTI	Not submitted
	NBSAP	Not submitted
Congo	NCSA	
	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has not been completed. Major collections are adequately curated and adequately staffed but are not protected against decay or electronically databased.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address diversity issues (three invertebrate taxonomists, two vertebrate taxonomists, and seven vascular plant taxonomists)</p> <p>-No groups of organisms have been listed for priority research. Taxa that should be listed include Arecaceae, Meliaceae, Leguminosae, Sapotaceae and Irvingiaceae.</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, scientific and collecting equipment, project-related research funding, and lack of physical infrastructure, basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed.</p>
Costa Rica	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl	Early stages of national taxonomic needs assessment

	Report	<p>En el proceso de formulación de la ENB se definieron vacíos de inventarios y se mencionaron grupos taxonómicos y ecosistemas relevantes. Por otra parte, se realizó en Costa Rica el taller de la IMT para Centroamérica, que incluyó un diagnóstico base, esto permite tener una visión más clara de las necesidades taxonómicas para la región y el país (Anexo 3).</p> <p>Principales Necesidades, prioridades y limitaciones para la Taxonomía en Costa Rica.</p> <p><i>Necesidades</i> Capacitación Presupuesto Colaboración institucional Recolección Actualización de información</p> <p><i>Prioridades</i> Inventarios de grupos grandes y complejos Inventarios en zonas no estudiadas Divulgación de la información</p> <p><i>Limitaciones</i> Poca capacitación Presupuesto insuficiente Poca valoración de la Taxonomía</p> <p>Fuente: IMT, SIDA, Consejo Científico Sueco, INBio. 2001. Análisis para el desarrollo de la capacidad taxonómica en América Central: Memoria del Taller Centroamericano del IMT, 6-9 de febrero, 2001, INBioparque. INBio. En preparación.</p> <p>La Taxonomía en la Estrategia Nacional de Conservación y Uso Sostenible de la Biodiversidad se encuentra muy ligada a la formación de la capacidad de investigación y manejo de información, y relaciona el conocimiento científico con la información para la toma de decisiones a todo nivel y en todos los temas tratados. Se promueve la realización de inventarios biológicos que generen información y apoyen actividades de utilización sostenible de la biodiversidad. La Estrategia no define grupos específicos para ser inventariados; sin embargo, en el Estudio de País, se detalló que los vacíos de conocimiento se concentraban sobre todo en microorganismos, la biodiversidad marina y la de agua dulce (humedales). Cada estrategia por Área de Conservación define a su vez, los grupos taxonómicos a inventariar o reforzar la actividad.</p> <p>Fuente: Resumido de MINAE. 2000. Estrategia Nacional de Biodiversidad. SINAC, INBio. GEF-PNUD.</p>
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	3 rd Natl Report	Not Submitted
	Report on GTI	Not submitted
	NBSAP	Taxonomic needs and priorities not mentioned.
	NCSA	
	Regional Taxonomy Workshops	<i>Needs:</i> Training, budget, Institutional collaboration, collecting/updating of information. <i>Priorities:</i> Large and complex inventories, inventories in zones not yet studied, dissemination of information. <i>Limitations:</i> Little training, insufficient budget, poor valuation of taxonomy.
Côte d'Ivoire	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Basic national taxonomic needs assessment completed L'évaluation des besoins en cours à travers les projets suivants : - Autoévaluation des besoins en renforcement des capacités pour la mise en oeuvre des accords multilatéraux pour l'environnement - Evaluation des besoins pour le renforcement en capacité pour la conservation et l'utilisation durable de la diversité biologique
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	-Comprehensive taxonomic needs assessments have been completed for invertebrate animals and fungi. -Major collections are protected against decay but are not electronically databased, adequately curated or adequately staffed. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues. -There are no groups of organisms that have been listed for priority research. Groups that should be listed include fungi and insects -Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, project-related research funding and basic taxonomic literature and library facilities -Generally taxonomy is not adequately addressed
Croatia	1 st Natl Report	The basic problem is the lack of experts to deal with systematization and taxonomy of invertebrates.
	2 nd Natl Report	Not submitted

	3 rd Natl Report	Not Submitted
	Report on GTI	<p>No national taxonomic needs assessment made</p> <p>There are no funds for such activities; no application was made until now The small assessment was made for the purpose of participation on GTI workshop held in Vilm in July 2004, as a presentation of personal opinion of focal point.</p>
	NBSAP	<p>Viewing the poor degree of exploration and the extraordinary wealth of relict and endemic taxa, to fill up the existing gaps in the knowledge of underground fauna and to make an inventory of all triglobionic and triglophyllous taxa with all respective morphological, taxonomic, biographical and ecological information</p> <p>Action plans for research and monitoring of taxa</p> <ul style="list-style-type: none"> • Plan for a continuous research and monitoring of populations of threatened species, including proposals of necessary protection measures according to the priority list • Identification of distribution of rare and endemic fish • Project of underground fauna inventorying • Research into the distribution and status of threatened plant and animal species related to wetland and aquatic habitats • Research into the distribution, density, biology and ecology of populations of endemic, rare and evidently threatened marine plant and animal taxa, for the purpose of their efficient protection • Inventorying the flora of Croatia • Mapping the flora of Croatia • Preparation of the Croatian Flora database • Preparation of the national database and the accompanying GIS on the floral and vegetation diversity • Inventorying and identification of ranges of individual species of freshwater fish to get a general insight into the distribution of freshwater fish communities in Croatia • Overall inventorying and identification of ranges of individual species to get a general insight into the distribution of amphibians and reptiles • Revision of the taxonomic status, distribution, population status and ecology of plant and animal endemics and subendemics of coastal and island regions • Research into peculiarities, the populations status and direct actions for the protection of indigenous breeds and cultures of coastal and island regions • Monitoring programmes and target research of the Adriatic ichthyofauna • Research into the ichthyofauna of the deeps of South Adriatic • Research into the fauna composition, frequency and distribution of invertebrates in mainland and aquatic habitats • Monitoring the state of biological diversity of marine invertebrates in permanent stations, particularly in unexplored or insufficiently explored parts of North and Central Adriatic and in the area of all open sea islands • Inventorying mammals in the south of Croatia • Ecology of threatened animal species in the area of Dubrovnik

		<p>Action plan Priority Possible source of funds</p> <ul style="list-style-type: none"> • Research into ornithofauna, herpetofauna and invertebrates of the off-shore islands • Taxonomy, distribution and ecology of the fauna of the karst underground • Monitoring the number of species and preservation of the food pyramid in forests • Monitoring modifications of the flora and vegetation caused by natural changes and anthropogenic influence • Inventorying micro-organisms <p>Action plan Priority Possible source of funds</p> <ul style="list-style-type: none"> • Provision of biodiversity topics in all schools and at all levels • Revision of all existing curricula and their harmonisation with the objectives and tasks of biodiversity education • Establishment of the Croatian Government Commission for Biodiversity Education with the aim to prepare education materials (reading-books on the native country, brochures and monographs, handbooks for teachers) • Education of a greater number of biologists-taxonomists at the Faculty of Science in Zagreb in the field
	NCSA	
	Regional Taxonomy Workshops	
Cuba	1 st Natl Report	Taxonomic needs and prioritites not mentioned.
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>Dada la situación económica que presenta el país no ha sido posible priorizar los estudios taxonómicos, aunque se reconoce la importancia de estos para el conocimiento de la diversidad biológica, por ello, se promueve a que las instituciones nacionales presenten proyectos a diferentes organizaciones financieras.</p> <p>La evaluación de las necesidades nacionales en materia de taxonomía aún no se han completado, no obstante en la ejecución de diferentes proyectos de investigación se han obtenido resultados colaterales que ofrecen el inventario de especies en diferentes ecosistemas, descripción de nuevas especies y nuevos registros para la ciencia, también en eventos científicos y talleres se han identificado algunas de las necesidades en materia de taxonomía.</p> <p>En cuanto a las colecciones, existen un programa ramal sobre sistemática y colecciones biológicas, que ha dado los primeros pasos para su formación y conservación pero como cuenta con recursos muy limitados, no ha sido posible invertir lo suficiente para desarrollar en ellas una infraestructura adecuada según los niveles establecidos internacionalmente. El país ha estado vinculado con otras instituciones taxonómicas de los países desarrollados y en desarrollo, donde especialistas cubanos han brindado sus conocimientos en la identificación de especies. De forma general el país no ha podido desarrollar redes regionales para facilitar el intercambio de información para la iniciativa mundial sobre taxonomía por limitación de recursos, no obstante formamos parte de la Iniciativa Darwin a través de un proyecto sobre taxonomía, Estrategia de hongos, para la red regional de identificación.</p>

	3 rd Natl Report	<p>Basic national taxonomic needs assessment completed</p> <p>Durante la ejecución del proyecto “Actividades Habilitadoras de la Conservación y Uso Sostenible de la Diversidad Biológica (CHM)“, se realizaron 3 Talleres que reunió a representantes de instituciones que investigan o son clientes o decisores de los resultados vinculados a la taxonomía, con el fin de evaluar la contribución de la Taxonomía a la biodiversidad y los indicadores taxonómicos indispensables para el monitoreo. En el III taller (integrador) se concluyó que son insuficientes los estudios taxonómicos integrales realizados para conocer esta gran Diversidad de especies; se identificaron las siguientes necesidades a nivel de país: destinar mayor presupuesto para esta actividad; darle la prioridad que corresponde a la taxonomía a nivel Nacional; mejorar la infraestructura de las instituciones y colecciones biológicas; incrementar las acciones de capacitación de los recursos humanos (profesionales y técnicos); activar los Planes Vocacionales en las Universidades; incrementar las investigaciones taxonómicas puras y aplicadas; formular proyectos que integren intereses nacionales, realizar inventarios conjuntos de zonas poco estudiadas; garantizar el acceso a la información nacional e internacional; desarrollo de Bases de Datos y establecimiento de redes; mayor colaboración institucional; grupos poco estudiados (microorganismos, invertebrados); las capacidades que tenemos son los recursos humanos con el nivel requerido; centros de investigación, de docencia y de gestión con profesionales dedicados; Colecciones Biológicas Nacionales centenarias y conservadas, exponentes de la diversidad biológica del país y con ejemplares exóticos; alta capacidad de convocatoria para integrarnos en estudios integrales y en organizar actividades científicas para socializar o debatir experiencias.</p>
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned.
	NCSA	
	Regional Taxonomy Workshops	
Cyprus	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Did not answer the question targeting national taxonomic needs assessments
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	

	Regional Taxonomy Workshops	
Czech Republic	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>The level of taxonomy is on a very good level in the Czech Republic. There is a long-term tradition of science branches at universities and there are lots of institutions which deals with this agenda (universities, Academy of Science, museums, etc.) This is mostly focused on higher plants and fauna.</p> <p>Gaps are in taxonomy of some groups of invertebrates, unicellular and prokaryotes. More information: zima@ibot.cas.cz.</p> <p>There are many programmes – e.g. in the Sumava NP – The Faculty of Science of the Charles University in Prague –“Inventory of taxons of higher plants in the NP ” (in one exact part). There is full area inventory research of flora and vegetation running in the NP. There are also botanical research, and other research dealing with specific taxons of flora and fauna. Some research programmes are running as a Ph.D. works or other programmes in other parts of our country.</p> <p>There is a lack of financial resources for taxonomy. Everything what is happening is based on individual grants (e.g. the last 7th list of Czech Flora).</p> <p>As an example – lichenology: Since the 200 years of the lichenology research in the Czech Republic, there is a huge amount of various texts, articles, but one comprehensive book doesn't exist. Only in 1956, the Field guide for lichens (Cernohorsky et al. 1956) was published as the only volume. Due to this gap till now, there has been two grants – one in 1999 called “Catalogue of lichens” (Vezda and Liška, 1999) and more focused the “Red list of lichens of the Czech Republic” (in progress 2003 – 2005). There is also a Catalogue of ‘lichenicol’ fungi (parasites on lichens) - (Kocourková 2000)</p> <p>There was also a project of lichens mapping in whole Europe.</p>
	Report on GTI	Not Submitted
	NBSAP	<p><i>Research Biodiversity Strategy</i></p> <p><i>III. Problem Issues</i></p> <ol style="list-style-type: none"> 1. The absence of a central data register on the distribution of species in the CR, effectively connected an international databases. 2. Inadequate coordination and records of research in bioindications and monitoring, lack of uniformed

		<p>methodology.</p> <ol style="list-style-type: none"> 3. Insufficient development of molecular phylogeography and research into the genetic variability within the natural populations and species and the related relative lack of funds for these activities. 4. The low interdisciplinary interconnection of research activities, weak interconnection of studies in contemporary biodiversity with the database of fossil record from the Holocene and Pleistocene. 5. Inadequate financing and ineffective distribution of available funds. 6. The absence of comprehensive grant programmes concerned with scientific research in the Central European biodiversity. Inadequate emphasis on the priority importance of study of biodiversity in the national sphere of science and research. Insufficient identification of the end users of research outputs. 7. Insufficient reaction to challenges from abroad, especially in the framework of the European Research area (Research Biodiversity Action Plan, ESF Programmes, Diversitas). 8. Absence of coordination and low level of assistance in research on biodiversity in the developing countries, inadequate implementation of the potential for taxonomic and field ecological research at Czech scientific and research institutions. 9. Taxonomically oriented projects are not adequately supported; basic taxonomic research (modern approaches using various types of data) is limited and underestimated. <p><i>Objectives</i></p> <ol style="list-style-type: none"> 1. Prepare a basic survey of the state of knowledge of biota in the CR and its individual components and identification of clear gaps in knowledge. 2. Adopt such strategies of balanced development of research work at universities and research institutions that would encompass all taxa with suf. cient numbers and that are ecologically important. 3. Increase cooperation between botanists and zoologists, leading to the issuing of scientifically based standpoints for conservation and sustainable use of biodiversity. 4. Coordinate activities in cooperation with foreign activities, especially in the framework of the European research. 5. Direct the outputs of research so that this provides generally applicable information corresponding to defined nature conservation needs and requirements. In R&D for use by the state administration in the environmental sector, propose outputs of work in accordance with the needs for the work of the state administration authorities and policy-making decisions in general. 6. Inform the general public of the importance of applied research in biodiversity. 7. Establish an intersectoral programme that would facilitate interconnection of biological and social-economic research. 8. Develop basic taxonomic research.
	NCSA	
	Regional Taxonomy Workshops	

Democratic People's Republic of Korea	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	It takes a long time to investigate diverse animal and plant resources of DPRK exactly with present parataxonomy forces. In field of botany, higher plant taxonomy investigated, is mainly however the investigation on lower plant taxonbmy were not intensified. In field of zoology, the condition is same and research forces are in the much leu state. Endangered and rare animal and plant have insufficient investigation except birds and recent information on individuals birds some important species and its changes are in the poor state. Despite eco-investigation of flora and fauna and major species on important nature protected areas was conducted, the regular research on its changes was not conducted well. The facilities for biodiversity study are backward and they are not enough. To hurriedly organize and conduct work of inventory of biotic resources for biodiversity conservation is an primary task for raising biodiversity of DPRK to higher step. It is necessary to provide close cooperation between export institutions and universities, and on the sot officials for this work.
	NCSA	
	Regional Taxonomy Workshops	
Democratic Republic of the Congo	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Les activités taxonomiques sont pratiquement inexistantes dans le pays. La formation universitaire, accordée à ce domaine, ne porte pas sur une spécialisation et la taxonomie apparaît plutôt comme une branche liée aux domaines de l'agriculture, de la biologie et de la foresterie. Les études de référence menées en taxonomie datent de l'époque coloniale et le pays aurait un besoin important de formation de spécialistes en ce domaine. Les quelques collections taxonomiques conservées dans les herbarias et musées nationaux sont dans un piètre état.
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Some national taxonomic needs assessment made
	NBSAP	<ul style="list-style-type: none"> • Promouvoir la recherche scientifique et la formation technique notamment dans les domaines de la taxonomie, la phytosociologie, la zoosociologie, la biotechnologie, les effets des activités de l'homme sur les écosystèmes, la diversité biologique et la conservation. • Former des spécialistes en gestion de l'environnement (ressources naturelles).

		<ul style="list-style-type: none"> • Améliorer et actualiser la connaissance des écosystèmes et groupes taxonomiques du pays.
	NCSA	
	Regional Taxonomy Workshops	<p>A comprehensive taxonomic needs assessment has not been completed.</p> <ul style="list-style-type: none"> -Major collections are protected against decay and adequately curated but are not electronically databased or adequately staffed. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues. -Lack of funding and interest in taxonomy -No groups of organisms have been listed for priority research -Major stumbling blocks preventing progress in taxonomic effort are institutional running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities -Generally taxonomy is not adequately addressed
Denmark	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	<p>No national taxonomic needs assessment made</p> <p>Denmark is relatively well-equipped with taxonomic expertise. Denmark's (including Greenland's) own biodiversity is of modest scope, and although some groups are poorly known, the state of knowledge is quite good. Denmark also has considerable taxonomic expertise on organisms living in other countries</p>
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Djibouti	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessments
	3 rd Natl Report	No national taxonomic needs assessment
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned.
	NCSA	

	Regional Taxonomy Workshops	
Dominica	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	No national taxonomic needs assessment made Some work on plant taxonomy was done previously and flora published by the Smithsonian Institute but this needs to be updated and expanded and made more readily available. Both financial and human resources are required. The small size of the country and its financial and trained human limitations do not allow for implementation of this Decision. Technical and financial assistance required urgently.
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Dominican Republic	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment Es oportuno señalar que la creación de la Secretaria de Estado de Medio Ambiente y Recursos Naturales, implica el punto de partida de los esfuerzos que el país realiza en materia de Taxonomía, siendo esta última el instrumento fundamental para el conocimiento de la Biodiversidad. La República Dominicana, a través de la Dirección de Vida Silvestre y Biodiversidad, designo el Departamento de Investigación como Punto focal para la Iniciativa Taxonomica Global.
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	

Ecuador	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	<p>Message sent to Matamoros on 25 May 2006 to provide NBSAP.</p> <p>La investigación científica organizada y coordinada provee soluciones prácticas a los problemas de la conservación y uso sustentable de la biodiversidad.</p> <p>Para lograr este resultado se desarrollará:</p> <p>1. Un plan que articule las necesidades de investigación de la presente estrategia y distribuya responsabilidades entre los centros de investigación, Centros de Educación Superior y organizaciones no gubernamentales pertinentes. En el plan se dará énfasis:</p> <p>(a) La investigación participativa en cooperación con las comunidades locales, sectores productivos y beneficiarios de los resultados;</p> <p>(b) El trabajo interdisciplinario;</p> <p>(c) Establecer sistemas efectivos de transferencia de los resultados de la investigación a los beneficiarios de la misma;</p> <p>(d) Establecer redes temáticas, que faciliten el acceso e intercambio de información; y</p> <p>(e) Desarrollar capacidades de investigación en tópicos prioritarios (e.g., tecnologías limpias -tanto para extracción de recursos como para procesamiento e industrialización); taxonomía; recursos genéticos; economía ambiental; bioseguridad)</p>
	NCSA	
	Regional Taxonomy Workshops	
Egypt	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>Egypt recognises the vital importance of having the appropriate infrastructure and personnel necessary to acquire an accurate and up to date understanding of the taxonomic composition of its biodiversity. Practical steps to identify gaps and formalise an action plan are in discussion to build national consensus on the roles of the various stake holders.</p>

3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p><i>Needs:</i> Well-preserved, accessible, registered taxonomy databases. Reference books on taxonomy. Training, capacity building. Technicians in molecular field. Resources for intellectual property rights in genetics, continuous funding, organize taxon specific collections. Limitations with invertebrate group. Limited knowledge of modern taxonomic science.</p>
Report on GTI	Not Submitted
NBSAP	<p>The surveys carried out by the NBU have shown that there are almost complete referral collections with numerous type specimens for some taxonomic groups of plants and animals (such as the spermatophyta, insects and birds). Other groups, for which referral collections are not complete, have been covered by detailed and critical literature search sufficient for the compilation of provisional checklists; these groups include the viruses, bacteria, fungi, marine algae and algae of the River Nile and inland lakes. A third group of major taxa (e.g. the lichens, nematoda, flat worms) are in urgent need of taxonomic surveys.</p> <p>Development of the scientific and technological capabilities of these national science institutions comprises development of:</p> <ul style="list-style-type: none"> (a) Infrastructures (laboratories, experimental fields, computer and data management facilities, means for field inventories and remote-sensing surveys, etc.) (b) Manpower development (research scientists and their assistants) (c) Data banks, information bases and documentation centers. <p>These elements need to be coordinated within a national network of science and technology. The build-up of data bases that serve the objectives of conservation and the sustainable development of natural resources underlines the special importance of:</p> <ul style="list-style-type: none"> (a) Taxonomic studies on plant and animal species (b) Establishment and development of referral collections of these species (c) Completion of scientific and ecologic information related to every species. This may be set within the framework of a national geographic information system that integrates available information on all natural resources. <p>Development of administrative institutions and implementation facilities capable of satisfying the objectives and</p>

management of actions towards these objectives, and management of the programmes and projects encompassed in the national plan of action, include:

- (a) Development of manpower
- (b) Providing means of effective management
- (c) Development of institutional systems (means, rules, laws, etc.) that regulate and monitor actions. All this requires provision of financial resources needed to build and develop facilities and to implement the programmes.

Incomplete estimates of the numbers of species representing the major taxonomic groups in the fauna and flora of Egypt. There are referral collections of a limited number of these groups: insects, birds and seed plants. Most other microbial groups (viruses, bacteria, fungi, etc.) and small organisms (nematoda, acari, etc.) are not represented in comprehensive referral collections, despite their medical and economic importance.

The main objective of building a natural history museum is to house complete referral collections of as many taxonomic groups of plants, animals and micro-organisms as possible. These collections should include representatives of extant and extinct biodiversity, as well as the groups of fossils embedded in the geological formations of the country. It also provides a center for taxonomic research.

The museum should be staffed with sufficient numbers of qualified experts in the taxonomy of various groups, as well as trained technicians to curate the specimens and increase their numbers. There should be room in the activities of the museum for the continuation of biodiversity surveys, updating information and the much-needed taxonomic revisions of all groups, especially those which have not hitherto been investigated.

Among the staff of the museum, there should be a number of experts in the fields of data analysis and the construction of databases, which ought to cover those referral collections kept in and outside the museum; refer to the section on the national network of biodiversity data bases. The Egyptian Museum of Natural History, with its main scientific functions in support of the referral collections, should also perform the following additional services: training taxonomists and curators of referral collections, training specialists in the collection and processing of taxonomic information and the management of data banks, supporting educational programmes of natural history in schools and universities.

Implementation of this national programme requires the mobilization of facilities found in university colleges, research institutes and other scientific organizations in the country. The central unit responsible for the implementation of all national programmes (i.e. the NBU) should have access to a fund for financing these studies and research programmes. It should also have the ability to follow up the surveys and monitoring schemes, and to keep, and make use of, their results in enriching national efforts of biodiversity conservation. It aims at bridging the numerous gaps in our knowledge of the species representing various taxonomic groups as well as completing

		<p>their referral collections. The surveys carried out in the country study of biodiversity (1995) have shown that while the referral collections of some taxonomic groups are scanty and in need of replenishment, other groups have no such collections in Egypt.</p> <p>Special programmes are needed for the training of specialists in data processing (storage and retrieval) to work in the referral collections of the universities and other scientific institutions and in the central data base of the NBU. Such programmes are already established at the Botany Department, Faculty of Science, Ain Shams University. The national programme of capacity building aims at training 500 specialists (post-graduate) during the period 1998-2007. These are distributed as follows:</p> <ul style="list-style-type: none"> -300 rangers for the natural protectorates -150 taxonomists of various groups -60 specialists for the gene bank -40 specialists for the captive breeding center. <p><i>Objectives:</i></p> <p>1. The Egyptian Natural History Museum will have the main function of housing complete referral collections of the taxonomic groups of the biota of Egypt. In support of this function, it will perform the following functions:</p> <ul style="list-style-type: none"> -surveys and inventories of biodiversity, -build up and manage the national network of biodiversity data, -training of taxonomists and curators, -training of specialists in management, of data banks, -supporting programmes of education and dissemination of biodiversity information.
	NCSA	
	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has been compiled for invertebrate and vertebrate animals, nonvascular and vascular plants and fungi in Egypt.</p> <p>-Major collections are not protected against decay, adequately curated, electronically databased or adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues.</p> <p>-No groups of organisms have been listed for priority research.</p> <p>-Taxa that should be listed include mammals, birds, reptiles, and non vascular plants, arachnida and insecta.</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed.</p>
El Salvador	1 st Natl Report	Los estudios sobre inventarios y taxonomía en El Salvador son escasos, están dispersos y, en general, requieren de actualización, por lo que es difícil proporcionar datos precisos. Esta afirmación es particularmente válida en

		relación a invertebrados y microorganismos, por lo que es aún más difícil evaluar su situación actual, sin que por ello sean menos importantes o aprovechables.
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>El tema de Inventarios y Monitoreo fue puntualizado en el Capítulo XI de la ENB–y destacado como una de las acciones prioritarias del Plan Quinquenal de la misma. El Salvador cuenta con colecciones taxonómicas de flora y fauna, dispersas en diferentes instituciones y representadas principalmente en el Museo de Historia Natural de El Salvador, Herbario de la Asociación Jardín Botánico La Laguna. La Escuela de Biología de la Universidad de El Salvador cuenta con el Herbario Nacional de gran importancia histórica científica, el cual fue fundado cuando El Salvador fue la sede del Instituto Tropical de Investigaciones Científicas de la región Centroamericana. Este Herbario cuenta con ejemplares representativos de una vegetación original y realizado de una manera mucho más útil, ya que a medida que se iban conformando las muestras botánicas, se enviaban duplicados a los principales Herbarios del Mundo occidental tales como Inglaterra, Alemania, Estados Unidos. Esta práctica ha permitido contar con una línea de referencia para comparar la actual vegetación del país. El Centro Nacional de Tecnología Agropecuaria y Forestal CENTA se destaca por sus colecciones de hongos e insectos, colecciones vivas (germoplasma) de plantas medicinales y frutales; la Facultad de Agronomía de la Universidad de El Salvador, cuenta la colección más amplia de insectos a nivel nacional. El Herbario de el Jardín Botánico La Laguna es actualmente un importante centro de investigaciones de la Flora en el país y cuenta con un activo de más de 18,000 muestras de botánica. Ha establecido vínculos técnicos estrechos con el Jardín Botánico de Missouri y con el Jardín Botánico de Berlín, Museo de Historia Natural de Londres con los cuales realiza intercambios profesionales y técnicos. Esta organización es financiada por ventas generadas en su vivero, cuyos fondos son invertidos también en investigación. Es actualmente la colección mas completa que se encuentra en cuanto a la flora del país. Esporádicamente publican su revista Cuscatlania donde actualizan y divulgan sus reportes y hallazgos, al igual que son colaboradores de la Revista Flora Mesoamericana. Se ha hecho una buena inversión en infraestructura, se cuenta con una biblioteca taxonómica disponible para atender al público, en general investigadores, estudiantes universitarios y técnicos.</p> <p>A nivel nacional se han capacitado unas 12 personas como taxónomos a través de acuerdos binacionales con Costa Rica – INMBIO y con el Museo de Historia Natural de Londres, en el marco de cooperación técnica de la “La Iniciativa Darwin” establecido con el MARN. Este proyecto ha generado apoyo para formar bancos de datos, brindar capacitación a científicos salvadoreños en el Reino Unido y para la adquisición de bibliografía y equipos. Se están divulgando los registros de especies nuevas para el país asociadas a los Cafetales: árboles, helechos, avispas,y termitas. Hay casos entre los países que han cooperado tanto en flora como en fauna apoyando talleres para establecer listados de especies nativas como una línea base para su manejo. Se pueden citar casos concretos como el del Pichiche, <i>Dendrocygna bicolor</i>, cuya población es muy alta en el único sitio Ramsar del país: Laguna de El Jocotal. Este proyecto, a iniciativa del Servicio de Parques Nacionales y Vida Silvestre (ahora incorporado al MARN), quienes han colaborado para fortalecer su manejo involucrando a las comunidades y fortaleciendo el esfuerzo de una ONG local. Otro aporte en esta línea es la identificación de las especies de Anátidos residentes y migratorios en el país realizada por un equipo de biólogos salvadoreños (ornitólogos), esfuerzo en el que participa el Ministerio de Medio Ambiente y el Fondo de Ducks Unlimited de los Estados Unido: “Conteo</p>

		de Anátidos en Cuatro Humedales de El Salvador, Estación Seca 2000- 2001. (Octubre 2001). En la actualidad dentro de la ejecución del Proyecto “Actividades Habilitadoras GEF/PNUD-MARN” se está desarrollando el diagnóstico de los Inventarios de los recursos biológicos en El Salvador para plantear procedimientos y una Estrategia de Fortalecimiento de Capacidad Institucional y Técnica.
	3 rd Natl Report	Basic national taxonomic needs assessment made El MARN ha realizado una evaluación nacional en taxonomía propiamente dicha y con base a diagnóstico nacional previo se ha formulado la Estrategia Nacional para Fortalecer Capacidades en Inventarios y Monitoreo de la Biodiversidad. La evaluación salvadoreña sobre necesidades y capacidades nacionales en taxonomía fue incluidas en el diagnóstico mesoamericano relativa a la implementación de GTI.
	Report on GTI	Some national taxonomic needs assessments made Mesoamerican assessment on taxonomic needs and capacities. February 2001 (NBIO, Costa Rica) Also, there’s a program on capacity building for centralamerican herbaria.
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	<i>Needs:</i> Training, budget, specialized literature, equipment, contact with specialists <i>Priorities:</i> Training, budget for collections Launch national inventories, national biodiversity center <i>Limitations:</i> Little valuation of taxonomy, limited budget, lack of trained personnel, poor inter-institutional coordination
Equatorial Guinea	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	-A comprehensive taxonomic needs assessment has not been completed. -It is not clear if major collections are protected against decay, adequately curated, electronically databased or adequately staffed. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -Groups of organisms have been listed for priority research and include vertebrate animals and vascular plants. Other taxa that should be added include invertebrate animals, nonvascular plants, and fungi. -Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic

		literature and library facilities -Generally taxonomy is not adequately addressed											
Eritrea	1 st Natl Report	Taxonomic needs and priorities not mentioned.											
	2 nd Natl Report	No national taxonomic needs assessments made											
	3 rd Natl Report	Not Submitted											
	Report on GTI	Not Submitted											
	NBSAP	<p><i>Existing situation:</i> The level of modern scientific taxonomic knowledge about biodiversity in Eritrea is very weak. There are no comprehensive reference collections for any major taxon, although small collections are maintained in some sections of the MoA. There are few up-to-date checklists for animals or plants; the existing lists have been compiled in the National Biodiversity Stocktaking Assessment and are slowly being updated by MoA, plus visiting experts. There are few identification keys, field guidebooks and binoculars available to assist staff to conduct surveys in the field. The absence of these “cornerstones” of practical biodiversity documentation represents a major limiting factor on effective biodiversity management. For example, the CAAS of the University of Asmara has plans to conduct biodiversity inventories for the entire country but will not be able to do this unless they can collect, identify preserve and curate specimens.</p> <p><i>Strategy:</i> To increase biodiversity benefits arising from improved taxonomic knowledge.</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Lead institution and collaborators</th> <th>Funding and Other Needs</th> </tr> </thead> <tbody> <tr> <td>(i) Establish herbarium and zoological collections. Undertake training activities to improve capacities of taxonomic knowledge of relevant institutions</td> <td>MoA/MLWE/ UoA</td> <td>Needs funding</td> </tr> <tr> <td>(ii) Conduct inventories on all aspects of (terrestrial) biodiversity</td> <td>MoA/MLWE/ UoA/MoLG</td> <td>Needs funding</td> </tr> <tr> <td>(iii) Increased participation in regional taxonomic networks</td> <td>MoA/UoA /</td> <td>Needs</td> </tr> </tbody> </table>	Activity	Lead institution and collaborators	Funding and Other Needs	(i) Establish herbarium and zoological collections. Undertake training activities to improve capacities of taxonomic knowledge of relevant institutions	MoA/MLWE/ UoA	Needs funding	(ii) Conduct inventories on all aspects of (terrestrial) biodiversity	MoA/MLWE/ UoA/MoLG	Needs funding	(iii) Increased participation in regional taxonomic networks	MoA/UoA /
Activity	Lead institution and collaborators	Funding and Other Needs											
(i) Establish herbarium and zoological collections. Undertake training activities to improve capacities of taxonomic knowledge of relevant institutions	MoA/MLWE/ UoA	Needs funding											
(ii) Conduct inventories on all aspects of (terrestrial) biodiversity	MoA/MLWE/ UoA/MoLG	Needs funding											
(iii) Increased participation in regional taxonomic networks	MoA/UoA /	Needs											

		(e.g. BIO-NET/EAFRINET, ICIPE)	MLWE	funding	
		<p><i>Existing situation:</i> Existing taxonomic knowledge and national capacity for acquisition of taxonomic data of CMI biodiversity is extremely limited, as highlighted in a recent independent report commissioned by the GOE/GEF-funded "Conservation Management of Eritrea's CMI Biodiversity Project". A sound understanding of CMI taxonomy and a national capacity for taxonomic profiling is a prerequisite for understanding CMI biodiversity, from which informed and rational decisions regarding the conservation management of CMI biodiversity can be developed. Without investment in this fundamental aspect of biodiversity knowledge, all other "down-stream" conservation, management and sustainable use activities will be compromised by "fuzzy" knowledge.</p>			
	NCSA				
	Regional Taxonomy Workshops	<ul style="list-style-type: none"> -A comprehensive taxonomic needs assessment has not been completed -Major collections are protected against decay and adequately curated but are not electronically databased or adequately staffed. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -There are no groups of taxa listed for priority research. Taxa that should be listed are insects, nematodes, mollusks, fungi, and cnidarians -Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities -Generally taxonomy is not adequately addressed 			
Estonia	1 st Natl Report	Taxonomic needs and priorities not mentioned			
	2 nd Natl Report	Early stages of national taxonomic needs assessment			
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>The Estonian government has allocated financial support for the maintenance and curation of the main biological collections under the current National Programme of Humanitarian and Natural History Collections (2004-2008). The Estonian Taxonomy Initiative is an acknowledgment of the fundamental importance of highly developed taxonomic competence and thriving natural history museums for all aspects of biological research, conservation, and environmental monitoring. For the fulfilment of Estonia's commitment to the CBD, it is essential that these efforts be given continued support. There are numerous local NGOs engaged in activities which in part coincide with the programme of work for the GTI (Estonian Naturalists' Society, Estonian Ornithological Society, Estonian Orchid Protection Club, etc.).</p> <p>Estonia has a long (over 200-year) tradition of taxonomic work at the national level as well as on the regional scale (especially within the territory of the former Soviet Union). We have highly competent scientists on many groups of organisms (fungi, lichenized fungi). There is a decline in taxonomy training at the universities, which is mainly</p>			

		<p>caused by short term funding of the relevant research projects and the global situation in the valuation of taxonomic research.</p> <p>There are very limited possibilities at the universities to produce professional taxonomists, especially considering the global need. It must be stressed here that without special taxonomic research projects there will be no taxonomists, and this will have a drastic effect on biology education at the universities and, in the end, also a very negative effect on the maintenance and understanding of biological diversity as a whole. However, in the current National Programme of Humanitarian and Natural History Collections (2004- 2008), the importance of taxonomy has been highlighted. Apart from regular university courses, local Estonian NGOs (Estonian Naturalists' Society, Estonian Ornithological Society, Estonian Orchid Protection Club, etc.) are active in providing educational programmes focussing on local faunistic and floristic studies.</p>
	Report on GTI	Not submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Ethiopia	1 st Natl Report	Taxonomic needs and priorities not mentioned.
	2 nd Natl Report	<p>National taxonomic needs assessment completed</p> <p>Taxonomy underpins all the other biological sciences, including agriculture, forestry, fisheries, breeding, genetics, bioprospecting, biotechnology, ecology, and conservation. The ability to identify organisms is fundamental to survival. During the first national workshop sponsored by EAFRINET/ BioNET-INTERNATIONAL and EARO, and held on 31 July 2000, participants discussed basic background issues related to building taxonomic capacity on small-bodied organisms in the country to support national programmes for sustainable development. They then establish an inter-institutional committee to develop a national strategy and action plan to develop the required taxonomic capacity. The committee has developed a draft strategy and project proposal document. The organisms seen as requiring attention are viruses, bacteria, protozoa, algae, fungi, lichens, nematodes, insects, and other small invertebrates.</p>
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	
	NCSA	
Regional	-A comprehensive taxonomic needs assessment has not been completed.	

	Taxonomy Workshops	<p>-Major collections are protected against decay and adequately curated but are not electronically databased or adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues.</p> <p>-There are groups of organisms that have been listed for priority research, including species of economic importance. Other taxa that should be added to the list are endangered and threatened species e.g. a number of species of Aloes, Kniphofia, and species that are being threatened by exploiting from commercial logging, such as Aningeria adolfi-friederici, Prunus africana, etc...</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities</p> <p>-Generally taxonomy is not adequately addressed.</p>
Fiji	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	National taxonomic needs assessment completed
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Finland	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic and ecological research on lesser known species will be augmented.
	NCSA	
	Regional Taxonomy Workshops	

France	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Taxonomic needs and priorities not mentioned
	3 rd Natl Report	No national taxonomic needs assessment
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
Gabon	Regional Taxonomy Workshops	
	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Taxonomic needs and priorities not mentioned
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has not been completed.</p> <p>-Major collections are protected against decay and adequately curated and electronically databased but are not adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues.</p> <p>-No groups of organisms have been listed for priority research.</p> <p>-Taxa that should be listed are plants, birds and butterflies</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities</p> <p>-Generally taxonomy is not adequately addressed</p>	
Gambia	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made

		<p>The Gambia has not carried out a national taxonomy needs assessment and has not therefore developed a taxonomy action plan. The country is not making available appropriate resources to enhance availability of taxonomic information and is not encouraging bilateral and multilateral training and employment opportunities for taxonomists since there is only one trained taxonomist. The country is neither investing on a long-term basis in the development of appropriate infrastructure for national taxonomic collection nor is it encouraging partnerships between taxonomic institutions in developed and developing countries. The country has not adopted any international agreed levels of collection housing and it has not adopted any measures to strengthen national capacity in taxonomy. The Gambia has not assisted any taxonomic institutions to establish consortia to conduct regional projects. The country has not given special attention to international funding of fellowship for specialist training abroad nor provided programmes for re-training of qualified professionals moving into taxonomy-related fields. Thus lack of taxonomic capacity is and will continue to be serious impediment to the implementation of the NBSAP for some time to come. The Gambia has not identified its information requirements in the area of taxonomy and has not assessed national capacity to meet those requirements. The country has not consolidated taxonomic reference centres nor worked to increase its capacity in the area of taxonomic research. NARI is the focal point for Global Taxonomy Initiative linked to other national focal points but has not submitted pilot project proposals to the Executive Secretary although it participated in the WARINET to facilitate information sharing for the Initiative. The country has not sought resources for the priority actions identified in Decision V/9.</p>
3 rd Natl Report		<p>No national taxonomic needs assessment However in the National Capacity needs Assessment for the implementation of the biodiversity convention, capacity needs for the identification and characterization of species (fauna and flora) has been given prominence.</p>
Report on GTI		<p>Not Submitted</p>
NBSAP		<p>There is no up to date data on the structure, taxonomic composition and distribution of most of the components of biodiversity. This has significantly hampered effective planning and rational decision making. Likewise, there is no biodiversity assessment and monitoring system in place.</p> <p><i>The following strategies are proposed:</i></p> <ul style="list-style-type: none"> · Carry out inventory of major ecosystem types and identify those that are unique, threatened or of special significance. · Build the capacity in taxonomy · Carry out taxonomic studies for key plant, animal and microbial species · Identify processes and categories of activities which have or are likely to have adverse effects on biodiversity. · Develop and implement criteria and indicators of species and ecosystem quality and size. · Develop a comprehensive programme for biodiversity assessment and monitoring · Create a biodiversity database at the DPWM by the year 2003 · Link the biodiversity database and other biodiversity information centres to the National Clearing House Mechanism

		<p><i>Strategies:</i></p> <ul style="list-style-type: none"> · Carry a training needs assessment for professionals and extension staff in all the sectors responsible for biodiversity conservation. · Develop a biodiversity training programme in the critical areas including; taxonomy, assessment and monitoring methodologies, conservation and ecosystem management techniques, economic valuation of biodiversity, policy analysis and integrated resource planning. · Establish and equip biodiversity research institutions and strengthen the research and information dissemination programmes. · Identify research priorities and design and implement targeted research programmes. <p><i>Strategies</i></p> <ol style="list-style-type: none"> a) Develop research capacity of Fisheries Department b) Conduct studies and inventory on biology, taxonomy and ecology of species c) Develop and implement a research plan on ecology of mangroves d) Develop a 5-year master plan for fisheries resources survey to establish reliable biomass estimates and MSY e) Strengthen regional and sub-regional cooperation in fish stock assessment f) Involve communities in management through publicity, information and education
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	NCSA	<p>Priority issues:</p> <ul style="list-style-type: none"> ▪ Marine and coastal biodiversity: Data on the taxonomy, status and biological characteristics of fish species and habitats <p>Identification and Monitoring of components of biological diversity:</p> <ul style="list-style-type: none"> ▪ General lack of or weak capacity for assessment, identification and monitoring of components of biodiversity ▪ No comprehensive baseline data, criteria and indicators so biodiversity can be measured and monitored ▪ Lack of a biodiversity assessment and monitoring programme and systems. ▪ General lack of taxonomic expertise at the national level for biodiversity characterisation, conservation and sustainable use. ▪ Train personnel in appropriate professional disciplines such as taxonomy, environmental economics, and wildlife management. <p>Lack of capacity for assessment, identification and monitoring of components of biodiversity:</p> <ul style="list-style-type: none"> • Develop the critical mass of environmental economists, taxonomists, biologists etc. and increase the motivation of staff and capacity to perform their duties effectively • Strengthen the staff level of DPWM through increased budgetary allocation increased number of staff, increased level of equipping appropriately and increase level of collaboration with civil society, especially NGOs and out-of-country experts. <p>Lack of comprehensive baseline data, criteria and indicators against which the status, trends and threats to biodiversity.</p> <ul style="list-style-type: none"> • Train personnel in survey techniques and taxonomy and other relevant professional discipline to undertake animal resources research. Increase the staffing level, equipment and operational budget of DPWM to undertake effective animal resource research and monitoring & evaluation and surveying work • Develop a national biodiversity baseline survey project and seek friends to implement the survey as a matter of urgency especially NGOs and out-of-country experts.
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	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has not been completed</p> <p>-Major collections are not protected against decay, adequately curated, electronically databased or adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues</p> <p>-Taxonomy is not thought at high schools and Universities</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities</p> <p>-Generally taxonomy is not adequately addressed</p>
Germany	1 st Natl Report	Taxonom needs and priorities not mentioned
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	<p>No national taxonomic needs assessment made</p> <p>Taxonomy relevant chairs at universities and posts at museums are often allocated to other research areas. One reason is the little soft money allocated to taxonomy and as university needs to maximize the amount of third party money, taxonomy is given up. Deteriorating job opportunities will also endanger succession of knowledge in taxonomy. These challenges might also pose major problems in the implementation of the PoW at national level in the future.</p>
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Ghana	1 st Natl Report	Not Submitted
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	

	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has not been completed</p> <p>-Major collections are protected against decay but are not adequately curated, electronically databased or adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues</p> <p>-There are no groups that have been listed for priority research.</p> <p>-Taxa that should be listed are invertebrates (excluding insects), nonvascular plants, Apocynaceae, Graminae, and Meliaceae</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities</p> <p>-Generally taxonomy is not adequately addressed</p>
Greece	1 st Natl Report	Research on biodiversity is being carried out mainly by the Departments of Biology, Forestry, Agriculture and Environment of Universities, and the relative Research Institutes. This sector poses important problems, since basic research, especially in the areas of Taxonomy and Ecology, does not receive the support it deserves. The main deficiencies concern the knowledge of systematics and biogeography of terrestrial invertebrates and marine species, while the biology and ecology of most organisms remains unknown. Finally, the number of available research positions is very limited mainly due to lack of funding.
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>There is a basic assessment on the information requirements on the taxonomy of certain taxa of flora and fauna. For example, for many organisms such as microorganisms, bryophytes, lichens, pteridophytes, invertebrates' taxa, etc. scientists believe that there is a great diversity in Greece though there are no reliable collective data. Regarding the national capacity to meet these requirements, there is no assessment about the cost of the taxonomic research required.</p>
	3 rd Natl Report	Not Submitted
	Report on GTI	<p>No, but national taxonomic needs assessment is under way</p> <p>Assessment is under way by an initiative of collaborating Universities and the Hellenic Zoological Society.</p>
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Grenada	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	<p>No national taxonomic needs assessment made</p> <p>Grenada has not placed emphasis on Taxonomy although the issues are of national importance. The national</p>

		capacities for Taxonomy are severely limited. However some taxonomic work was done in the Forestry Project and in the Fisheries Department on fresh water flora and fauna. Very little information exists nationally on taxonomy. Those studies are usually done on species (flora and fauna) of greater economic values.
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Guatemala	1 st Natl Report	Not Submitted
	2 nd Natl Report	<p>No national taxonomic needs assessment made</p> <p>Se participa en la organización del grupo nacional de taxónomos para definir un plan de trabajo dentro del plan de acción de la Iniciativa Mundial de Taxonomía.</p> <p>El eje temático sobre Identificación y Seguimiento, describe los proyectos, planes y acciones en conjunto sobre inventarios y monitoreos en el marco de ecosistemas, especies y genes. Respecto al cumplimiento sobre las decisiones de Taxonomía, se mencionan las colecciones de especímenes del país y las propuestas en referencia de esta Iniciativa.</p> <p>En el tema de la Conferencia de las Partes, en la presente evaluación se da a conocer las delegaciones que han asistido a las COP3 y COP4, así como los resultados y su seguimiento respectivo. En el caso del Órgano Subsidiario de Asesoramiento Científico, Técnico y Tecnológico, - OSACTT-, solamente se ha asistido a la reunión celebrada en Montreal en Marzo de 2001, tratando temas como: Evaluación Científica, Iniciativa Mundial de Taxonomía, Diversidad Biológica, Cambio Climático y Especies Migratorias.</p> <p>Los cinco componentes del proyecto presentado al GEF son: 1) Programa de sistematización de información, con énfasis en iniciativas de taxonomía, 2) propuesta para la implementación de medidas para conservación in-situ y ex situ, y uso sostenible de la biodiversidad, 3) diseño de medidas de incentivos, 4) acceso a los recursos genéticos y distribución de beneficios 5) mecanismos de facilitación incluyendo el sistema de información de biodiversidad del convenio de diversidad biológica.</p>
	3 rd Natl Report	<p>Thorough national taxonomic needs assessment made</p> <p>Con apoyo de fondos GEF se está ejecutando el proyecto "Establecimiento de Prioridades y Evaluación de las Necesidades para la Creación de Capacidades en Biodiversidad en Guatemala" y éste incluye un diagnóstico del</p>

		estado actual del conocimiento taxonómico de la biodiversidad en Guatemala, incluyendo el contenido y áreas de especialización de las colecciones de referencia del país y propuesta de prioridades y posibles mecanismos para el financiamiento y fortalecimiento de la capacidad taxonómica en Guatemala.
	Report on GTI	No, but national needs assessment is under way INBIO (National Institute of Biodiversity from Costa Rica) has assessed the current state of Taxonomy in Central America. A preliminary diagnosis of taxonomic research institutions and expertise of their members is presented. Taxonomists pointed out that Government support is not enough to strengthen both capabilities and infrastructure. BIOTAS was created to fill this gap and to try to develop capabilities concerning taxonomy.
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	<i>Needs:</i> Training, budget, specialized literature, equipment, contact with specialists. <i>Priorities:</i> Training, repatriation of information, national biodiversity center, support to collections. <i>Limitations:</i> Little student of political interest, Lack of economic motivation, little training.
Guinea	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Basic national taxonomic needs assessment made Les besoins identifiés en matière de renforcement des capacités taxonomiques sont les suivants : 1 - Renforcement des capacités humaines : (Former les formateurs, Elaborer des plans et programmes pédagogiques, Constituer trois unités de formation taxonomique en flore, faune terrestre et faune aquatique, Assurer la qualification des taxonomistes et agents de terrain) 2 - Renforcement des capacités infrastructurelles : (Constituer un herbier national, Créer / réhabiliter des jardins botaniques, Créer un muséum, développer les collections existantes, Créer / réhabiliter des vivariums). 3 - Renforcement des capacités juridiques et la coopération internationale.
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Guinea-Bissau	1 st Natl Report	Not Submitted

	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Guyana	1 st Natl Report	Non-existent pool of taxonomy skills locally. Fuller identification of species of flora and fauna needed. Need for population censuses.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	<ol style="list-style-type: none"> 1. The number of species in the vast arthropod group is deeply underestimated due to the relatively small percentage of this group that has been studied. Taxonomic studies of this group must therefore be intensified. 2. The vast array of “farmer’s varieties” of cassava should be catalogued and these “varieties” genetically described and, where necessary, considered for improvement work. 3. Similar genetic characterization is needed for commercially important timber species. 4. Additional effort and information is necessary for purposes of delineating and classifying the natural ecosystems of the country.
	NCSA	
	Regional Taxonomy Workshops	
Haiti	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl	Not Submitted

	Report	
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Honduras	1 st Natl Report	Not Submitted
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	<i>Needs:</i> Training, budget, specialized literature, investigation <i>Priorities:</i> Training, financial resources, launch national inventories, cataloguing and development of collections <i>Limitations:</i> Little valuation of taxonomy, lack of trained personnel, insufficient budget
Hungary	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made Information is available in the report on the implementation of the programme of work on the GTI
	Report on GTI	No, but national taxonomic needs assessment is under way
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Iceland	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment under way

	Report	
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
India	1 st Natl Report	Based on an assessment of gap areas that need strengthening, in 1997, sponsored a National Workshop on Capacity Building in Taxonomy wherein the need to launch an All India Co-ordinated Project was identified as a priority. The project has since been drawn up and funding avenues are being explored.
	2 nd Natl Report	<p>National taxonomic needs assessment completed</p> <p>It is evident from the above that taxonomic expertise is not evenly distributed for the various taxonomic groups. The distribution is skewed with very low or nil expertise in certain groups. Further the availability of experts is inversely proportional to the guess estimate number of species. For example, in fungi and bacteria, number of guess estimated species are about 85,000 and 3,29,000 respectively. The taxonomic experts available in these areas are 15 and 20 respectively. On the other hand the guess estimated number of species in angiosperms are only 20,000 but the experts available are 130.</p> <p>In this background, the Ministry of Environment and Forests, Government of India organised a two-day National Workshop at Jaipur in February 1997. This workshop was attended by the top taxonomic experts of the country. The meeting identified the critical gap areas in which taxonomic expertise in the country was either nil or fast dwindling. One of the recommendations of the workshop was to develop an All India Coordinated Project for Capacity Building in Taxonomy. Thereafter, the Ministry set up a Technical Group to develop the All India project and after interministerial consultations, the project was approved. The project envisages establishment of centres for research in identified priority gap areas (e.g., virus, bacteria, microlepidoptera, etc.) in the field of taxonomy, education and training (fellowships, scholarships, chairs, career awards etc.) and strengthening of BSI and ZSI as the coordinating units. The modalities of implementing the All India Project, and prioritising activities under the project have been decided after detailed consultations with experts.</p>
	3 rd Natl Report	<p>Yes, basic national taxonomic needs assessment made</p> <p>Currently, some lacunae exists in the taxonomic expertise in the country because of death/retirement of old taxonomist on one hand and non interest in taxonomic studies by the students in the universities on the other hand. With the result, there are a large number of animal and plant groups belonging to lower phyla where no taxonomic expertise exists at any level. In order to develop interest in taxonomic studies, encouragement is being given and</p>

		<p>funds are provided for upcoming students of taxonomy under AICOPTAX. Similarly, capacity building needs have been identified in lower group of plants, animals and microbes, and certain other specialized groups, like orchids, grasses, palms, etc.</p> <p>In the area of microbial diversity, India had very fine fungal taxonomists at one time and has therefore contributed extensively to new Indian taxa in the past. This work force is now highly depleted and only a handful of experts in various groups are available. Bacterial identification involves not only phenotypic tests of a large variety but molecular tools of various kinds including DNA sequencing. Description of a species further requires G+C analysis and DNA: DNA hybridization which requires not only authentic cultures from either experts or culture collection but also tedious procedures. Many Indian researchers have to seek international cooperation to reach this end although IMTECH, Chandigarh and CCMB, Hyderabad are equipped for such lengthy exercise. CCMB in particular has described over 20 new bacterial species from cold environments, particularly Antarctica however for others it has been difficult to get beyond DNA sequencing. Thus, a major thrust is required to develop taxonomic experts for Bacteria & Archaea where expertise is indeed limited. This would mean strengthening some of the established groups and raising others to Centres of Excellence with necessary resources. In addition further thrust is needed in use of housekeeping genes, multilocus enzyme electrophoresis (MLEE) and other tools for characterization of bacteria. Also, considering the large non-culturable diversity of especially bacteria and archaea, it is essential to apply the metagenomics approach to diversity search and biopotentiality. Only limited efforts are currently operative on this front in the country but some younger groups are bracing up to challenge. In the context of environmental dynamics, it would also be prudent to select a few representative chemical environments for assessment of total functional communities utilizing microarrays that are now being used in molecular microbial ecology to understand gene function without the need of cultivation. With the present assessments, it is proposed to draw a roadmap to strengthen the microbial taxonomy, functionality and genetic component through training of appropriate workforce, inter-institutional linkages and bilateral cooperations.</p>
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Indonesia	1 st Natl Report	No relevant info
	2 nd Natl Report	<p>Early stages national taxonomic needs assessment</p> <p>Taxonomy researches and other activities in relevance of identification, monitoring and assessment, and indicators, are limited to recording taxonomic taxa present in the area being explored. The exploration and identification has been conducted and carried out for over 100 years, however, there are still quite a number of great gaps. The</p>

representation of taxonomic groups are not equal for every groups, but rather depends on the interests of the workers; at the national collection, the birds, has been represented by 70% of the known species, mammals by 60-70%, reptilians and amphibians less than 40-50%, fishes 50%, insects, depends on the orders: butterfly, beetles, and larger bugs 50-60%, the rest is very poorly represented, still poorer is the below-ground fauna, and in total the entire insect world of Indonesia is represented not more than 5% in the collection. Identification is still less. For flora, there is regular report in Flora Malesiana. It has been regularly reported since 1954 and the total number of higher plants treasure make up about 70%, while bamboos are better identified, to make up 90%. Lower plants, such as bryophytes, lichens etc are very poorly represented and known. Monitoring and assessment, and indicators have not been in the least developed.

Constraints: adequate human resources, lack of interests by newly developed corps, poor job opportunity in this field, since taxonomy has no priority in the national program. Therefore, it is also the duty of the INTI Working Group in developing interest in taxonomy. It is the duty of this Working Group in making the public aware of the importance and being in need of taxonomy, and direct the taxonomy researchers into the meaningful type of taxonomy research in relevant to the implementation of CBD provisions, mainly Article 7, including those stipulated in the Annex I, and the need of assessment and indicators development.

The Region of South East Asia has established a new loop for the already established BioNET INTERNATIONAL organized by CAB International. The new loop, in addition to 16 existing ones, the SEA Regional Loop has been named ASEANET. The loop covers all 10 ASEAN countries. This loop, which is one of the global nodes in taxonomic information exchange and communication, has been actively developing taxonomy programs in relevance to the provisions in the CBD. Some program activities have been conducted in each of the loop members. These include human resource development, information exchange, limited researches, common policy development, and other important undertakings. The countries in the South East Asian Region are fully aware of the biotic wealth they are holding. Put together, this wealth – biodiversity – constituting the highest diversity in the world, as far as biological entities are concerned. We in the region are aware, that the nature of the region, if managed properly, would be able to fulfill all human basic needs at the world level. However, there are great deals of constraints, in regards to the proper management of this biodiversity. The unequal and heterogeneous condition of the region is one of the main or major constraints that is face by the region in coming to common decision on policies, strategies, planning, and institutional development. Indonesia is aware that this country is one of the centers of origin of many important species that have been developed as important agricultural and forestry commodities. Nevertheless, the capability of the nation is quite low to develop its biological wealth from potential level to real meaningful commodities. Meanwhile, the loss of plant and animal diversity is increasing all the time, with all the impacts on ecological and economical aspects. In its effort to halt or minimize the rate of biodiversity loss, Indonesia has intensified its efforts in conservation programs. Some SEA regional member countries to a certain extent have common nature of biotic wealth, to say the least Malaysia and Indonesia. In fact, some common, joint programs have been carried on. With the establishment of ASEANET, it is expected that cooperation and coordination can be improved. Elaboration of the GTI, Indonesia, also in response to the ASEANET development, has established an Indonesian National Taxonomy Initiative (I.N.T.I.). With limited capacity, the working group formed to conduct program development, has made some achievement, such as

		<p>inventory and identification of national taxonomists, national institutions engaged in taxonomic activities, and taxonomic groups that they are concerned with. In its further endeavor, I.N.T.I. is planning short- and medium programs. The aim of this endeavor is to have a rather clearer and more exact picture of the national biodiversity condition and trends, so as to be able to develop the right strategy in its management. The important need, at national and regional level, is the taxonomic information exchange, to constantly monitor the condition and trends of the SEA regional biodiversity. Unfortunately, financial situation of ASEANET is not in the brighter side. Many of the programs developed are yet to wait for further notice. In connection to the information exchange and its infrastructure development (including human resource development), Indonesia has submitted a proposal to GEF, with a project title “Plan of establishing national and regional taxonomic network”. With this establishment, it is expected that the regional biodiversity monitoring can be guaranteed. This will, undoubtedly, have global impacts. Considering the great capacity in providing materials for fulfilling human needs at the global level, the SEA regional biodiversity must be saved. This region’s biodiversity is not only good for the SEA Region, but also the world over. Therefore, integrated efforts, as long as participation is concerned, GTI must give its sufficient attention to this part of the world, especially Indonesia, which covers two major faunistic regions (Indonesia is the only political country that has this feature) and a great spread of floristic Malaysia. The integrated effort meant in the previous paragraph is concerned with the proposed program of work of Report on GTIed in its Coordination Mechanism First Meeting in Montreal, 23 November 2000. It is strongly suggested that in the overall objectives, GTI should be geared</p> <ol style="list-style-type: none"> 1. To provide key information required for the implementation of Article 7, by focusing on Indonesia as one of the selected part of the world. Pilot project should be developed in this area. Capacity building to provide regional and (Indonesia) national taxonomists to conduct taxonomic activities in the country will be advantageous for a long-term projection. GEF is expected playing role in realizing this project. 2. To achieve operational objectives and planned activities, as reported in the same document, by listing 5 Operational Objectives, including the diagram that shows the rationale and linkages between the operational objectives. 3. To be taken into consideration to actively participate in the Operational Objective 1 : Under-take and/or compile national, regional and global taxonomic needs assessments for the implementation of the Convention, both in Planned Activity 1, Country-based taxonomic needs assessments and identification of priorities (at national level) and Planned Activity 2, Regional taxonomic needs assessments and identification of priorities (regional level). <p>For such GTI, Indonesia has already the infrastructure and organization to carry out the activities, while the region has established the network.</p>
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	<p>Some national taxonomic needs assessment made</p> <p>The country based taxonomic assessment has been made for botany and zoology but it has not been made for microbiology. The taxon priorities which has been pointed out such as Lauraceae, Dipterocarpaceae, Sapotaceae,</p>

		Zingiberaceae, Arecaceae, Bambusoideae (Poaceae), Orchidaceae. Nowadays the priorities studies are changed under the small islands flora and fauna such as Nusakambangan, Karimunjawa, Wawonii.
	NBSAP	<p>1. Indonesian Biodiversity Information System – IBIS IBIS was developed by the Center for Biological Research – LIPI through funding provided by the GEF – for the Biodiversity Collections Project, implemented from 1994 to 2001. This activity had two main components: systematic research in botany and zoology and the management of collections together with its information system. The activity also included rehabilitation of the specimen collections at herbarium and museum, enhancement of human resources, improvement of research facilities and publication of field guides on Indonesian flora and fauna. The achievements of this project include:</p> <ol style="list-style-type: none"> 1. Restoration of 255.000 botany collection specimens and rehabilitation of all of the zoological specimens, then transferred from Bogor to the new Widiasatwaloka museum in Cibinong; 2. Enhancement of storage facilities for collection in the two institutes to international standard by following international regulations concerning health and safety. The use of hazardous chemical substances for storage were stopped and substituted by drying and freezing. Airtight storage system is now used to protect specimens from insects and fungi; 3. Publication of 17 series of field guides, including 4 on plants, 11 on wild animals, 2 on collection protocols and 1 on the natural history of Sulawesi. These publications were made possible through a collaboration with several institutes such as BirdLife International, Wetlands International and World Conservation Society (see list of these field guides in the Reference section). 4. Provision of nine small grants for junior researchers to improve their skills in taxonomic research; 20 researchers in botany and zoology were sent to study abroad for their graduate degrees. For the information system management, this project had developed “specimen based” database for the botanical and zoological collections, called Indonesian Biodiversity Information System (IBIS). This database consists of 240.000 and 144.000 entries for plants and animals, respectively. Information in this database includes scientific and common names, date and location of collection, notes on locality including its abundance, uses and endemism. Application of this database can generate a distribution map for each species with geographical information on its existence. This project ended in 2001, however, data entry is still ongoing with the support of government funding. <p>2. The Biodiversity Information Center and Nature Conservation Information Center In 1997 the Center of Research in Biology- LIPI started a <i>Biodiversity Conservation Project</i> with the funding from the Government of Japan through the Japan International Cooperation Agency (JICA). During Phase I (1997-2000) the fund was used to build the Widiasatwaloka Building, which hosts the zoological collection, and install a laboratory with research equipment, and set up a <i>Local Area Network</i>. The purpose was to set up the Biodiversity Information Center (BIC) and the Nature Conservation Information Center (NCIC). Phase II (2000-2003) was devoted to continuing and</p>

		<p>upgrading integrated IBIS database on botanical and zoological collections, field surveys, upgrading references and database on researchers, while the microbiological collection is still in being developed.</p> <p>3. National Biodiversity Information Network – NBIN NBIN was also initiated by the Center of Research in Biology-LIPI. It is a network of member institutions to facilitate exchange of data and information on biodiversity. It has three main purposes: 1) to develop a mechanism for data and information exchange; 2) to improve its capability to respond to the needs of information users; and 3) to strengthen its independence in the longterm.</p> <p>One of the major problems faced by Indonesia is the lack of basic and strategic research In terms of human resources, sustainable biodiversity management needs various experts on, among others, taxonomy, agricultural product management and development, conservation, ethnobotany, and natural resource economics. But such experts are inadequate in Indonesia, particularly, within the government institutions. For instance, in a research institution, there may only be about 15 researchers with germplasm expertise and only two of them hold doctorate degree. In other research institutes, the number may even be smaller. Information on the number and distribution of skilled human resource in other sectors is not available.</p>
	NCSA	
	Regional Taxonomy Workshops	
Iran (Islamic Republic of)	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>Capacities:</p> <ul style="list-style-type: none"> - High Potential capacity of academic institution (Universities, Research Centers) within the country in term of their long experience, - Considerable human and technical capacity scattered in different geographic locations of the country, <p>Needs (in terms of in-situ and ex-situ conservation):</p> <ul style="list-style-type: none"> - Lack of financial resources to acquire modern technologies, - Insufficient human resources (professionals: researchers, technicians, skilled workers etc.), - Weakness in the exchange of expertise with other specialized international institutions. - Shortages in the administrative facilities
	Report on GTI	<p>Some national taxonomic needs assessment made</p> <p>A seminar and a workshop have been held by DoE in this regard:</p>

		<ul style="list-style-type: none"> - Workshop on Global Taxonomy Initiative, Tehran September 2001 - Seminar on Biodiversity and Taxonomy, Karaj, June 2002 -Lack of scientific sources - Lack of experts - Not enough attention being paid by decision makers
	NBSAP	<p>In accordance with the "Revised Guidelines for Additional Funding of Biodiversity Enabling Activities (Expedited Procedures)" of GEF, additional funds were requested for assessment of the following capacity building needs and country specific priorities:</p> <ol style="list-style-type: none"> 1. Implementing a country-driven Clearing House Mechanism. 2. Undertaking an assessment of capacity building needs for taxonomy.
	NCSA	
	Regional Taxonomy Workshops	
Ireland	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Yes, basic national taxonomic needs assessment made A questionnaire has been sent to all taxonomists as part of an assessment of taxonomic needs.
	Report on GTI	Not Submitted
	NBSAP	<p>The ability and capacity to identify organisms is essential in order to document Ireland's biodiversity and for many groups this requires specialist taxonomists. It is essential to significantly strengthen the capacity to undertake taxonomic work in Ireland. The Natural History Museum has a key role in this context.</p> <p>Strengthen the capacity of relevant State institutions to undertake work to broaden and consolidate our knowledge of wildlife species and to maintain biological records. Capacity building for taxonomic work will be a key focus.</p> <p>Strengthen the capacity of relevant State institutions to undertake work to broaden and consolidate our knowledge of wildlife species and to maintain biological records. Capacity building for taxonomic work will be a key focus.</p>
	NCSA	
	Regional	

	Taxonomy Workshops	
Israel	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	The two main difficulties encountered, besides the political situation and the recent budget shortages, are resulting from the fact that there is no central National Museum of Natural History and that the number of active taxonomists and of positions for younger taxonomists are dwindling.
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Italy	1 st Natl Report	-
	2 nd Natl Report	Early stages national taxonomic needs assessment
	3 rd Natl Report	Not Submitted
	Report on GTI	Some national taxonomic needs assessment made The checklists of all taxonomic groups has been produced with the exclusion of some freshwater algae and some fungi, which will be considered in the future since not priority compared to other taxa of higher taxonomic level
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Jamaica	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on	Not Submitted

	GTI	
	NBSAP	To increase the number of trained personnel in conservation, biodiversity, taxonomy, biotechnology and genetics
	NCSA	
	Regional Taxonomy Workshops	
Japan	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	<p>Yes, basic national taxonomic needs assessment made</p> <p>Information provided by taxonomic societies in botany, zoology and microbiology was compiled. The survey was based on the items that are each society's interests.</p> <ul style="list-style-type: none"> · No curators are assigned at most of the herbaria, museums and university collections. Even at some major museums, the shortage of staff is severe for curation of such large number of specimens. Quality of curation needs to be improved in general. · Experts are deficit in lower plants and microorganisms, no taxonomists exist in some phyla in zoology. · Access to information on genetic resources (bacteria and fungi particularly) is limited. · Directory of taxonomists has prepared from the survey in FY2002. Further update should be planned to cover all collections/institutes at country level. <p>Regional taxonomic needs and capacity assessment was carried out by sending questionnaire directly to institutes and researchers. Priorities were identified at the workshop based on the results of the survey</p> <ul style="list-style-type: none"> · Establishing GTI National Focal Points in all countries to complete needs assessment · Research network and communication to increase coverage of taxa to work on · Access to type specimen(culture) of the species found in the region · Access to the literatures on species which were found in the region · Infrastructure to carry out informatics, microbiology, molecular analysis · Regional projects to provide taxonomic information which is feasible with existing capacity
	Report on GTI	<p>Some national taxonomic needs assessment made</p> <p>Information provided by taxonomic societies in botany, zoology and microbiology was compiled. The survey was based on the items that are each society's interests.</p> <p>No curators are assigned at most of the herbaria, museums and university collections. Even at some major museums, the shortage of staff is severe for curation of such large number of specimens. Quality of curation needs to be improved in general.</p>

		<ul style="list-style-type: none"> • Experts are deficit in lower plants and microorganisms, no taxonomists exist in some phyla in zoology. • Access to information on genetic resources (bacteria and fungi particularly) is limited. • Directory of taxonomists has prepared from the survey in FY2002. Further update should be planned to cover all collections/institutes at country level. <p>The information to prepare this report was collected mostly through the research project on “Global Taxonomy Initiative in Asia and Oceania” supported by Global Environment Research Fund of the Ministry of the Environment (2002-2004). This research project has been carried out by the National Institute for Environmental Studies and major universities and museums indicated below. Taxonomic needs assessment at national and regional level (operational objective 1 of the GTI Programme of Work) was carried out through this project. This project also contains a pilot project to build taxonomic and informatics capacity at regional level (operational objective 2), and held twice of international workshops to draft the programme of work for GTI in Asia and to monitor its progress. In the context of taxonomic information sharing (operational objective 3), the report from another research project “Biodiversity Information Facility” supported by Special Coordination fund for Promoting Science and Technology of the Ministry of Education, Culture, Sports, Science and Technology was also taken to collect relevant information to this report. The research group of this project is also in the list below. The first GTI regional workshop held after the adoption of GTI Programme of Work (Putrajaya, Malaysia in 2002) focused on prioritization of taxonomic work in Asia. This was followed up by the workshop to monitor and to promote the implementation of GTI in the Asia-Oceania region in 2003 (Tsukuba, Japan). The proceedings of these workshops and The National Biodiversity Strategy of Japan (Revised in 2002) were taken as resources to collect information on the status of taxonomic work in the relevant thematic area and cross cutting issues of CBD.</p>
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Jordan	1 st Natl Report	Key Issues and Impacts- There is a general lack of biodiversity studies in Jordan including plants and animals, but microorganisms received even less attention for their higher technical demands and smaller sizes. Taxonomy of microorganisms requires highly qualified experts and laboratory studies. There is a need for comprehensive national biodiversity studies coupled by ex situ storage of the collected isolates. Lack of such surveys in part could be attributed to lack of expertise, interests or resources. Most available resources and interests in research programs are directed toward some applications with health importance or potential rapid economical return such as infectious diseases or some biotechnological applications
	2 nd Natl Report	Not Submitted

	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>Generally, Jordan is in shortage in taxonomists, until now we have only less than 20 specialists. However, there are some students in this field, expected to finish their higher studies in the nearest future. There is some excellent work that has been done at the level of vertebrates. Jordan has done mapping for the distribution of species. Some excellent work on taxonomy has been done for birds, mammals, and reptiles. Also good publications were produced for birds, mammals and reptiles. It is also worth saying that taxonomy is only of individual interest. The importance of awareness for taxonomy and collection housing issue is very low in Jordan.</p>
	Report on GTI	Not Submitted
	NBSAP	<p>On the research front, it will be necessary to strengthen taxonomic and systematic research and to monitor global impacts and ozone depletion. An economic assessment of indigenous genetic resources, genetic engineering and use of popular knowledge of these resources is planned as well</p> <p>There is a general lack of biodiversity studies in Jordan including plants and animals, but microorganisms received even less attention for their higher technical demands and smaller sizes. Taxonomy of microorganisms requires highly qualified experts and laboratory studies. There is a need for comprehensive national biodiversity studies coupled by ex situ storage of the collected isolates. Lack of such surveys in part could be attributed to lack of expertise, interests or resources. Most available resources and interests in research programs are directed toward some applications with health importance or potential rapid economical return such as infectious diseases or some biotechnological applications.</p> <p>Modern biotechnological techniques could be directly used in studying, maintaining or protecting biodiversity. For example, DNA genetic fingerprinting is being used in taxonomic and phylogenetic studies and for measuring and monitoring the extent of biodiversity. In addition, biotechnology may contribute to long-term in vitro storage of genes, genomes, cells, tissues, organs or whole organisms.</p>
	NCSA	
	Regional Taxonomy Workshops	
Kazakhstan	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>The country has experts in the field of higher and lower plants but there are not any experts in the field of algoflora.</p>

	<p>Scientific institutions disseminate information on taxonomy in the Republic, depending on their means and resources, however these activities have not been realized properly for the last few years. Most of the collections at Institute of Botany and Phytointroduction (herbarium of higher and lower plants) and its botanical gardens (live collections), Institute of Zoology and Animals Genofond (vertebrates and insects – zoological museums), Institute of Microbiology and Virology (museum of collection of germs cultures) meet the internationally recognized standards of collections fund care but in a number of cases there arise some problems concerning the absence of specially trained personnel and lack of specially equipped premises.</p>
3 rd Natl Report	<p>Yes, basic national taxonomic needs assessment made assessment made</p> <p>The Computer database of Kazakhstani flora has been created, with nearly 6,000 plant species included. The herbarium of the Botany Institute included in the World International Herbarium Cadastre includes over 250,000 species of modern plants and 500 palaeobotanic collections. Taxone volume implications have changed at present. As a result, the following major areas for researches were identified: studying regional floras; monographic work of separate systematic groups; identification of rare flora species and their conservation. The development of plant taxonomy in Kazakhstan bears great importance in solving general taxonomy issues and those of intraspecies taxonomy. Studying intraspecies taxonomy is fundamental for identification of forms with agriculturally valuable characteristics, for determination the recessive genes initiating these characteristics and the conditions for their being activated. It should be noted with regret that this branch of Botany is very insufficiently represented in our country, with a considerable shortage of specialists knowledgeable about the researches in the area though these researches are very important. The fauna is becoming particularly critical with a growing concern for fauna and BD conservation in Kazakhstan in the light of International Convention on Biodiversity. An intensive decrease in insect fauna species in the republic, which has been noticeable within the last decades, is caused by the following major factors: land plowing lands on a mass scale; overexploitation of pastures; steppe, low-hill and steppe fires, chemical pollution, etc. The timely objective in fauna taxonomy is creation of a computer database on insects in Kazakhstan, Cadastre, reference materials and rangers that would be available for a wide practical use, as well as fundamental national scientific collection of insects.</p>
Report on GTI	Not Submitted
NBSAP	Taxonomic needs and priorities not mentioned
NCSA	
Regional Taxonomy Workshops	

Kenya	1 st Natl Report	Kenya requires taxonomists, especially for lower forms of life (algae, fungi, bacteria) who will implement the strategies by carrying out detailed inventories. There is also a need to train molecular biologists who can study the genetic variability within species. Currently, research in biological diversity (taxonomy, inventory, etc) tends to be ranked low in the list of priorities thereby suffering neglect. The following skills required for implementation of the strategies and action plans dealing with genes and species. Increase the number and/or make use of trained personnel in scientific and technological fields. In particular, invest education of microbiologists and related areas of study. Maintain develop programs for scientific and technical education and training of managers and professional, especially in the fields of taxonomy, conservation of biological diversity and sustainable use of biological resources. Develop training materials that are appropriate to the situation.
	2 nd Natl Report	Early stages of national taxonomic needs assessment made
	3 rd Natl Report	Basic national taxonomic needs assessment made An initial assessment was carried out and reported on during the Africa regional workshop on the GTI. Assessment of taxonomic needs and capacities at the national level will be an activity under the Botanical and Zoological Networks of Eastern Africa (BOZONET) project.
	Report on GTI	Some national taxonomic needs assessment made made Yes, some need assessment made Herbarium work is relatively well done. Most groups of plants vascular and non-vascular plants are covered. Taxonomic experts for plants have been identified and collection of herbarium materials properly curated at the East African Herbarium housed in National Museums of Kenya. Existing taxonomic expertise (staff) however is inadequate. Assessment on Invertebrates and birds have been done but mainly on the pollinators under pollinator initiative program. Others are covered in terms of collections but not well assessed in terms of capacity needs. The taxonomic need assessment for groups such as marine invertebrates, mammals, and some invertebrates and lower plants are largely undone. A plan is underway to search and call all experts to for a workshop to identify gaps and ways to fill them. The priorities identified so far are interim. The planned national workshop with the already known experts will help identify other experts, integrity of university collection and identify priorities and gaps
	NBSAP	Develop country-driven projects to implement the Global Taxonomy Initiative
	NCSA	The Global Taxonomy Initiative (GTI) identified the taxonomic impediment as the core of the conservation/taxonomy problem. Although many biodiversity institutions in Kenya use taxonomic tools as part of their day to day work, it is recognized that the National Museums of Kenya (NMK) and the Department of Botany, University of Nairobi are the key taxonomy institutions. The two house the East African Herbarium and the University of Nairobi Herbarium respectively, in addition to other biodiversity collections. Their proposed UNDP/GEF BOZONET (Botanical & Zoological Networks of Eastern Africa) Project is expected to be the main vehicle for developing capacity and producing targeted taxonomic tools in the country. Capacity for taxonomy in the country now is at a medium level.

	Regional Taxonomy Workshops	<p>Partial taxonomic needs assessments have been completed for herbaria, covering nonvascular and vascular plants. Major collections are protected against decay and adequately curated but are not electronically databased or adequately staffed.</p> <p>Staff numbers in taxonomic institutions are inadequate to address taxonomic issues.</p> <p>There are groups of organisms that have been listed for priority research including medicinal plants, traditional food plants, pollinators, commercial insects, Aloceae, Dracaenaceae, Orchidaceae, soil invertebrates, birds of conservational priority etc... The following taxa that should be added are legumes, grasses, Burseraceae, Apocynaseae, nonvascular plants, fungi, amphibians, aquatic invertebrates, fish, Rodentia, Insectivora, Chiroptera and taxa not yet covered by the Floras and Faunas.</p> <p>Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities. Electronic equipment is not distributed evenly.</p> <p>Generally taxonomy is not adequately addressed</p>
Kiribati	1 st Natl Report	
	2 nd Natl Report	Early stages of national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Kyrgyzstan	1 st Natl Report	Not submitted
	2 nd Natl Report	Not submitted
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>Analytical studies on capacity in taxonomy sphere were conducted in the Kyrgyz Republic, however only statements of crisis situation of the national collection funds, reduction of the personnel capacity and some gaps in taxonomic inventory of biota were in published in the reports. Special works on capacity assessment and need identification in taxonomy sphere (actions provided by the paragraphs 1.1, 1.2 and 1.3 of the section II.B Annex to Decision VI/8) in the Kyrgyz Republic in general and for the CBD in particular, are not completed because of some reasons and initial stage. It was planed to establish only one national collection, i.e. the most important</p>

microorganisms and fungi cultures (See action ?.1.4 within the Strategy “Conservation ex situ”) as it was considered to the least developed sector should be supported. Financial deficit of the system receiving, generating and processing information in taxonomy sphere was never defined in spite of its obvious problems. Interview of interested specialists and organizations to discuss problem of the scientific support measures for biodiversity conservation did not set goal to identify obstacles in the taxonomy development. Other thematic reports on the global environmental conventions do not contain information on problems related to this type (and GTI in general) of the capacity.

Components of the central part of the taxonomic collection of the Kyrgyz Republic (thematic funds) are under supervision of several laboratories of the Biology and Soil Institute of NAS KR; and work on their supervision is ranked as insignificant fundamental study. Financing of fundamental studies in the National Academy of Science is gradually reduced every year, and last 15 years development of material-technical basis is not funded from the NAS budget. Collections do not have their own infrastructure due to their low status in the NAS KR and supervised on voluntary basis by the enthusiasts at their expenses and opportunities; minimum required regulation measures are implemented and some development is achieved. Insufficiently considered replacement of only one Zoological Museum of the Kyrgyz Republic (exhibits and scientific unit) led to worsening of its operation as the educational-awareness center, reducing number of exhibits and etc. Besides, it led to closing of exposition of living reptile, loss of leading specialists, and actual collapse of the biological library. Scientific collection of vertebrate animals (half is lost) is in extremely poor conditions; herbarium of vascular plants – in relatively satisfactory conditions. Actually, the collection of forest ethnofauna does not exist anymore. Botanical Garden, nurseries of fruit and coniferous woods arboretums, and serpentarium in Bishkek and zoo in Karakol are in severe situation. There are no state investments in long-term projects on taxonomy infrastructure development, even to maintain existing collections. All herbariums and collections in the country are in poor condition including exposition funds, educational and information collection (plants-dominants, weeds, forest and agricultural pests, objects of quarantine and others). It is necessary to mention that except for 2-3 standard educational biological collections in the oblast natural museums, all collections in the country are unique. Most of scientific collections of the country including the central one are placed in dark small rooms and they are uncomfortable for the specialists coming to work there. There is risk that the materials might be left without identification and disappear gradually. Some scared funds are given to the collections (museums) under some protected areas. However, they, as a rule, are not taxonomic – they museum exposition having functions of environmental awareness of the local population and tourists. Scientific units of the state reserves appoint only one scientific researcher to take care and maintain these collections according to “The Standard Job Description of the Personnel of the State Reserves” (approved by the order of the State Forestry Service of the Kyrgyz Republic as of 20.11.2003 ? 178. Regulation of the scientific-research activity of the state reserves stated out that maintenance of museum exposition and collections is in competence of the scientific unit, but the duties and responsibility are not described. So, scientific level of the collections in insufficient in the protected areas. Created 30 years ago, the funds of exhibits in the public museums are reduced, and museums are not profitable, as the entrance fee (0,1-0,3 \$US) does not cover expenses for communal service and basic service of the customers. According to the legislation of the Kyrgyz Republic, it is allowed of create collections by the legal and physical persons irrespective of the property form under condition of

		<p>state registration and rule compliance (however, these rules are not approved and designed). There are several biological collections in private property, mostly amateurs have them, but some of them have scientific significance, and they are unique taxonomic and not amateur ones. As a rule, conditions of their storage are much better. Supervisors and owners of the collections coordinate their activity within activity of professional scientific societies (botanical, entomological, ornithological and etc.).</p> <p>Existing ways to maintain and supervise the central taxonomic and some other biological collections of the Kyrgyz Republic have being worked out during decades aimed to implement principles elaborated in 1980-1990 in the central taxonomic scientific-research institutes of the former Soviet Union such as the central Botanical Garden of the Russian Academy of Science, Botanical Institute of V.L.Komarov, RAS, Zoological Museum of RAS, Herbarium of Syreishikov and Zoological Museum of the Moscow State</p>
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	Regional Taxonomy Workshops	
Lao People's Democratic Republic	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	<p><i>Programme 1: Scientific Data and Biodiversity Knowledge Development Goal</i></p> <p><i>Obj 1: Identify important biological diversity components and improve the knowledge</i></p> <ol style="list-style-type: none"> 1 Assess data gaps and research needs. 2 Develop a five-year research programme. 3 Co-operate with international institutions. 4 Upgrade research methodologies to international standards. 5 Identify all relevant habitats and ecosystems in the Lao PDR and identify rare and/or threatened species. 6 Improve knowledge on taxonomy and the status of biodiversity and data information management. 7 Accelerate research into the taxonomy, geographic distribution of the nation's terrestrial and aquatic plants, animals and micro-organisms with priority on lesser known groups. 8 Establish field research stations in areas where this is possible. 9 Identify biodiversity components that are important for conservation and sustainable use.

		<p>10 Identify biodiversity components which are inadequately understood.</p> <p>11 Identify terrestrial and aquatic components of biodiversity that are important for conservation and sustainable use and those requiring an urgent need to be known.</p> <p><i>Programme 3: Human Resource Development</i></p> <p>Goal:</p> <p>Plan and implement a biodiversity specific human resource development programme.</p> <p><i>Obj: 2 Improve the research capacity of national experts in different fields related to biodiversity.</i></p> <p>1 Assess present research capacities related to biodiversity in terms of quality and quantity.</p> <p>2 Promote research activities by visiting scientists on all aspects of biodiversity that prioritise on the skills transfer to Lao staff and students.</p> <p>3 Build staff capacity through training and research.</p> <p>4 Seek active cooperation with the international research community.</p> <p>5 Improve specific scientific knowledge of staff.</p> <p>6 Develop a skills-improvement programme.</p> <p>7 Ensure that all field surveys are designed to transfer skills to Lao counterparts.</p> <p>8 Facilitate and support the development of taxonomic training programmes.</p> <p>9 Establish scientific teams.</p> <p>Incomplete taxonomic studies and inventories of fauna and flora hamper assessment and monitoring of the true status of wildlife.</p> <p>Improve knowledge on taxonomy and the status of wildlife as well as biodiversity related issues in the Lao PDR.</p>
	NCSA	
	Regional Taxonomy Workshops	
Latvia	1 st Natl Report	Taxonomic need and priorities not mentioned
	2 nd Natl Report	<p>No national taxonomic needs assessment made</p> <p>National Programme on Biological diversity includes some targets in the field of taxonomical research. Part 35. Monitoring and research requires development of Science Council on Biological Diversity, development of longterm research programme in the field of biodiversity, strengthening the scientific potential of research institutions, ensuring the financial and technical base of institutions. Specific targets in biological research are: promote the study of all taxonomic groups and assessment of biological resources. Implementation of this part of</p>

		Programme has not really started.
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not mentioned
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Lebanon	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>Lebanon has not conducted an assessment of taxonomic needs on the national level nor developed an action plan for capacity building. However, the newly enacted Top-up Biodiversity Enabling Activity Project includes an assessment of the capacity building needs in biodiversity monitoring including special emphasis on taxonomy. The Ministry of Environment is administrating a survey on taxonomic status and needs in Lebanon through a questionnaire concerning: training, human resources, research and collection. Specifically, the questionnaire will focus on the following issues: (i) assessment of gaps, needs and parameters, (ii) assessment of the availability of taxonomic knowledge, (iii) assessment of the availability of taxonomic infrastructure, (iv) assessment of the availability human resources supporting taxonomy and (v) assessment of national priorities for taxonomic information. At the conclusion of the survey, the Ministry will be able to determine the main areas lacking in taxonomic expertise, designate priorities as well as devise a strategy plan for capacity building. Until, the questionnaire is conducted, taxonomic initiatives remain scattered and limited by the lack of experts in various areas as well as restricted financial contributions from both donors as well as national sources. This lack in taxonomic capacity is acting as a major constraint for all other activities relating to biodiversity. Some organizations and institution have conducted their own taxonomic assessment. The A Rocha group working in the Ammiq Wetland and identified so far a major taxonomic deficiency in species areas such as bats and plants. The marine science center is satisfied with the taxonomic capacity in Phytoplankton and Zooplankton. The main area of dire need of professional taxonomists is at the flora level. Lebanese Agricultural Research Institute assessed need and found out that taxonomists expert in Quercus and Juniperus species were needed. There is a need for taxonomists at the level of field as well at the level of molecular identification to upgrade the national strategy.</p>
	3 rd Natl Report	<p>Thorough national taxonomic needs assessment made</p> <p>A detailed assessment report on national taxonomic needs and priorities was prepared in April 2005 within the GEF Top-up Biodiversity Enabling Activity project executed by MoE and UNDP in collaboration with IBSAR/AUB and was submitted to the CBD Secretariat. The needs identified covered the following issues:</p>

		<p>a. Knowledge :</p> <ul style="list-style-type: none"> - Training - International guidelines for passport data - Checklist for Lebanon - Adopting international and zoological nomenclature <p>b. Infrastructure:</p> <ul style="list-style-type: none"> - National herbaria - Means for specimens, collection <p>c. Human resources:</p> <ul style="list-style-type: none"> - Specialized taxonomists - Trained collectors/parataxonomists - Curator/Management <p>d. Financial resources:</p> <ul style="list-style-type: none"> - Funds to establish and ensure sustainability of national herbarium - Funds allocated for building and developing capacities
	<p>Report on GTI</p>	<p>Comprehensive national taxonomic needs assessment made</p> <p>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.</p> <p>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.</p> <p><i>II. Methodologies</i></p> <p>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.</p> <p><i>III.1. The human resources, capacity development and international and national cooperation</i></p> <p>Type of training Basics on taxonomy (General) The lack in general taxonomist and/or specialized ones is the result</p>

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).

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.

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. 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.

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

		<p>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.</p> <p>Recommendations:</p> <p><i>1. Integrating of national database into regional and/or international context:</i></p> <ul style="list-style-type: none"> .-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. <p><i>2. Compliment the existing resources and initiatives:</i></p> <ul style="list-style-type: none"> .-Establishment of a national central mechanism to ensure complementarity 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. <p><i>3. Capacity development and training:</i></p> <ul style="list-style-type: none"> .-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.
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Lesotho	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Yes, basic national taxonomic needs assessment made Only taxonomic capacities have assessed. Taxonomic needs are likely to follow.
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional	

	Taxonomy Workshops	
Liberia	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	<p>4.1.15 Inadequate Taxonomic Knowledge of Plants and Animals of Liberia</p> <p>Research in the area of taxonomy began early in the 1800s in Liberia by German naturalists such as Schwein (1875-1877), J. Buttiker and F. X. Stampfli (1879-1887) and M. Dinkling (1894-1930). R. B. Sharoe (1880) did some research work on the birds of Liberia. A Harvard University expedition on ornithology of Liberia was synopsised in 1930. Other research work included the Trees of Liberia by Kunkel (1963), Liberian High Forest Trees by H. G. Voorhoeve (1979), Birds of Liberia by Wulf Gatter (2000) and notes on the mammals and birds of Liberia by H. H. Johnston. There is also an atlas of Liberia Mammals published by The Zoological Society of Philadelphia. Several works on the taxonomy of Liberia may be found in the repositories at the University of Wageningen in The Netherlands.</p> <p>During 1960-1967, an inventory conducted found over 2000 plant species including 225 timber species in Liberia. The report accentuated the 225 timber species. Since the inventory there has been no updated account until in 2002 when a team of researchers from the University of Liberia and the University of Wageningen visited the Sapo National Park and its surroundings and the Krahn-Bassa National Forest for 18 days. During the visit, 6 species of flowering plants new to science were found.</p> <p>It is apparent from the above that the works in taxonomy in Liberia has a big deficiency. This can be attributed to the absence of trained Liberians in biological sciences, especially in taxonomy. This low capacity is due to lack of incentives and motivation to pursue studies in the sciences</p>
	NCSA	
Regional Taxonomy Workshops		
Liechtenstein	1 st Natl Report	Not Submitted
	2 nd Natl	Not Submitted

	Report	
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Lithuania	1 st Natl Report	Not Submitted
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Luxembourg	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Madagascar	1 st Natl	Taxonomic needs and priorities not mentioned

Report	
2 nd Natl Report	Early stages of national taxonomic needs assessment De façon générale, les études taxonomiques, la formation et les ressources sont insuffisantes pour la faune
3 rd Natl Report	Basic national taxonomic needs assessment made Madagascar en 2004 a entrepris, dans le cadre des activités habilitantes de la CDB, une évaluation initiale de la Taxonomie, avec l'appui du PNUE. Cette évaluation a été confiée aux points focaux de l'Initiative Mondiale sur la Taxonomie (volet Faune et Flore). Dans le rapport final, les besoins et compétences sont listés : 1. Infrastructures - Besoin de nouvelle construction de local spécialisé pour la taxonomie (herbaria et jardins botaniques). - Besoin d'outils de détermination plus performants (matériels de laboratoire: stéréomicroscopes, microscopes à caméra numérique, trousse à dissection, matériels pour la génétique moléculaire, outils informatiques adéquats et ouvrage et manuel de détermination). - Besoin de matériels de terrain pour la collecte de spécimens (matériels de camping et matériels de collecte et conservation des spécimens). - Facilité d'accès aux publications scientifiques surtout en taxonomie et facilité d'accès aux maisons d'éditions de revues scientifiques pour des éventuelles publications. - Nécessiter d'une campagne de sensibilisation sur la taxonomie auprès du public scientifique et communauté locale. 2. Personnes et institutions ressources - Besoin de formateurs nationaux en taxonomie - Besoin de formations en taxonomie pour accroître l'effectif des malgaches spécialistes en taxonomie. - Besoin en ressources humaines pour la maintenance et gestion des infrastructures taxonomiques. - Recrutement des nouveaux taxonomistes au sein des herbaria et des jardins botaniques. - Besoins de création des centres, des institutions et des associations nationales spécialisées dans la taxonomie. 3. Connaissances - Orientation et priorisation des recherches taxonomiques concernant les groupes floristiques et faunistiques méconnus. (plantes inférieures, espèces corraléennes, les cnidaires, les éponges.....) 4. Moyens logistiques et financiers - Besoins de matériels et d'équipements pour les herbaria - Besoin d'installation d'un labo de Biologie moléculaire à l'Université - Allocation budgétaire concernant le domaine de la taxonomie (matière taxonomie, formation taxonomique, infrastructure et logistique)
Report on GTI	Some national taxonomic needs assessment made Although taxonomic studies evolved a lot these last 10-15 years, the results are not satisfactory, for multiple

reasons: Madagascar has an important rich tropical biological diversity of both fauna and flora, as well as for terrestrial and marine.

Many inventories have been achieved according to diversified objectives and needs; One of the main problems is that, inventories do not cover the whole national territory and even less all species. There are certainly attempts and efforts, developed notably within regional or international cooperations; It is one of the objectives of the databases that biodiversity responsables try to implement ;

The collections of reference (flora, fauna) exist, but they require to be maintained and updated ;

- In the methodology point of view: if in the domain of the plant biology, human resources seem to be relatively satisfactory (about two hundred of families exists in the country), in that of animal biology, targeting species by group (amphibian, reptilian, fish, primates...) require supplementary researchers. Some flora taxa should be reviewed . The changes of methodology in the domain of the animal biology penalize the countries and the researchers in a country like Madagascar, because of the revision that must be made. Concerning research works, the main blockage for the university of Antananarivo especially comes from required identification facilities and material while the extraction of the DNA can be made locally. But it is especially in the domain of the marine taxonomy that the gaps are very flagrant and important. Some studies were realized, but they need to be reviewed and updated (before 1972). In general, data and information are still sporadic. No complete data are available on some plant and animal groups recently treated, in spite of the fact that several taxonomic inventories and studies have been led for the terrestrial environment. Data are generally prompt, in the time and in the space. Many remain to do concerning taxonomy and the formation of taxonomist must be developed. For example. An evaluation has been given for the writing of a flora monography: a reasonable output for the writing of a regional flora is of 50 species/year /botanist taxonomist. An association of taxonomistes has been put in place in 2003 in a perspective of development of the taxonomy. It aims to promote the taxonomic research in Madagascar, and therefore to palliate to the gaps in human resources and in expertise and appraisal. The database network should be reinforced with the different projects, organizations that have some information.

Taxonomy needs have been evaluated and assessed. They were necessary for implementing Biological Diversity databases and network of computerized databases in Madagascar, such as the process coordinated by ONE (National Office for the environment), REBIOMA database, seeds databases (SNGF), GSPM on plants, specific databases on birds, reptiles and amphibians, medicinal plants, reef resources... Some studies and disparate consultations were done to help decision makings concerning the species listed in CITES ; Activities are mostly related to management of certains species (both flora and fauna) threatened to be extincted , that is among Madagascar priorities (cf CITES – IUCN red list). ETP/WWF with Zoology Department of the University of Antananarivo is currently implementing a database on fauna species collected during the last 12 years. This database gathers Amphibians, Reptiles, Birds, Lemurs, Microchiroptera, Lipothyphles (Insectivore), Rodent, Carnivoras, A request of support was transmitted to GEF through UNEP for an assessment of taxonomy needs within enabling activities.

Some priorities were identified:

- In the domain of plants, priority were given to large families that are not yet completely studied and

		<p>those to be revised.</p> <ul style="list-style-type: none"> - Some specimens are not yet identified. Generally, one third of the Flora (12.000 species) is still under study and another third part need to be reviewed, as it has been published before 1960. For example, the families of Euphorbiaceae, Leguminosae, Gramineae and Rubiaceae must be revised. - Data and herbaria are scattered in research centers, in institutions. Besides, herbaria and specimens require a security, herbaria conditions are precarious and their capacities are limited. Madagascar has 2 national herbaria (PBZT and FOFIFA). 30.000 specimens cannot be stored and are not currently exploitable at PBZT herbarium. <p><i>In the domain of terrestrial fauna :</i></p> <p>Needs and priorities for faunistic species are very important, as inventories conducted are not continued. Besides determination of existing species need to be reviewed ; it is due to change in morphological biology methodology by the phylogeny methodology, molecular evolution and the genetic variability of some taxa(ADN). Nevertheless, some works are foreseen like for the vertebrates. Generally, the priorities are focused on CITES listed species management and for the purpose of the IUCN red list. In the marine and coastal domain: Very few extended activities have been led, however important priority needs have been identified such as for rocky facies, invertebrates groups, pélagics, the benthics, in all categories of size (macrofauna, méiofauna), coral species, the cnidaires, the sponges, the annelids, the crustaceans,... Indicators identification through monitoring of the marine and coastal ecosystems, reefs, mangroves has been defined among priorities in this domain.</p>
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Malawi	1 st Natl Report	<p>Undertake a comprehensive collection of plants throughout Malawi. Make an inventory of all plant species in all protected areas and sites of high plant diversity and endemism.</p> <p>Undertake research on the taxonomy, conservation, ecology and uses, of plants and habitats of Malawi. Document and develop the plant genetic resources of Malawi. Inventorise the medicinal plants of Malawi. Carry out biodiversity assessments and taxonomy. Train taxonomists</p>
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment
	3 rd Natl Report	Basic national taxonomic needs assessment made Needs assessments in taxonomy was undertaken as part of SABONET activities. Another assessment was undertaken to input into the GTI workshop for Africa that was held in Cape Town South Africa.
	Report on GTI	Not Submitted
	NBSAP	Not Submitted

	NCSA	
	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has not been completed</p> <p>-Major collections are protected against decay and adequately curated but are not electronically databased or adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues</p> <p>-No groups of organisms have been listed for priority research. Taxa that should be listed are fungi, higher Cryptograms, Compositae, and Labitatae</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed</p>
	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Basic national taxonomic needs assessment made Most institutions (such as MARDI, FRIM and Department of Fisheries) stated the human resource capacity and appropriate funding as most important need. MARDI for example stated requirement of at least 5 taxonomists.
Malaysia	Report on GTI	Some national taxonomic needs assessment made Brief national assessment presented at 1st National GTI Workshop 2002, highlighting needs and priorities. ASEANET has also conducted regional needs assessments on plant pathogen and arthropod pest collections, specifically in relation to WTO/SPS compliance. Reports highlight status, needs and priorities for all ASEAN countries, including Malaysia.
	NBSAP	Not submitted
	NCSA	
	Regional Taxonomy Workshops	
Maldives	1 st Natl Report	Train biodiversity professionals to develop manpower in a variety of relevant fields including natural resource planning, conservation biology, natural resource economics, bioregional management, community organisation, and marine and terrestrial ecology and taxonomy.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted

	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Mali	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Malta	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	<p>Some national taxonomic needs assessment made</p> <p>- Although a large amount of work on the biota of the Maltese Islands has been carried out, paucity of knowledge of the terrestrial, freshwater and marine biota of the Maltese Islands that is attained through taxonomic assessment still remains for certain groups. This is due to the fact that most research has been mainly done on the 'popular' groups such as flowering plants, conifers, ferns and their relatives, fish groups, chitons, bivalves, decapods, dragonflies, moths and butterflies. In addition, birds, amphibians, reptiles and mammals are well studied. Nonetheless, knowledge of certain groups of organisms is either minimal or entirely inexistent.</p> <p><i>Current State of knowledge on Maltese Flora:</i></p> <p>- Tracheophytes: Our knowledge of tracheophytes in the Maltese Islands is practically complete. Detailed study of Maltese tracheophytes dates back to the beginning of the 19th century.</p> <p>- Algae: Knowledge of Maltese algae made little progress since the main study of Sommier & Caruana Gatto² (1915). However since the 1970s, there has been a great accumulation in our knowledge of the Maltese phycoflora,</p>

particularly marine but knowledge of freshwater phycoflora is also quite advanced. Most complete is our knowledge of macroalgae; the build up of more information is required with regards to microalgae.

-Fungi: Very little progress has been made in the knowledge of fungi between 1915 and 1980; knowledge of the macromycoflora has now increased considerably although there are still gaps while numerous taxa discovered in Malta are still only tentatively identified. On the other hand, knowledge of microfungi is still very limited with little progress done since Sommier & Caruana Gatto (1915).

- Slime moulds: Local knowledge of the Maltese myxomycoflora is fairly good, but limited to studies at six localities on the island of Malta whereby 74 taxa have thus far been identified. Pioneering work on slime moulds (Myxomycetes) was done locally, by Briffa³ (1998), followed by updates by Briffa, Moreno and Illana⁴ (2000). Prior to these studies, there seems to be no records of this group at all from the Maltese Islands. Further study is required in other areas of Malta, and the other islands and islets of the archipelago.

- Bryophytes: We have a fairly good knowledge of bryophytes. Hardly any work was done on this group between 1915 and mid-1970s; however, fairly extensive surveying since then has yielded relatively little new information.

- Protozoa: Our knowledge is still very limited and relatively very few works have been published.

- As indicated by Schembri *et al.*⁵ (2002), certain groups although widely studied such as the orchids, present uncertain taxonomic relationships, often arising from divergence of opinion between the many different experts. On the other hand certain groups require further fieldwork.

This report is available for online viewing by accessing the following link:
<http://www.mepa.org.mt/environment/publications/soer2002/SOER02.PDF>

Faunistics and Ecology of the Maltese Islands (FEMI)

- The FEMI project was started in 1984 by Prof. Patrick J. Schembri of the Department of Biology, University of Malta, with the following objectives:

(i) The compilation and analysis of existing data on the faunistics and ecology (coastal and marine) of the Maltese Islands with the aim of assessing present knowledge, identifying areas where information is still poor or non-existent, and producing a baseline account as a starting point for further work;

(ii) The detailed study of particular habitats, and of the taxonomy, distribution, habitat relations, biogeographical affinity, basic ecology and conservation status of particular groups of the Maltese fauna. Groups were chosen taking into consideration a number of factors including: intrinsic biological interest, importance in terms of the biogeography of the Maltese Islands, the fact that they have been little studied, the ecosystem services they provide, and their potential for use as biological indicators of environmental quality and habitat type; and

FAUNA EUROPAEA-NAS Extension project:

- This project, funded by the European Union through its 5th Framework Programme for Research and Technological Development, is now officially over. In Malta, the FEMI GROUP of the Department of Biology,

		<p>University of Malta, represented it, lead by Prof. Patrick J. Schembri.</p> <p>- One of the work packages of the Fauna Europaea (FaEu) Project is 'gap-analysis' on a Europe-wide scale to identify gaps in our taxonomic knowledge of the non-marine biodiversity of Europe. It became evident that a number of gaps exist:</p> <p>1) At the taxonomic levels: some groups have very few taxonomists working on them, and a few, none at all;</p> <p>2) At the faunistic level: the lack of local knowledge or of study of particular areas by non-locals results in a lack of information about distribution.</p> <p>- As a result of this gap analysis, initiatives are already being undertaken by the FaEu group in the form of existing and planned applications to the EU for funds to train taxonomists, explore unexplored regions and to make major museum collections accessible to taxonomists, including students, from Europe. This last initiative has already been funded in the form of the SYNTHESYS Project through which funding is available to provide scientists based in European Member and Associated States to undertake short visits to utilize the infrastructure (the collections, staff expertise and analytical facilities) at one of the 20 partner institutions for the purposes of their research.</p> <p>- Although the FaEu project as financed by the European Union is over, the database itself will be continued by the Society for the Management of European Biodiversity Data which is a society aiming to make biodiversity data available for the benefit of science and environmental management.</p> <p>European platform for biodiversity research strategy" (EPBRS):</p> <p>- Regional (that is European) taxonomic needs are regularly discussed in the "European platform for biodiversity research strategy" (EPBRS) and its supporting group EU Biodiversity Science. These groups have held a number of web conferences on the assessment of taxonomic needs and to identify priorities. Malta is represented in the EPBRS.</p>
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Marshall Islands	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	

	Regional Taxonomy Workshops	
Mauritania	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	<p>No national taxonomic needs assessment made</p> <p>En matière de taxonomie notre pays devrait s'orienter à l'avenir vers un renforcement de ces capacités dans ce domaine par le biais de la coopération sous régionale et internationale. La situation des besoins des taxonomistes reste encore méconnue en raison de l'absence d'une évaluation en la matière.</p> <p>Néanmoins nous pouvons énumérer entre autres certains besoins qui serait indispensables. Au travail des taxonomistes, il s'agit de ;</p> <ul style="list-style-type: none"> .-Renforcer les capacités nationales ; .-Inventorier la faune et la flore de notre pays ; .-Réhabiliter les herbiers spécifiques existant et l'unique parc zoologique ; .-Créer un herbier national de référence, des herbiers spécifiques des jardins botaniques et parcs zoologiques ; .-Mettre en place une banque de données en vue d'apprécier l'importance de la diversité biologique ; .-Former et recycler les taxonomistes ; .-Recherche des financements <p><i>Les contraintes qui freinent le progrès dans le domaine de la taxonomie sont :</i></p> <ul style="list-style-type: none"> .-manque d'infrastructures physiques .-manque de matériel scientifique et de collecte .-manque de fonds alloués aux projets de recherche .-manque de bibliothèque et d'ouvrages de taxonomie .-manque de collection biologique <p><i>Recommandations</i></p> <p>Pour une meilleure contribution au développement d'un programme de l'étude des taxes il serait nécessaire d'adopter une approche pluridisciplinaire en raison de la diversité et de la complexité du domaine de la taxonomie. Cela devrait être soutenu par une coopération interrégionale, inter laboratoire et institutions intéressées, des programmes ou projets à court et à long terme. Pour assurer un maintien et une conservation de la diversité biologique, il faut que nous puissions à travers un réseau international de coopération et de d'échange, trouver les issues garantes de nos préoccupations pour cela il faut que les taxonomistes et les spécialistes de biodiversité se concertent pour une meilleure approche de la la problématique taxonomique.</p>
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned

	NCSA	
	Regional Taxonomy Workshops	
Mauritius	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	National taxonomic needs assessment partially completed National taxonomic needs assessment have been partly completed by the Mauritius Sugar Industry Research Institute which is also the national focal point for the Global Taxonomy Initiative. A taxonomic needs assessment was briefly discussed in thematic consultations that were held during the preparation of the National Biodiversity Strategy and Action Plan (NBSAP). The need for a national marine herbarium was identified during the NBSAP consultative process. Actions have been planned in line with the recommendations in the National Biodiversity Strategy and Action Plan for Mauritius.
	3 rd Natl Report	Basic national taxonomic needs assessment made Capacity building (training on taxonomy for flora and fauna – terrestrial and marine), need for the establishment of a marine herbarium.
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Mexico	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment En México, existen diferentes mecanismos a través de los cuales se desarrolla la actividad taxonómica tales como: <ul style="list-style-type: none"> • REMIB - que como ya se mencionó anteriormente, es un sistema computarizado de información biológica siendo uno de sus componentes principales el manejo de datos de tipo taxonómico, basada en una organización académica interinstitucional descentralizada formada por centros de investigación y de enseñanza superior, públicos y privados, que posean tanto colecciones biológicas científicas como bancos de información. • DIPLOMADOS - existen una serie de cursos y talleres que se imparten en nivel licenciatura y diplomados bajo la temática del conocimiento y difusión de la Taxonomía dirigidos a investigadores dedicados al área en diferentes especialidades (botánica y zoología) • Sociedades Taxonómicas - México tiene una amplia tradición sobre todo en taxonomía botánica y existen

		<p>muchas sociedades ya sea de taxonomía o de grandes grupos y dentro de éstos se identifican las áreas taxonómicas.</p> <ul style="list-style-type: none"> • Apoyo a instituciones de infraestructura, apoyo técnico, financiero, por parte de las universidades, desde hace décadas, del CONACYT, desde hace casi 30 años, y recientemente de la CONABIO. Se proporciona información taxonómica que proviene de las bases de datos de especies de flora y fauna a nivel nacional.
	3 rd Natl Report	<p>National taxonomic needs assessment completed</p> <ul style="list-style-type: none"> - carencia de suficientes especialistas - carencia de personal técnico - carencia de equipo de cómputo y herramientas informáticas (actualmente se ha reforzado en gran medida la capacidad del país) - carencia de materiales para curación - carencia de mobiliario o espacio - falta de acceso a fuentes bibliográficas - falta de fuentes de trabajo
	Report on GTI	<p>Comprehensive national taxonomic needs assessment made</p> <p>Information of 193 scientific collection hold in 69 institutions was compiled from 1996 to 1998. The information was gathered applying a detail questionnaire to the main institutions related to taxonomic and systematic activities. Main problems faced by collections, as insufficiency of human and material resources were detected. The lack of specialist in a megadiverse country as Mexico was evident.</p> <p>Many research, educational and conservation activities rely on these information centres, which provide, create and maintain essential biodiversity information. We concluded that this unprecedented effort, must be updated. The information was an efficient tool to plan strategic actions to improve capacities at national and regional level.</p> <p>Database and synthesis published: Llorente, J. Koleff, P., Benítez, H., & Lara, L. 1999. Inventario y Diagnóstico de la actividad taxonómica en México, CONABIO. México.</p> <p>Also available on line http://www.conabio.gob.mx/informacion/acttax/doctos/colecciones_cientificas.html CONABIO is planning to update this Assessment by 2005, with a more wide perspective considering all institutions related with the study of biodiversity.</p>
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Micronesia (Federated)	1 st Natl Report	Taxonomic needs and priorities not mentioned

States of)	2 nd Natl Report	No national taxonomic needs assessment made Limited resources and local expertise limits activities in this area.
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Monaco	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
Mongolia	Regional Taxonomy Workshops	
	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made As a result of a comprehensive exploration of Mongolia's flora and fauna, the majority of species inhabiting the various ecosystems of Mongolia have been described. As for microorganisms, lower plants and soil fauna, most of these species have not been discovered and taxonomically identified. Among the research institutes of Mongolia, most taxonomic studies have been carried out at the Institutes of Biology and Botany of Mongolian Academy of Sciences. At present they maintain and preserve in their collections and herbariums more than 100,000 plants, 5,000 mammals, 10,000 birds, 2,000 fish and 50,000 insects and about 800 cultures of microorganisms collected from different ecosystems of the country. These collections include rare specimens of animals and plants of Central Asia and Mongolia and many holotypes and paratypes of insects. However, due to inadequate preservation conditions, absence of premises equipped with appropriate storage facilities and chemicals required, most of them

		<p>are in a poor state. These research institutes should be identified as national focal points for taxonomy. Since 1990, due to the transition period to the free-market economy and the difficult economic situation, the Government of Mongolia has not been able to provide sufficient financial support to research institutions to carry out the taxonomic studies to the required modern level. Hence, laboratory facilities and the level of knowledge of taxonomists and technicians dealing with the identification of living organisms, their maintenance and the preservation of collections and herbariums are in an inadequate condition. They need upgrading and renovating. As for the level of taxonomic studies, they are mostly based on anatomy and morphology. There are no facilities or sophisticated techniques for carrying out studies at the cell, tissue and molecular levels. For instance, there is no electron microscope in any research institute of the Mongolian Academy of Sciences. Besides, there is a shortage of highly-qualified taxonomists who can carry out modern taxonomic studies.</p> <p>In spite of the wide spread provision of INTERNET services in Mongolia, research institutes of the Mongolian Academy of Sciences where the majority of taxonomic works are carried out don't have a sufficient number of computers and financial support to use INTERNET information. Regarding expertise, almost all of them are based on classic old methods. Due to a shortage of financial support, there is no possibility to send specialists to international training courses and invite experienced foreign taxonomists to make visits or send specimens for chemical and molecular analyses to laboratories of developed countries.</p> <p>As it can be seen from the above, there is an urgent need for capacity building in Mongolia to solve the problems of inadequate taxonomic services. In this case the assistance (both financial and in training) derived from the financial mechanisms of the CBD and Global Taxonomy Initiative and international, regional cooperation and research grants for scientists, will play a crucial role in the development of taxonomy and making a reliable inventory of the unique biodiversity of Mongolia.</p>
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	<ul style="list-style-type: none"> -Lack of modern taxonomic facilities and absence of sound and reliable identification keys, especially in regard to microorganisms. -Future taxonomic studies should be concentrated on microorganisms, lower plants, and invertebrates -Collections are not adequately preserved. -Lack of molecular laboratories, lack of funding
Morocco	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment
	3 rd Natl	Basic national taxonomic needs assessment made

	Report	Deux rapports sur l'état de base de la taxonomie au Maroc ont été faits. Le premier concerne l'Initiative mondiale de taxonomie et il a été envoyé à la CBD et le second dans le cadre du Réseau Nord africain de taxonomie Nafrinet.
	Report on GTI	Some national taxonomic needs assessments made A summary evaluation of the national needs in taxonomy appears in the Acts of the first national workshop of the Nafrinet network - Morocco. To see Site: www.israbat.ac.ma/Reseaux/PageReseaux.htm
	NBSAP	Elaborer des projets de recherche taxonomiques sur les échinodermes du Maroc. Rien n'est pratiquement connu sur les échinodermes du Maroc à part quelques études très anciennes ayant échantillonné certains points des côtes marocaines. Pourtant c'est un groupe qui comporte aussi bien des espèces comestibles de grande valeur marchande et aussi des formes très nuisibles pouvant causer de grands dégâts dans les parcs aquacoles
	NCSA	
	Regional Taxonomy Workshops	-A comprehensive taxonomic needs assessment has not been completed -It is not clear if major collections are protected against decay, adequately curated electronically databased or adequately staffed. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -There are no groups of organisms that have been listed for priority research. -Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, project-related research, funding, basic taxonomic literature and library facilities. -Generally taxonomy is not adequately addressed.
Mozambique	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	One of the major challenges facing Mozambique is therefore, strengthening research capacity through scientific and technical training. It must stated upfront that a major constraint to building research capacity as well as carrying out research is the very limited amount of funds that can allocatedto this sector. The Government of Mozambique will, therefore, together with the national University and research institutes promote the acquisition of funds through a variety of mechanisms to support research. Emphasis will be given for the training of taxonomists especiallyfor those areas where taxonomic groups are poorly known such as small mammals, avifauna, ichtyofauna, reptiles, amphibians, insect fauna, non-vascular plants, fungi and micro-organisms.

	NCSA	
	Regional Taxonomy Workshops	
Myanmar	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Basic national taxonomic needs assessment made There is a basic need to strengthen Institutional capacity.
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	Priorities should be given on the development of human resources, facilities concerned with the development of information and communication, rehabilitation of resources, and development of the application of new technologies relating to the biosystematics field concentrating on insects nematodes, and microorganisms
Namibia	1 st Natl Report	The Biosystematics Working Group has developed a national-scale action plan for strengthening taxonomy. This group is led by the two main taxonomic institutes in Namibia, the National Museum and the NBRI.
	2 nd Natl Report	Early stages of national taxonomic needs assessment Namibia has invested on a long-term basis in the development of appropriate infrastructure for national taxonomic collections through the NBRI and the National Museum. This investment is however not adequate to meet the assessed requirements for effective collections and housing. External donor support and strategic collaboration are required to help meet the deficit in investment. In-house training has been conducted on an ongoing basis to support the programs. Information on measures adopted by Namibia to strengthen national capacity have been provided through the CHM and reports made to the GTZ on the NNBP. Regional co-operation in the area of taxonomy has been pursued through the Southern African Botanical Network (SABONET). Collections are shared with the Republic of South Africa and numerous other countries as a matter of routine practice. Namibia has developed its capacity and ability to conduct taxonomic research over the years and this has increased significantly over the last ten years. To further strengthen that capacity it has identified a number of priorities and actions within the program and has applied to the financial mechanism for resources to support these priorities.
	3 rd Natl Report	Yes, thorough national taxonomic needs assessment made See thematic report. -NCSA (2005), see www.dea.met.gov.na/met/programmes -Nangulah, S. & Zeidler, J., 2004. National Biodiversity Professional Training Framework. -Consultancy report for the Ministry of Environment and Tourism (see also www.iecnamibia.org)

		com)
	Report on GTI	Some national taxonomic needs assessment made A series of workshops was carried out during 2002 & 2003, reported in Irish (2003). Namibia's Biosystematic Needs. Biosystematics Working Group, Namibian National Biodiversity Programme, Windhoek. 57 pp.
	NBSAP	Not posted
	NCSA	
	Regional Taxonomy Workshops	-Brief inadequate taxonomic needs assessments have been completed for Namibia. A national needs assessment for all organisms has been planned under the National Biodiversity and Strategy action Plan initiative (Biosystematics Working Group) -Major biological collections are actively curated, protected against decay, and are currently being electronically databased, but are not adequately staffed. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -There are no groups of organisms that have been listed for priority research. Taxa that should be listed are nematodes, microorganisms, lichens, fungi and marine invertebrates. -Major stumbling blocks preventing progress in taxonomic effort are institutional running costs and a lack of staff, scientific and collecting equipment and project related research funding. -In general, taxonomy is not adequately addressed in Namibia.
Nepal	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment Although taxonomic research is important, there is inadequate understanding and almost no research in Nepal due basically to the lack of funds. Hence, COP should make decisions to consider and explore avenues for funding taxonomic research in LDCs.
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Nepal has a relatively high number of fauna species. Higher fauna groups have been relatively well studied, however the taxonomy and distribution of the lower fauna groups, except for the butterflies and to some extent the spiders, have yet to be studied. A comprehensive Fauna of Nepal guide is essential to understand the status of species for their conservation. <i>Spiders</i> Thapa (1995) reported 144 species of spiders belonging to 17 families. 109 species are endemic, including 33 species that are rare in distribution and three threatened species. Most of the spiders in Nepal have been collected from the high mountains and Mid-hills. The far-western region and the entire lowland Terai and Siwalik Hills need

		further study.
	NCSA	
	Regional Taxonomy Workshops	
Netherlands	1 st Natl Report	Not Submitted
	2 nd Natl Report	National taxonomic needs assessment completed
	3 rd Natl Report	No national taxonomic needs assessment made See also the thematic report on GTI.
	Report on GTI	Some national taxonomic needs assessment made Within the Dutch knowledge centres for taxonomy (two Zoological Museums, one decentral National Herbarium with three local university Branches, and one Centre of Fungal Biodiversity) we work according to a Common research plan with as focal themes: taxonomy and floristic and faunistic studies of prioritised taxa and regions; phylogeny and biogeography; population differentiation and speciation, biodiversity assessment, and dissemination of biodiversity information, based - inter alia - on our unique and very extensive collections (ca. 27 million well documented specimens from all over the world).
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
New Zealand	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment New Zealand has in place taxonomic systems, and a national funding programme for taxonomic research. An updated assessment of biosystematics capacity is being initiated, and will support the development of a biosystematics strategy for NZ. NZ is actively involved in international taxonomic work related to its biodiversity (particularly Gondwanan groups and southern ocean groups), and also provides support to the Pacific region.
	3 rd Natl Report	Not Submitted in correct format – refer to Report on GTI
	Report on GTI	Some national taxonomic needs assessment made There has been no specific GTI-focused needs assessment. A workshop was held to identify broad issues related to the implementation of the GTI in NZ, and work is continuing to follow up on issues identified in that workshop.

		Individual agencies that use taxonomy undertake assessments to guide their purchasing of taxonomic information (notably the Department of Conservation and Ministry of Fisheries). The Foundation for Science and Research undertakes periodic assessments of priority for the use of public science funding, including taxonomy work. Government has agreed to an increase in base funding for Nationally Significant Databases and Collections and associated research that restores real funding back to the 1996 levels (about a 25% increase). A programme is being run under the NBSAP to facilitate the provision of information, including taxonomic information, about terrestrial and freshwater biodiversity. This has identified and funded priority projects of broad interest to biodiversity managers. A similar programme for marine biodiversity is in development.
	NBSAP	
	NCSA	
	Regional Taxonomy Workshops	
Nicaragua	1 st Natl Report	Not Submitted
	2 nd Natl Report	<p>Advanced stages of national taxonomic needs assessment</p> <p>Actualmente no existe una política nacional dirigida a aumentar las capacidades nacionales en material de taxonomía, ni existen programas de gobierno o de organismos donantes que apoyen en este sentido. La capacidad instalada es muy limitada y en general hay muy pocas colecciones nacionales las que en general funcionan con muy poco presupuesto e insuficiente infraestructura, sin embargo, la Estrategia Nacional de Biodiversidad identifica las necesidades en taxonomía y establece las líneas estratégicas para avanzar en el mejoramiento y desarrollo de la capacidad del país en la materia. Dicho instrumento fue oficializado el 13 de Septiembre del 2001 por lo que puede afirmarse que Nicaragua se encuentra en las primeras etapas de desarrollo en este particular. En la actualidad en el país existen únicamente iniciativas en taxonomía impulsadas por proyectos independientes e investigadores que trabajan en universidades junto a algunos consultores individuales. Por ejemplo, el Centro de Malacología de la Universidad Centroamericana está impulsando la creación de una página web con información taxonómica de la biodiversidad en Nicaragua, como parte de un esfuerzo regional para conformar una red a nivel centroamericano con información sobre taxonomía y biodiversidad, en el marco de la Iniciativa Mundial sobre Taxonomía. Actualmente en la misma universidad se imparte un curso de postgrado en biodiversidad que aborda aspectos metodológicos sobre taxonomía y que viene a fortalecer las capacidades profesionales nacionales en este campo. En la Región Autónoma del Atlántico Sur, el “Proyecto Biodiversidad” patrocinado por la Universidad de Michigan en Ann Arbor en coordinación con el CIDCA-UCA, desarrolla investigaciones desde 1986 en parcelas representativas del bosque de la región. Este programa involucra a estudiantes de universidades nicaragüenses y norteamericanos que llevan a cabo pequeños proyectos de investigación en plantas medicinales, entomología, ecología, uso y status de conservación de plantas medicinales, fauna silvestre (particularmente insectos) y especies vegetales no maderables. Si bien Nicaragua no forma parte aún de una red regional para el intercambio de</p>

		información en taxonomía, científicos nacionales participaron en un Taller de identificación de necesidades realizado por el INBio de Costa Rica, en el marco de la Iniciativa Mundial sobre Taxonomía.
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	Needs: Training, national inventories, national biodiversity center, political support Priorities: inventory in zones not yet studied, national biodiversity center, update collections Limitations: Lack of trained personnel, lack of national and global interest, lack of a strategy
Niger	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Basic national taxonomic needs assessment made L'étude sur l'évaluation des besoins réalisée en 2005 a identifié les priorités suivantes : - Créer une institution spécialisée ayant comme mission principale la connaissance des éléments de chacun des grands groupes constitutifs de la biodiversité ; - Former de taxonomists spécialisés dans les différentes branches de la biodiversité et pouvant assurer la description et l'identification correctes des elements de la biodiversité ; - Former de parataxonomistes et autres techniciens formés et employés pour les inventaires biologiques; - Elaborer et mettre en oeuvre dans les Institutions en charge de la connaissance des éléments de la biodiversité au Niger, de programmes pour des identifications et des inventaires systématiques dans les différents ecosystems du Niger ; - Mettre en place de programmes de recherche et de formation, pour la connaissance approfondie (taxonomie) et l'inventaire des éléments de biodiversité ; - Créer un système d'information pour communiquer davantage les connaissances sur la biodiversité au Niger.
	Report on GTI	Not Submitted
	NBSAP	MESURES PROPOSEES 3.4.4 Développer des techniques d'inventaires appropriés des diverses espèces de valeur et des groupes taxonomiques d'animaux exploités (Université, centres de Recherche, Partenaires au développement, DFPP).
	NCSA	
	Regional Taxonomy	-A comprehensive taxonomic needs assessment has been completed for invertebrate and vertebrate animals and vascular plants in Niger.

	Workshops	<p>-Major biological collections are protected against decay, but are not actively curated, adequately staffed, or electronically databased.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues</p> <p>-There are no groups of organisms that have been listed for priority research. Taxa that should be listed are insects, nematodes, plants, aquaculture taxa, bacteria and viruses</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional, physical infrastructure running costs, a lack of staff, project-related research, funding, basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed</p>
Niue	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	Basic national taxonomic needs assessment made Basic assessment under the National Capacity Self Assessment currently in progress
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Norway	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	Did not answer question
	Report on GTI	Some national taxonomic needs assessment made A Norwegian Biodiversity Information Centre is to be established. The National Centre for Biosystematics (NCB) was established in 2002 at the Natural History Museums and Botanical Garden (NHM), University of Oslo. It is a crossdisciplinary research centre intended to integrate and strengthen basic research in systematic zoology, botany, mycology, and paleontology.
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	

Oman	1 st Natl Report	
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Taxonomic needs and priorities not mentioned
	NBSAP	Not Submitted
	NCSA	
Pakistan	Regional Taxonomy Workshops	
	1 st Natl Report	Not Submitted
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment However, selected taxa are of interest under other collaborative arrangements with organizations like IHDP (International Human Dimensions Program) which has been keenly working on the changes in aquatic habitat particularly critical habitat with special reference to taxa, which are more vulnerable due to situations prone to drought, or floods.
	Report on GTI	Not Submitted
NBSAP	<i>Species Richness and Endemism in Pakistan</i> Species richness is only one measure of biological diversity but the use of this parameter to assess biodiversity is limited by the fact that many species, particularly insects, fungi and micro-organisms, remain to be identified. Little work has yet been done to evaluate other measures of biodiversity in Pakistan, including taxonomic and functional diversity, and the amount of genetic variability within species and their sub-divided populations. Similarly, Pakistan has a number of different institutions working on particular biodiversity topics. Many of these institutions hold valuable collections. However, the capacity of these institutions to organise, analyse, evaluate and disseminate data requires strengthening. Although Pakistan has a pool of excellent taxonomists, their numbers are insufficient to address the tasks at hand. As a result, the scientific accuracy of biodiversity-related publications has sometimes been problematic; the botanical checklists contained in forest working plans, for example, are often in error. Similarly, published checklists of birds often contain doubtful records. There is also a tendency to publish	

		<p>'new' species without observing standard procedures.</p> <p>OBJECTIVES AND RECOMMENDED ACTIONS</p> <p>Objective 4: Expand and Improve the Information Base on the Biodiversity of Pakistan</p> <p>Action 4.2 Identify national priorities for biodiversity conservation, including threatened ecosystems and species, “hot spots”, and zones of endemism (in accordance with Annex 1 of the Convention).</p> <p>4.2.1 This should include:</p> <p>the use of existing data (scientific papers, species lists, museum collections, etc.), to update species distribution, status, and taxonomy;</p> <p>Action 17.6 Promote, through grants and other means, post-graduate specialization in biodiversity-related fields, e.g. taxonomy.</p>
	NCSA	
	Regional Taxonomy Workshops	Lack of taxonomists
Palau	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	<p>Yes, some national taxonomic needs assessment made</p> <p>The Belau National Museum published a limited country-based needs assessment in 2004 with regard to terrestrial arthropods. Priorities identified included basic taxonomic research and surveys to complete the cataloguing of arthropod diversity with focus on protected areas, caves, aquatic habitats and other fragile ecosystems.</p>
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Panama	1 st Natl	Nothing mentioned

	Report	
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>En cuanto a taxonomía e identificación y seguimiento de elementos de la biodiversidad (Art.7), Panamá se centra en actividades dirigidas a los grupos de especies y ecosistemas considerados de importancia, así mismo los programas de inventarios a nivel genético se concentran solamente en algunos sectores. Esto puede deberse a que ha sido un tema catalogado como de mediana prioridad; sin embargo, en la actualidad se cuenta con: una lista de indicadores de diversidad biológica utilizados en la realización de evaluaciones rápidas, colecciones taxonómicas nacionales, apoyo al establecimiento de proyectos de conservación in situ y ex situ, un banco de semillas y un mapa de zonas de vida y ecosistemas que es base para el desarrollo de proyectos de importancia como el Monitoreo de la Cuenca del Canal de Panamá. Es importante resaltar que se ha fortalecido el intercambio de experiencias y la cooperación entre expertos.</p>
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	Needs: Training, budget, national biodiversity center, equipment Priorities: Increase budget, betterment of infrastructure training Limitations: Little valuation of taxonomy, insufficient budget, Little available information, lack of regional work networks
Paraguay	1 st Natl Report	Not Submitted
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	<i>Capacidades nacionales para la investigación sobre la diversidad biológica</i> Las capacidades del país para llevar a cabo investigaciones sobre la diversidad biológica son restringidas, y la mayor parte de esta capacidad se limita al estudio taxonómico. El país cuenta con tres sitios de colección y estudio taxonómico reconocidos internacionalmente: El Herbario (PY) y Colección de Vertebrados (MNHNP) e Invertebrados (IBNP) del Museo Nacional de Historia Natural dependiente de la SEAM ; El Herbario del

Departamento de Botánica de la FCQ (UNA) ; y El Herbario Histórico de la Municipalidad de Asunción (AS). El país no cuenta con un Centro de Referencia Taxonómico que desarrolle políticas conservacionistas basadas en los estudios científicos pertinentes. Actualmente, los trabajos de taxonomía se realizan en las dos primeras instituciones mencionadas. En cuanto al sector privado, numerosas ONG ambientalistas realizan trabajos de campo de identificación de especies de flora y fauna, basados en la metodología de las evaluaciones ecológicas rápidas, lo que no necesariamente implica la realización de trabajos taxonómicos estrictos. El Conservatoire et Jardin Botanique de Genève, en colaboración con el Missouri Botanical Garden de los Estados Unidos de América, edita la “Flora de Paraguay” en la cual trabajan taxónomos nacionales e internacionales; además, se realizaron varios trabajos a través de convenios con museos internacionales como el Museo de Historia Natural de Estocolmo y el Museo de Londres.

Conservación de recursos naturales - Especie y taxonomía

Fortalecer y consolidar las capacidades nacionales relativas a la conservación de materiales testigos y al desarrollo y difusión del conocimiento taxonómico de las especies nativas del país, en concordancia con la Iniciativa Mundial sobre Taxonomía (IMT).

General

Asegurar la viabilidad a largo plazo de las poblaciones vegetales y animales con problemas de conservación actuales y potenciales.

Objetivos específicos

1. Adecuar y reglamentar la Ley N° 96/92 de Vida silvestre, teniendo en cuenta los preceptos de la Ley N° 294/96 de Evaluación de Impacto Ambiental.
2. Capacitar a profesionales en los temas de diversidad biológica con énfasis en taxonomía y ecología de poblaciones de aquellas especies con problemas de conservación actual y potencial.
3. Realizar investigaciones que proporcionen como resultado las bases para el uso sostenido de las especies con problemas de conservación, actuales y potenciales.
4. Capacitar a las personas encargadas de la fiscalización de la vida silvestre.
5. Actualizar, publicar y difundir la fauna y flora amenazadas del país.

CONSERVACIÓN DE RECURSOS NATURALES ACTIVIDADES TÍPICAS DEL SECTOR

Recolección científica de especies de flora y fauna con fines taxonómicos.

Mantenimiento de colecciones taxonómicas en herbarios y museos.

Publicación y divulgación de los resultados de las investigaciones sobre taxonomía.

SUBSECTOR: Especie y taxonomía

Datos

En el 2000, se inició la formación de un consorcio de instituciones dedicadas a la taxonomía, cuyo objetivo es la sistematización de la fauna y flora paraguaya, a través de un inventario basado en ejemplares testigos alojados en

museos y herbarios nacionales y extranjeros. Actualmente, se ha puesto en ejecución la primera etapa del proyecto con la elaboración del Catálogo de la flora vascular del Paraguay. Para mayores detalles, ver la sección “Iniciativas interinstitucionales y cooperación internacional” del capítulo “Diagnóstico”. Otras instituciones dedicadas a la investigación taxonómica en el Paraguay son:

1. La IB cuenta con colecciones de flora, una xiloteca y un museo de exhibición donde se encuentran las especies de vertebrados terrestres más representativos de la zona de influencia. Asimismo, tiene especímenes de peces de la cuenca del río Paraná y sus afluentes.
2. La EBY, mantiene un pequeño Museo de exhibición y una xiloteca con muestras representativas de la zona de influencia.
3. La Facultad de Ciencias Agrarias de la Universidad Nacional posee un Museo de exhibición y una pequeña xiloteca.
4. La Facultad de Ciencias Veterinarias cuenta con un museo de peces nativos.

En el ámbito nacional, las publicaciones en temas taxonómicos son: La Revista Rojasiana, editada por el Departamento de Botánica de la FCQ de la UNA, incluye artículos sobre ecosistemas del Paraguay, diversidad florística y sus aplicaciones.

El Boletín del Museo Nacional de Historia Natural del Paraguay que publica artículos sobre la flora, fauna y paleontología con enfoque taxonómico y ecológico fundamentalmente. En el ámbito internacional, el Jardín Botánico de Ginebra (G), Suiza, en colaboración con el Missouri Botanical Garden (MO) de los Estados Unidos, edita en fascículos la publicación “Flora de Paraguay” en la cual trabajan taxónomos nacionales y extranjeros. Se ha recibido apoyo de varias instituciones internacionales para el área de capacitación, tales como: el Smithsonian Institute, el Fish and Wildlife Service (FWS), la USAID, la TNC, la WWF, el Museo de Estocolmo, la ASDI, la Universidad de Kansas, la JICA, el Missouri Botanical Garden, y el Jardín Botánico de Ginebra, entre otras.

Presiones e impactos

El marco legal referente a las colecciones científicas no está reglamentado. La investigación taxonómica, considerada uno de los pilares fundamentales para la conservación y uso sostenible de la diversidad biológica, no recibe, en el ámbito nacional, la prioridad necesaria, lo que hace que su referencia sea insuficiente e inadecuada. El presupuesto gubernamental destinado al estudio taxonómico de las especies nativas es exiguo, y los fondos no llegan oportunamente. La infraestructura actual de las instituciones especializadas en el estudio taxonómico es inadecuada. La asistencia internacional necesita ser mejor coordinada para evitar duplicaciones y superposiciones innecesarias. Los recursos humanos calificados en temas taxonómicos son insuficientes para cubrir las necesidades actuales

Los profesionales dedicados a la taxonomía son subvalorados en los aspectos técnicos y de remuneración.

Conflictos

La colecta de especies nativas de flora y fauna con fines taxonómicos presenta problemas, ya que no se encuentra suficientemente legislada ni controlada.

La carencia de coordinación inter e intrainstitucional resulta en que los trabajos realizados en el área de taxonomía se dupliquen y sobrepongan. No existe claridad de funciones de las diferentes instituciones dedicadas a la

taxonomía. La conservación de las colecciones existentes se encuentra en situación de riesgo por falta de infraestructura adecuada. Los conocimientos sobre taxonomía de especies nativas no se encuentran suficientemente disponibles, y no llegan oportunamente a los tomadores de decisiones y el público en general. Existe fuga de profesionales entrenados por la falta de incentivos, tanto económicos como técnicos.

General

Fortalecer y consolidar las capacidades nacionales relativas a la conservación de materiales testigos y al desarrollo y difusión del conocimiento taxonómico de las especies nativas del país, en concordancia con la IMT.

Objetivos específicos

1. Fortalecer el marco legal referente a las colecciones científicas y el estudio y conocimiento taxonómico.
2. Fortalecer las capacidades institucionales, presupuestarias y de recursos humanos en el área de la taxonomía.
3. Conformar y consolidar un centro nacional de referencia taxonómica, que trabaje en red y permita mejorar la generación, intercambio y difusión de la información taxonómica tomando como base el consorcio hexainstitucional ya establecido.
5. Fomentar la coordinación interinstitucional en el ámbito nacional e internacional que ayuden a aumentar las capacidades en el área de la taxonomía.

OBJETIVOS ACCIONES PROPUESTAS

Actividades

1. Inclusión del tema del conocimiento taxonómico como parte de las políticas nacionales de conservación y uso sostenible de los recursos naturales y desarrollo del marco legal correspondiente.
 2. Incremento del presupuesto gubernamental dedicado al estudio y difusión de los conocimientos taxonómicos.
 3. Construcción y/o mejoramiento de la infraestructura edilicia necesaria para la conservación de los ejemplares testigos, y adquisición del equipamiento adecuado.
 4. Jerarquización de los investigadores dedicados al estudio taxonómico
 5. Articulación del Consorcio a través de convenios de cooperación científica y técnica entre las instituciones participantes.
 6. Instalación de un sistema de red de intercomunicación entre las instituciones involucradas del Consorcio.
 7. Realización de cursos, entrenamiento e intercambio para la capacitación de recursos humanos en el área de la taxonomía.
 8. Generación de nuevos proyectos de investigación taxonómica, que incluyan, como componente indispensable, la ampliación y publicación del Catálogo de la flora vascular y de la fauna del Paraguay.
 9. Identificación de fuentes de financiación, locales e internacionales.
 10. Creación de instancias de cooperación entre las entidades binacionales IB y EBY, el Consorcio, la Contraloría General de la República, el Ministerio Público, las instituciones de investigación nacionales e internacionales.
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1. Inclusión del área del conocimiento e investigación taxonómica en las políticas nacionales.
 2. Formación de un grupo de paraguayos expertos en la taxonomía y entrenados para realizar investigación

	<p>científica.</p> <ol style="list-style-type: none"> 3. Desarrollo y aplicación de la legislación pertinente, que regule las actividades desarrolladas en el área de la taxonomía. 4. Identificación, en el ámbito nacional, de los sitios de mayor diversidad biológica que ameriten su conservación y manejo sostenible, así como el mejoramiento del conocimiento de los ecosistemas del Paraguay. 5. Realización de estudios de especies con valor genético. 6. Determinación de la prioridad de taxones amenazados. 7. Determinación de especies indicadoras para la conservación y uso sostenible de la diversidad biológica. 8. Creación y estandarización de un escalafón gubernamental para los investigadores. 9. Creación y puesta en funcionamiento de un centro nacional de referencia taxonómica. <p>INDICADORES</p> <ol style="list-style-type: none"> 1. Aumento sustancial del presupuesto nacional y de fondos internacionales destinados a la formación y consolidación del centro nacional de referencia taxonómica. 2. Aumento del número y de la calidad de las publicaciones para diversos grupos taxonómicos. 3. Aumento del número y de la capacidad de paraguayos expertos en taxonomía, entrenados, específicamente, para realizar investigaciones con la rigurosidad científica correspondiente 4. Cuerpo legal que contemple la cuestión taxonómica en vigencia. 5. Colecciones de flora, fauna y paleontológicas aumentadas sustancialmente y mantenidas de acuerdo con estándares internacionales. 6. Bases de datos taxonómico en red establecida y en funcionamiento. 7. Publicaciones taxonómicas científicas aumentadas y actualizadas. 8. Recursos humanos capacitados y en número adecuado a las exigencias actuales. 9. Información científica de calidad disponible para la toma de decisiones. <p><i>General</i></p> <p>Elaborar e implementar una política y estrategia nacional de vida silvestre que conduzca a su conservación y uso sostenible.</p> <p><i>Objetivos específicos</i></p> <ol style="list-style-type: none"> 1. Elaborar e implementar el SINAVISI, que sentará las bases para la conservación y uso sostenible de las especies de vida silvestre. 2. Apoyar el fortalecimiento del SINASIP como instrumento de manejo y conservación in situ de los recursos silvestres. 3. Implementar cursos de capacitación para profesionales en los temas de diversidad biológica con énfasis en taxonomía, ecología de poblaciones y uso sostenido de los recursos silvestres. 4. Establecer mecanismos administrativos descentralizados y ágiles que optimicen la regulación y el uso sostenible de la vida silvestre, con la participación de las comunidades involucradas para asegurar el mejoramiento de su calidad de vida. 5. Actualizar, sistematizar y difundir los datos sobre biología, distribución y grados de amenaza de las especies
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		nativas del país. 6. Implementar campañas de educación ambiental dirigidas a instruir a los usuarios y el público en general sobre la importancia de los recursos silvestres, teniendo en cuenta las especificidades de cada grupo humano (incluyendo los pueblos indígenas) y las relaciones entre hombres y mujeres.
	NCSA	
	Regional Taxonomy Workshops	
Peru	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	No, national taxonomic needs assessment made but assessment is under way Se ha trabajado en base a una iniciativa que trata de desarrollar una Red de Centros de conservación ex situ, y ha servido para identificar expertos y vacíos en taxonomía, es uno de los primeros pasos.
	NBSAP	La investigación en Diversidad Biológica debe orientarse al inventario, taxonomía, caracterizaciones e interacciones con el medio ambiente. Asimismo, a la identificación de poblaciones que por su distribución restringida se encuentran en límites peligrosos para su supervivencia y a identificar y desarrollar tecnologías de punta, rescatando tecnologías tradicionales que permitan efectuar un manejo sostenible.
	NCSA	
	Regional Taxonomy Workshops	
Philippines	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made On a final note, the Philippines have still to undertake a national taxonomic needs assessment in order to come up with a national taxonomic action plan. The Philippine Biodiversity Priority Setting Project could guide the prioritization of taxonomic work in the Philippines.
	3 rd Natl Report	Basic Taxonomic needs assessment made A preliminary assessment has been made through the Association of Systematic Biologists of the Philippines, an organization of plant, animal and microorganism taxonomists in the country. Result of the initial assessment is available as a CD report. Needs: 1. Support for infrastructure of institutions holding important taxonomic collections (e.g. Philippine National Museum, UPLB, UP Diliman, etc.) 2. Manpower development (training of young taxonomists,

		parataxonomists, for degree or non-degree programs) 3. Support to carry out the Flora of the Philippines (8 vols); 4. Databasing of taxonomic information from institutions and making this available in the internet. 5. Support for publication of taxonomic research.
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	<ul style="list-style-type: none"> -Lack of financial support for taxonomic work -Few professional taxonomists -Inadequate systematic collections hinder progress in taxonomic research. -Poor herbarium facilities and inadequate taxonomic references. -Lack of adequate library facilities and literature -Lack of coordination among participating systematists
Poland	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>Issues of taxonomy, including the Global Taxonomy Initiative, are among the scientific issues not accorded high-priority status in Poland at present, on account of the shortfalls in available funding. The work so far carried out in this field has not been incorporated within a single national programme seeking to offer a better understanding of taxonomic diversity. There is no national action coordinated, supported or initiated by the national authorities that is directed towards the development of taxonomy, the dissemination of the existing databases, the creation of conditions for the preservation of collections, the training of specialists in this field, international cooperation, etc. Nevertheless, a number of scientific centres or individual specialists are working in the direction of the organisation of taxonomic data on the one hand, or its dissemination and propagation on the other. For example, work is being done on the organisation of a local-level, diffuse network of archives of phytosociological documentation in line with a uniform model based on the TURBOWEG system allowing for the mutual exchange of materials. Taxonomic information on the species diversity of the flora and fauna is disseminated by way of the specialist publications (e.g. <i>Flora Polski</i>, <i>Fauna Polski</i>) considered in the first part of the chapter.</p> <p>The taxonomic reconnaissance of the national biodiversity is relatively well advanced in relation to both the specific and supraspecific levels (e.g. the syntaxonomic knowledge of plant communities). At the same time, scientific circles are aware of the groups of species, communities, regions or dynamic topics that should come to be understood in a more profound manner. An unofficial list of such subjects is discussed at conferences, symposia or sittings of scientific societies.</p>
	3 rd Natl Report	No national taxonomic needs assessment made

	Report on GTI	<p>Some national taxonomic needs assessment made</p> <ul style="list-style-type: none"> -Assessment of conditions of storage, protection and availability of scientific botanical and zoological collections; special report prepared. In consequence, the special programme called BIOS of the Foundation for Polish Science, focusing on Polish natural collections has been established for 2004-2006; - information gathered on research carried out in the field of taxonomy of plants and animals, as well as on scientists and institutions involved in this research (for botany – databases prepared by the Centre of Botanical Information at IB PAS in cooperation with the Committee on Botany PAS and Polish Botanical Society; for zoology – databases prepared by MIZ PAS in cooperation with the Committee on Zoology PAS); - a network of Polish scientific institutions involved in taxonomic research was created in order to reinforce cooperation and better identify research priorities in the field of taxonomy and biodiversity in Poland. - data on taxonomic resources collected across 10 countries acceding EU plus Romania during the Fauna Europaea project by MIZ will enable to identify crucial gaps in taxonomic expertise in new member states.
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	Very limited financial means on research, including that of pure scientific character, also taxonomy
	Regional Taxonomy Workshops	
Portugal	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Qatar	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on	Not Submitted

	GTI	
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Republic of Korea	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	Basic national taxonomic needs assessment made Made inventory of taxonomist of various domains (MOMAF)
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Republic of Moldova	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment There are some national requirements on taxonomy elaborated in the Republic of Moldova, but a National Coordinating Center on Global Initiative Requirements in this field has not been established yet. The researches in this domain are sporadic. Each institution separately from others sets up a collaboration network with partners from other countries in the field of plant, animal and microorganism taxonomy.
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Romania	1 st Natl Report	Taxonomic needs and priorities not mentioned

	2 nd Natl Report	Early stages of No national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	<p>Priorities in the field of scientific research (lack of the national strategy for research; lack of a national programme for taxonomy and integrated monitoring; insufficient data collection; clearing house mechanism not functional);</p> <p>Limitations:</p> <ul style="list-style-type: none"> - Lack of a national program for taxonomy - The education system failed to adapt to the needs and requirements imposed by the CBD e.g. (among others) specialists in taxonomy. The low level of payment of the personnel involved in education is a serious drawback. - Lack of specialists in taxonomy <p>Specific Objective: 5.1. Develop an operable taxonomy programme at national level Include the National Taxonomy Programme in the National Research Programme Promote para-taxonomy and increase in the country level taxonomic expertise capacity</p>
	Regional Taxonomy Workshops	
Russian Federation	1 st Natl Report	<p>Inventory of Russian fauna has not been completed yet. A relatively comprehensive study was done on vertebrates. Invertebrates, especially insects, have been studied poorly. Modern taxonomic reviews and revision for major taxonomic groups of insect and fauna have been lacking so far.</p> <p>Pisces fauna of Russia is diverse and still understudied. Many fish species, for example <i>Salmoniformes</i>, <i>Cypriniformes</i>, etc., form multiple varieties, races, subspecies, including endemic, that differ in ecological and morphological aspects within a wide geographic range. To specify their taxonomic status, further investigations are needed with the application of updated cytogenetic and genetic methods. Fish fauna comprises 268 water, semi-migrating and migrating species (sea/fresh-waters) and no less than 400 species observed in coastal waters. Totally, this constitutes about 2 of this class global diversity. Fresh-water fauna is indicative of a high per cent of endemic species. The Lake Baikal basin ranks first in the highest species diversity are specific of the above region and the Amur basin.</p> <p>To foster quarantine monitoring, the development and minimum support to the taxonomic research of organisms,</p>

		aboriginal flora and fauna in terms of their biological pollution and genetic neoplasms (produced by biotechnology, resulting from gene drift and hybridization) are needed. The situation also calls for the creation of a coordinating informational center for the collection and processing of information from plants quarantine services, veterinary service and scientific institutions.
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Rwanda	1 st Natl Report	Not Submitted
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has not been completed</p> <p>-Major biological collections are protected against decay but are not actively curated, adequately staffed, or electronically databased.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues</p> <p>-No group of organisms have been listed for priority research. Taxa that should be listed are nonvascular cryptogams, invertebrates and plants of high-altitude zones.</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are running costs, lack of staff, scientific and collecting equipment, electronic equipment, project-related research funding, basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed</p>
Saint Kitts	1 st Natl	Not Submitted

and Nevis	Report	
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Saint Lucia	1 st Natl Report	Domains and fields in which training will be given priority include the following: <ul style="list-style-type: none"> - herbarium management; - taxonomy; - ecosystem management and restoration; - research and monitoring techniques.
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	Basic national taxonomic needs assessment made Through the establishment of the National Herbarium with limited information available to carry out taxonomic identification, a list of needs towards this end are- <ul style="list-style-type: none"> - Training in Taxonomy at the Graduate level -Supporting texts with methodologies and captions with bias to Tropical plants Present capacities include – <ul style="list-style-type: none"> - Volunteer assistance from a taxonomist -Regional assistance rendered by officials at the University of Puerto Rico Pedras
	Report on GTI	Not Submitted
	NBSAP	<i>Activities:</i> Domains and fields in which training will be given priority include the following: <ul style="list-style-type: none"> · herbarium management; · taxonomy; · ecosystem management and restoration; · research and monitoring techniques. <p>The project will involve the formulation of a detailed training strategy and the identification of implementation</p>

		mechanisms. Procurement of the services of a plant taxonomist to spearhead the collection and cataloguing process, and identification of the various flora species (taxon of the species); · collaboration with the Sir Arthur Lewis Community College and the University of the West Indies, St. Augustine Campus, for setting up a center to house the second and third sub-collections; · training persons in the following fields - general botany, economic botany, ecology, ethno-botany, field methodology and herbarium management techniques;
	NCSA	
	Regional Taxonomy Workshops	
Saint Vincent and the Grenadines	1 st Natl Report	Not Submitted
	2 nd Natl Report	No national taxonomic needs assessment made The country lacks highly trained taxonomic specialists, however technical persons involved in identification have received short-term training, especially as it relates to the identification of alien species. While this type of training helps to increase capacity, it is only to a limited extent.
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Samoa	1 st Natl Report	FRESHWATER ENVIRONMENT No comprehensive survey has been carried out. During the Afulilo EIA (Waugh et al, 1991) one shortclawed crayfish collected from a site below the falls had not been found elsewhere in Upolu and its taxonomy is unknown, indicating the need for more work on this group. A consultant interested in bio monitoring (August 1995) collected freshwater invertebrates from catchments near Apia and his results may be available soon.
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl	No national taxonomic needs assessment made

	Report	
	Report on GTI	Not Submitted
	NBSAP	
	NCSA	
	Regional Taxonomy Workshops	
Sao Tome and Principe	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	No relevant info
	NCSA	
Saudi Arabia	1 st Natl Report	Implement the recommendations of the Global Taxonomy Initiative. Before biodiversity is conserved it is necessary to know just what is present in the country. As has been noted in many parts of the status report above, knowledge is deficient about even the basic taxonomy of many groups of organisms present in the Kingdom. Just as serious is the lack of modern, accurate, tested data on the status of many plant and animal species. It therefore is essential that steps be taken to redress this situation. The Global Taxonomy Initiative sets out a number of actions that can and should be taken as a matter of very high priority so that the overall objective of the CBD can be met. In particular, organisational and manpower capacity building are needed.
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	

	Regional Taxonomy Workshops	
Senegal	1 st Natl Report	<p>Les plantes fleurs, qui sont les seuls relativement bien connus, comprennent environ 2 500 espèces avec probablement des synonymies. Quelques rares zones géographiques restent encore prospecter mais l'essentiel de la flore ligneuse est maintenant connu. autres groupes taxonomiques sont relativement mal connus. Les espèces ayant fait l'objet de travaux sont généralement celles qui présentent un intérêt soit scientifique. C'est le cas des <i>Rhizobium</i> chez les bactéries et des champignons pathogènes. Les champignons supérieurs (peut être comestibles) n'ont jamais été étudiés au Sénégal. Des lacunes importantes existent dans la connaissance des embranchements suivants virus, champignons supérieurs, lichens et bryophytes.</p> <p>Dans la partie connue de la flore, les plantes fleurs constituent le groupe le plus important et le plus diversifié. Cependant il est probable que le nombre d'espèces de virus, bactéries et champignons puisse être beaucoup plus important que ne l'indique le tableau. Dans le seul groupe du genre <i>Rhizobium</i>, 3 genres nouveaux (<i>Sinorhizobium</i>, <i>Rradyrhi'zobium</i> et <i>Azorhizobium</i>) et espèces nouvelles ont été découvertes au Sénégal au cours des 10 dernières années. Dans ce nouveau groupe, près de 1 800 souches identifiées au Sénégal sont en cours de caractérisation. La valeur taxonomique mal connue ces souches laisse penser que certaines pourraient être élevées au rang d'espèces.</p>
	2 nd Natl Report	Early stages of national taxonomic needs assessment made
	3 rd Natl Report	Did not answer this question
	Report on GTI	Not Submitted
	NBSAP	Not submitted
	NCSA	
Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has been completed for invertebrate and vertebrate animals, nonvascular and vascular plants and fungi in Senegal.</p> <p>-Major biological collections protected against decay, adequately staffed and electronically databased but are not actively curated.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues</p> <p>-There are groups of organisms that have been listed for priority research, including the tortoise <i>Geochelone sulcata</i>, dama gazelle, elephants, certain forest plant species, such as <i>Acacia sassa</i>, <i>Pterocarpus</i> and <i>Cordia pinata</i>, and <i>Chelonia mydas</i>.</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are running costs, lack of staff, scientific and collecting equipment, electronic equipment, project-related research funding, basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed</p>	
Seychelles	1 st Natl	Taxonomic needs and priorities not mentioned

	Report	
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	No national taxonomic needs assessment made but assesment under way The country has undertaken some taxonomic projects with regards to vasular plants and some invertebrates as well as the Biodiversity in general in the Indian Ocean Biodiversity Management so as to try and indentify the gaps. The country lacks the capacity for taxonomic research, funding and research infrastructure.
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	-A comprehensive taxonomic needs assessment has not been completed -Major biological collections are protected against decay but are not actively curated, adequately staffed, or electronically databased. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -Taxonomy is not taught at high schools, colleges and universities -There are organisms that have been listed for priority research including ferns, fungi, mosses, lichens, insects, and freshwater invertebrates -Major stumbling blocks preventing progress in taxonomic effort are running costs, lack of staff, scientific and collecting equipment, project-related research funding, basic taxonomic literature and library facilities. -Generally taxonomy is not adequately addressed
Sierra Leone	1 st Natl Report	Lack of capacity to overcome research problems (taxonomy, ecological complexity)
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	3.2.1.1. WILDLIFE, GAME RESERVES, PARKS AND SANCTUARIES Issues and Gaps: <input type="checkbox"/> Lack of comprehensive up-to-date knowledge of the biodiversity of the Wildlife of the various terrestrial ecosystems; <input type="checkbox"/> Lack of up-to-date information on the taxonomy, species richness, degree of endemism and vulnerability of major taxonomic categories in existing and proposed wildlife Game reserves, Parks and Sanctuaries;

3.2.3.2 CAPACITY BUILDING:

Issues and Gaps:

- Lack of adequately trained personnel staff especially scientists to undertake biodiversity programmes;
- Lack of sufficient financial resources;
- Lack of adequate support facilities, such as libraries, laboratories and equipments; and,
- Lack of capacity to overcome research problems (taxonomy, ecological complexity)

Actions Proposed

- Review existing literature and documents relating to the flora and fauna of Sierra Leone;
- Carry out an assessment of herbaria and museum collections and produce a list of endemic species;
- Verify biodiversity information collected on the ground by conducting field assessments;
- Train personnel (para-taxonomists, technicians, etc) to carry out biodiversity assessment;
- Reclassify, gazette and establish a system of protected areas to include national parks, wildlife sanctuaries, strict nature reserves, etc, in representative ecosystems and ensure their proper management;

4.2.3.2. CAPACITY BUILDING

Actions Proposed:

- Support and conduct a training needs assessment for government agencies and local NGOs currently responsible for biodiversity management;
- Provide training programs for current professionals in fields critical to the conservation and sustainable use of biodiversity;
- Support networking among professionals in fields related to biodiversity;
- Support the training of para-taxonomists and tree spotters;

4.2.3.3. IDENTIFICATION AND MONITORING

Actions Proposed:

- Organize a workshop to ascertain national taxonomic priorities and the needs of the end-users of the information generated;
- Develop programs that focus on the re-training of a handful of professionals in taxonomy-related fields;
- Support the training of scientists in specialized fields like molecular systematics and bioinformatics;
- Collect and collate information on practicing taxonomists in the country;
- Inventory key taxonomic groups of plants, animals and micro-organisms;
- Conduct an inventory of rare, threatened and endangered wildlife species in the country;
- Conduct an inventory of fauna and flora of all protected areas in the country;

		<ul style="list-style-type: none"> ☐ Carry out ecological studies on all endangered and threatened species; ☐ Establish and support a fully functional Biodiversity Monitoring Unit in the Ministry of Agriculture, Forestry and Food Security; ☐ Conduct baseline surveys and inventories to determine the health and quality of key ecosystems; ☐ Support the use of GIS and other technology in monitoring change over time; ☐ Monitor the population and distribution of large and exploited mammal species in the country; ☐ Develop monitoring mechanisms for different threat levels to biodiversity in the different ecosystem types; ☐ Set up a database on the biodiversity of the country; ☐ Identify biodiversity data sources and institutional capacities for collection and managing biodiversity information; ☐ Undertake capacity building needs assessment of the various institutions dealing with plant and animal taxonomy (herbarium, arboretum, botanic reserves, museum, etc) <p>Specific Objectives</p> <ol style="list-style-type: none"> 1. To assess plant taxonomic needs and capacity at the national level, 2. To build and maintain the systems and infrastructure for obtaining, collating and curating plant specimens, 3. To provide for improved and effective infrastructure for accessing taxonomic information, 4. To provide training to young morphological taxonomists (systematists) <p>Activities and Outputs</p> <ol style="list-style-type: none"> 1. To refurbish and equip the national herbarium, 2. To remount and reclassify the undamaged specimens, 3. To develop an accessible database system via the internet 4. Develop identification manuals and to update existing ones, 5. Survey, collect and identify and preserve plant specimens, 6. Build a reference collection of type specimens on the flora of Sierra Leone, 7. Set up a botanic garden attached to the national herbarium <p>Activities and Outputs</p> <ol style="list-style-type: none"> 1. The construction of a museum with the appropriate support facilities including laboratories and libraries. 2. To train scientists including taxonomists, ecologists and curators. 3. To collect as many specimens as possible using local facilities. 4. To assess changes in levels of exploitation of commercial species. 5. To prepare a permanent data-base and manuals for the use by present and future generations.
	NCSA	
	Regional	

	Taxonomy Workshops	
Singapore	1 st Natl Report	Although there are a growing number of books on the indigenous fauna of Singapore, the information is biased towards some taxonomic groups.
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment
	3 rd Natl Report	Thorough national taxonomic needs assessment made This information is included in the second national report
	Report on GTI	Comprehensive national taxonomic needs assessment made
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Slovakia	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made Currently the national taxonomical needs assessment is being prepared by the consortium of the taxonomical institutions “National Taxonomic Facility”. In spite of the very limited funding from the Slovak grant agencies, currently there are many taxonomical studies carried out, dealing with the biodiversity in Slovakia, but in some cases also biodiversity world-wide. Results are published in top international journals and Slovak taxonomists significantly contribute to the world-wide knowledge on biodiversity. Still facilities, especially for the molecular taxonomy are very limited and their further development is highly desirable. These days molecular methods play important role in the biodiversity conservation and help us to focus our activities in this respect.
	Report on GTI	No national taxonomic needs assessment made, but assessment is under way Considering the size of the country, the taxonomic research in Slovakia is concentrated to several institutions, which closely cooperate and all are well aware of each other. Nevertheless, identification of priorities and taxonomic needs is currently on the way.
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	Lack of specialists in selected taxonomic groups
	Regional Taxonomy	

	Workshops	
Slovenia	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment Individual taxonomic experts prepared or published the needs for taxonomic information in Slovenia.
	3 rd Natl Report	Basic national taxonomic needs assessment made The first analysis of known species was done in 1997 (Mršic 1997), updated by Sket in 1997 and published in 2001 in the State of biodiversity in Slovenia (ARSO 2001). Additional analyses were done on threatened species (ARSO 2001), species listed in the Annexes of the Habitat Directive (Kryštufek & Kotarac 2001) and macromicetes (Piltaver, Jurc, Ogris 2004). The difference between the known and expected number of species for all taxonomic groups was considered as “degree of research” or “assessment of taxonomic needs” according to Mršic. Least research has been done on Bacteriophyta, Protozoa, Kamptozoa, Nematelminthes, Nemertina, Linguatulida, Bryozoa, Insecta (particularly Diptera, Coleoptera), Chelicerata, Pararthropoda, Annelida, Chiurida, Sipunculida, Plathelminthes, Mycobionta and lichens. Further information is also available at: http://www.gov.si/mop/aktualno/cbd/info/novice/eksp_studije.pdf http://www.gov.si/mop/aktualno/cbd/info/db/biological_landscape_diversity_in_slovenia.pdf http://www.gozdis.si/departments/forestprotection/boletus/arealnearte/bi.htm http://www.gov.si/mop/aktualno/cbd/sodel/poro/porocilo.pdf
	Report on GTI	Not Submitted
	NBSAP	Research and Development Objectives To broaden the scope of the basic research programmes in the field of systematics, evolution biology, physiology, ecology and genetics. To formulate an interdisciplinary national programme for the research of biodiversity that would lay down the priorities, including in the field of taxonomy, with regard to the basic and directed studies, and for the categorisation of projects.
NCSA		
Regional Taxonomy Workshops		
Solomon Islands	1 st Natl Report	Not Submitted

	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>More taxonomy work is done in Botany than in other fields. Some needs assessment has been carried out for the herbarium including an action plan on ethnobotany. Recent staff movements and other problems related to the ethnic tension have affected the work of the herbarium. There is hardly any taxonomist in the country even though there is some bare capacity within the forestry sector. Solomon Is recently participated in the efforts to establish the regional loop (PACINET) as promoted by CAB International.</p>
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
South Africa	1 st Natl Report	<p>In collaboration with interested and affected parties, Government will:</p> <ul style="list-style-type: none"> . Enhance inventory efforts, giving priority to gaps in knowledge, those components of biodiversity identified as threatened, as well as those components identified to be important for the conservation and sustainable use of biodiversity. . Maintain or enhance the capacity of museums and other institutions, which undertake biodiversity surveys, and which classify, describe and store, collected specimens. . Optimise institutional arrangements to ensure that biodiversity inventory work is given the necessary support and commitment by Government. . Enhance co-ordination among government agencies, museums, universities, collection-based institutions and other organisations and individuals involved with biological inventories. . Facilitate the integration of all biosystematic disciplines to ensure that an adequate knowledge base is available for known species. . Require foreign and local researchers to lodge voucher specimens or duplicate voucher specimens of all organisms collected or recorded in South Africa with appropriate national collections. . Augment local capacity to conduct inventories by: <ul style="list-style-type: none"> . increasing the number and skill of professional taxonomists; and . encouraging the development and training of community workers ("parataxonomists") to collect and identify specimens, linking such action to the provision of jobs, skills and opportunities for the poor and disadvantaged. <p>Promote the integration of traditional knowledge wherever possible into existing and proposed inventories. Support inventory work as an important benefit to be derived from biodiversity prospecting agreements.</p> <ul style="list-style-type: none"> . Develop rapid, cost-effective and reliable biological inventory methods and technologies

		The SABONET Project has as its primary objective the development of a strong core of professional botanists, taxonomists, horticulturists and plant diversity specialists within the ten countries of southern Africa. This team will be competent to inventory, monitor, evaluate and conserve the botanical diversity of the region in the face of specific development challenges and to respond to the technical and scientific needs of the convention on Biological Diversity.
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Basic national taxonomic needs assessment made A thorough assessment of taxonomic needs to be carried out by the SANBI, given its new role for coordinating biodiversity research and data collection and management. SANBI's previous role as the National Biodiversity Institute means that taxonomic skills for plants are well developed, but there has never been a coordinating institution in South Africa for animal assessment. The Agricultural Research Council conducts research and maintains collections of agriculturally important invertebrates, including pollinators, beetles, mites and spiders. However, human and financial resources are limited. Microbial and fungal genetic resources are under-researched.
	Report on GTI	Not Submitted
	NBSAP	Although the Constitution of South Africa does not mention biodiversity, various related aspects, such as nature conservation, forests, marine resources and environmental health are assigned to various organs of state and spheres of government. Several national departments administer biodiversity-related legislation, while a host of national agencies, provincial departments and provincial agencies have mandates related to biodiversity conservation and management. There are many overlaps, sometimes resulting in confusion and a lack of implementation. In some instances, the institutional location of organs of state is not optimal. For example, museums are placed within the Department of Arts and Culture, which has raised concerns that most of South Africa's animal biodiversity collections and the taxonomic research associated with them have become marginalised from mainstream science, resulting in the weakening of South Africa's animal identification, classification and biogeographic services.
	NCSA	
	Regional Taxonomy Workshops	-Comprehensive taxonomic needs assessments have been completed for invertebrate, and vertebrate animals and vascular plants in South Africa -Major biological collections are protected against decay, actively curated, adequately staffed and some are electronically databased. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -No organisms have been identified for priority research.

		-Major stumbling blocks preventing progress in taxonomic effort are running costs, lack of staff, project-related research funding. -Generally taxonomy is not adequately addressed
Spain	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Did not answer this question
	Report on GTI	Some national taxonomic needs assessment made User needs: Assessment has been carried out on the needs of Natural History collections taxonomical information required by different stakeholders. Expertise: A Directory of Taxonomists is already available although it requires updating. The information on marine expertise in Spain was updated in 2000 as part of the EU Concerted Action European Register of Marine Species (ERMS). Besides that, there is a project, funded and coordinated by the Spanish Ministry of Environment called “National Biodiversity Inventory”, which objectives are to know the situation and patterns of the Spanish biodiversity, to evaluate and monitor the efficiency of conservation policies and their effect in biodiversity patterns and to help the achievement of the obligations under the CBD. This project includes the development of several projects, called “Atlas”, of the main flora and fauna groups (their distribution, and conservation status)(see below, section additional information). All this information and work is allowing the identification of taxonomic information gaps in certain groups and species and will facilitate the establishment of future priorities.
	NBSAP	Knowledge of the taxonomy and spatial distribution of biological diversity, especially of species, is very scarce for many groups despite the fact that Spanish science has attained a high level of development. This represents a serious problem for the implementation of the Strategy as far as conservation of wild species is concerned. In spite of all this information, however, there is still an alarming lack of knowledge about the taxonomy and geographic distribution of many groups, which has unquestionable effects on the Strategy. There is also a need for standardised, integrated criteria on the measurement and evaluation of biodiversity and parameters. <i>Strategy Themes:</i> 17.- With respect to identification the Community will promote further support activities by the European Environmental Agency and its Information and Observation Network (EIONET) including tasks to: • Develop a baseline study to identify and catalogue important components of biodiversity that exist –in situ or ex situ–, or that have become extinct in the last 50 years. • Identify the conservation status and trends of components of biodiversity. • Identify relevant pressures and threats, together with their causes, on components of biodiversity. • Apply modern taxonomy to build scientific tools for policy on conservation and sustainable use, aiming, inter

		alia, to fulfil gaps in taxonomy knowledge.
	NCSA	
	Regional Taxonomy Workshops	
Sri Lanka	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made Research in systematic and taxonomy have long been neglected in Sri Lanka, although many large groups of Sri Lanka's biota to be subjected to systematic revisions. Development of National Taxonomic Action Plan is at very early stage. Inadequacy of systematics based courses in graduate and postgraduate levels, inadequate infrastructure and equipment, and lack of financial support hindered application of systematics works in Sri Lanka.
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Sudan	1 st Natl Report	Limited resources availed for wildlife and fisheries administrations and research centers to monitor or update information. Limited numbers of insect, plant and animal taxonomists. Inadequate capacity of sectors to work in a multi-institutional approach.
	2 nd Natl Report	<i>Training, Education and Extension</i> Recruitment and training of staff for the national plant genetic resources center and the regional units. Training includes training at the postgraduate level for researchers, and long and short training courses for researchers and technicians in a number of technical, managerial and policy areas; Training staff of research centers, universities and agricultural departments to participate in the collection operations; Development of syllabi on plant and animal genetic resources in the curricula of universities and colleges; Training in the areas of taxonomy (both plant and animal); Strengthening extension and extension facilities to develop a feedback mechanism to help researchers to scientifically approach field problems;

	<p>Inclusion of biodiversity issues in the curricula of schools;</p> <p><i>Lack of Adequate Qualified Scientific Staff</i> Most institutions and corporations are suffering seriously from lack of adequate qualified scientist, technicians, and skilled supporting staff. The shortage and scarcity of taxonomists in the country at large could not be overlooked. It is regrettable that there are only a few taxonomists in the FNC, RPA, NBG, IES and the Faculty of Science, University of Khartoum. The number of technicians, and supporting technical staff (lab assistants and skilled labor) has sharply declined.</p> <p><i>Logistics and Infrastructure</i> The majority of institutions working on issues related to biodiversity conservation are lacking, appropriate and functional buildings, logistics, and continuous supply of power, up-to-date sophisticated scientific equipment, chemicals and needed technologies.</p> <p><i>Coordination</i> The different institutions working on biodiversity conservation are suffering from lack of coordination, synchronization that results in the following.</p> <ol style="list-style-type: none"> 1. Scientific endeavors and initiatives are scattered, fragmented and rarely lead to meaningful results. 2. Duplication of work and redundancies. 3. Loss of mutual and reciprocal benefits. <p><i>Awareness and Education</i> Awareness and knowledge of the strategic importance and the biological values of the different components of the genetic resources of the country leave much to be desired a part from fragmented and poorly concluded media initiatives. The efforts of some NGOs such as the Sudanese Environment Conservation Society (SECS) cannot be overlooked. There is a virtual absence of syllabi related and pertinent to conservation and protection of biodiversity in the general education curricula and little, if any, in the higher education curricula.</p> <p><i>Legislation</i> The present legislation does not have neither regularity nor effective penalty and they are sector-based. Their improvement depends on the strength and structure of the individual institutions. Weakness in the legislation and relaxation in their implementation may lead to serious impacts such as illegal introduction of plants and animal species, degradation of forest and rangelands, absence of prompt and effective penalties on pollution and smuggling of genetic resources due to poor quarantine measures.</p> <p><i>Protocols, Academic Links and Training Abroad</i> The turn of the last decade of the last century witnessed virtual cessation of cultural and academic protocols.</p>
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Arranged visits and training programs were declined due to financial constraints and political hinges.

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Assessment of National Capacity Building in Biodiversity Monitoring

Programs Including Taxonomy

Needs for Capacity Building:

In view of the limitations outlined in the above, a number of needs are formulated in order to contribute to a brighter future in the area of taxonomy and biodiversity. These are enlisted below:

A. Establishment of infrastructures in the form of:

- Central Botanical Garden, Herbarium, Arboretum, Central Zoo and Natural History Museum, beside similar units in the States;
- Showrooms at National Parks, Game Reserves and Protected Areas.

B. Rehabilitation and upgrading of existing infrastructures.

C. Extension of research to:

- the study of faunal and floral species not studied so far;
- the execution of programs to revise and update the existing classification of fauna and flora, and diversity of various components.

D. Setting a well articulated training, educating and awareness policy that would lead to:

- introduction of taxonomy in school and undergraduate curricula;
- provision of scholarships and fellowships to encourage research on taxonomy;
- exposure of trainees to modern techniques;
- setting crash programs that promote skills among personnel at all levels.

E. Surveillance and monitoring of changes in fauna and flora resulting from natural intervention.

F. Promotion of scientific and technical cooperation with other parties, through long-term monitoring and database updating.

G. Developing interest in economic benefits from fauna and flora as to lead to expansion in:

- collection and cultivation of medicinal and aromatic plants, forest trees and fish;
- encouraging game ranching;
- encouraging bee-keeping;
- taking care of amateur bird watchers, herbalists and various naturalists.

H. Involvement of Sudanese scientists in checklist preparations and updating.

I. Establishment of a Technical Committee to advice the HCENR in matters related to systematics.

The capacity building could be achieved through the execution of a number of named projects that are integral parts of the Sudan's Biodiversity Strategy and Action Plan. The projects are:

i. *Biodiversity Assessment in Woodland Savanna*

The wooded savanna, which embraces approximately 6% of the Country's area is one of the most important ecozones in terms of biodiversity and species richness. Lying at the southwestern part of the country, the wooded savanna buffers two important ecozones:

		<p>The rainforest and the montane forest, both of which are inhabited by important species. These are the chimpanzee and the bongo in the rainforest and Giant bushbuck and Wyen's duiker in montane forest.</p> <p><i>ii. Taxonomy of Antelopes in Sudan</i></p> <p>Taxonomical studies of antelopes in Sudan started early in 1950's when the basis of the antelope classification was laid down by the Sudan Natural History Museum in collaboration with the exhibition from Harvard University. Since then, much work has been done through morphological studies of specimens from Natural History Museums in Europe and United States of America. These specimens were collected from different geographic regions in Sudan during the colonial times.</p> <p>...</p> <p>For the advancement of Scientific Research in the Sudan and assessment of plant biodiversity, it is necessary to have large herbarium (could be central) located in Khartoum, well staffed with taxonomists and other supporting staff, well equipped, air conditioned so that the cited specimens last indefinitely with a good reference library.</p> <p>...</p> <p>Buildup of capacities in the area of inventorying and monitoring of crop genetic resources necessitates the following:</p> <ul style="list-style-type: none"> · Strengthen the capabilities of the Plant Genetic Resources Programme in the ARC for surveying and exploration of the crop genetic resources in Sudan. · Strengthen the capacities in plant taxonomy within the universities and research centers, including establishment of a national herbarium for agricultural crops and their wild relatives. · Establishment of a molecular biology laboratory within the PGR center for DNA fingerprinting of crop genetic resources
3 rd Natl Report		<p>Studies with respect to updating nomenclature, synonymy, species distribution, ecological and vegetation changes. It is now appropriate to highlight some of the main features before enlisting the threats that hinder the development of taxonomy and its institutions. Of those are:</p> <ul style="list-style-type: none"> .-The presence of topographical features such as the Nile and its tributaries, the isolated mountains in the east west and south, as unique features that have created special ecosystems. .-The changes that have occurred over the past four decades, are attributed to climatic changes and human interventions. Here reference is made to the Sahelian era which witnessed severe drought and desertification. .-Large areas have been subjected to massive deforestation and forest destruction especially in northern and central Sudan. .-Drought and desertification have resulted in a series of environmental consequences on species diversity and intensity. .-The fall in the above was attenuated to urbanization agricultural expansion, overgrazing and tree felling for fuel wood. .-Forest diversity is great. A total of 1015 trees and shrubs have been reported. Out of those a total of 214 of trees

		<p>and shrubs are seriously threatened.</p> <p>-Sudan is rich in medicinal and aromatic plants over 900 plant specimens are deposited at the Herbarium of Medicinal and Aromatic Plants Research Institute (MAPRI).</p> <p>Threats to plant taxonomy comprise:</p> <ul style="list-style-type: none"> -Scarcity of plant taxonomists. -Scarcity of published works. -Limited education and training. -Poor infrastructure with regard to herbaria and botanical gardens. -Lack of databases.
	Report on GTI	Not Submitted
	NBSAP	<p>Though some information is available on the flora and fauna of the Sudan, yet there is a need for more information on various aspects e.g. authentication, taxonomy, ecology including gene-ecology, utilization, indigenous knowledge and potential. This could be realized by joint explorations by local and foreign experts. Participation from NGOs, universities and organizations at national and international levels is expected for the mutual benefit of all.</p> <p>Such efforts are expected to result in herbaria at national and state level arboreta and natural museums to enrich the knowledge about these resources.</p> <p><i>Training, education and Extension</i></p> <p>Recruitment and training of staff for the national plant genetic resources center and the regional units. Training includes training at the postgraduate level for researchers, and long and short training courses for researchers and technicians in a number of technical, managerial and policy areas;</p> <p>Training staff of research centers, universities and agricultural departments to participate in the collection operations;</p> <p>Development of syllabi on plant and animal genetic resources in the curricula of universities and colleges;</p> <p>Training in the areas of taxonomy (both plant and animal)</p> <p>Strengthening extension and extension facilities to develop a feedback mechanism to help researchers to scientifically approach field problems; and Inclusion of biodiversity issues in the curricula of schools.</p>
	NCSA	
	Regional Taxonomy Workshops	
Suriname	1 st Natl Report	Not Submitted

	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Swaziland	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Advanced stages of national taxonomic needs assessment Swaziland has completed a taxonomic needs assessment on vascular plants and on certain groups of fauna. Information gathered will be made available through the NBDU. Swaziland encourages training and employment opportunities for taxonomists. Some training has been done through SABONET and currently someone is being trained in Fish Taxonomy. The University of Swaziland also provides training in Taxonomy. Swaziland has identified 3 sites for botanical gardens, which are likely to be operational within 3 years. Swaziland is twinned with the Natal (South Africa) botanical garden. Swaziland makes information on flora available to Global Taxonomic Initiative (GTI). Information is lacking for other groups. Institutions responsible for biological diversity inventories are the National Herbarium, the National Genetic Resource Centre, the Museum, the National Trust Commission and the NBDU. The NBDU will also serve as a taxonomic reference centre. Taxonomic research will on the other hand be addressed through SABONET, SAFRINET, SECOSUD and UNISWA. The GTI focal point is the National Herbarium. Swaziland has participated in SABONET, SAFRINET, SECOSUD and GTI, which are regional networks to facilitate information sharing.
	3 rd Natl Report	Basic national taxonomic needs assessment made Swaziland has completed a taxonomic needs assessment on vascular plants and on certain groups of fauna. In this context activities have focused on institutions that were selected to participate in regional projects eg SABONET and SAFRINET.
	Report on GTI	Not Submitted
	NBSAP	
	NCSA	
	Regional Taxonomy	-A comprehensive taxonomic needs assessment has been completed for vascular plants -Major biological collections are electronically databased but are not are protected against decay, actively

	Workshops	<p>curated, adequately staffed.</p> <ul style="list-style-type: none"> -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -Taxonomy is not taught at High Schools, colleges or universities -There are groups of organisms that have been listed for priority research, including medicinal plants, plants of socioeconomic values, alien invasive species and threatened plants. -Major stumbling blocks preventing progress in taxonomic effort are running costs, lack of staff, scientific and collecting equipment, electronic equipment, project-related research funding, physical infrastructure, basic taxonomic literature and library facilities. -Generally taxonomy is not adequately addressed
Sweden	1 st Natl Report	In the view of the Government, taxonomic research should be stepped up as part of the overall effort to promote biodiversity. Work in that area should be more clearly linked to ecological and technical research, among other things with the aim of enhancing our understanding of the distribution of biodiversity, the ways in which it is affected by human activities, and what these factors entail in terms of our efforts to achieve sustainable use of natural and genetic resources.
	2 nd Natl Report	Early stages of national taxonomic needs assessment made
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>Sweden has made brief assessments of national needs and capacities resulting in running activities, and, contributed to the document ‘Supporting European Taxonomy – current state and future actions’ published by EPBRS (European Platform for Biodiversity Strategy, 2003).</p> <p>The Swedish Taxonomy Initiative, at the Swedish Species Information Centre (www.artdata.slu.se), was launched in 2002 with the goal to describe every multicellular species in Sweden within a 20 year period, with priorities given to poorly known groups of species. It is evident that most, if not all, biodiversity monitoring projects mentioned below suffer from a substantial lack of taxonomic knowledge of many groups of species and will benefit significantly from the initiative. The initiative is part of Sweden’s efforts concerning biodiversity and sustainable development resulting in a large scale venture with the title ‘Inventories and studies of current Swedish species, their requirements, natural behaviour and roles in the ecosystem. Implications for conservation and environmental control’.</p> <p>The venture has been given a governmental grant during the period 2002-2004, which goes to the Swedish Species Information Centre and the two research councils Vetenskapsrådet (‘The Swedish Research Council’, www.vr.se) and FORMAS (‘The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning’, www.formas.se); the grants to the SSIC have in part been set aside for the digitization of the natural history museum collections in Sweden.</p> <p>The Swedish Taxonomy Initiative is an acknowledgment of the fundamental importance of highly developed taxonomic competence and thriving natural history museums to all aspects of biological research, conservation, and environmental monitoring. For the fulfillment of Sweden’s commitment to the CBD, it is essential that these efforts are given continued support. Sweden has numerous local NGO:s with activities which in part coincides</p>

		with the programme of work for the GTI. These include, but are not restricted to, the Swedish Ornithological Society (www.sofnet.org), the Entomological Society of Sweden (www.sef.nu), and the Swedish Botanical Society (www.sbf.c.se).
	Report on GTI	<p>Some national taxonomic needs assessments made</p> <p>Sweden has made brief assessments of national needs and capacities resulting in running activities, and, contributed to the document ‘Supporting European Taxonomy – current state and future actions’ published by EPBRS (European Platform for Biodiversity Strategy, 2003).</p> <p>The Swedish Taxonomy Initiative, at the Swedish Species Information Centre (www.artdata.slu.se), was launched in 2002 with the goal to describe every multicellular species in Sweden within a 20 year period, with priorities given to poorly known groups of species. It is evident that most, if not all, biodiversity monitoring projects mentioned below suffer from a substantial lack of taxonomic knowledge of many groups of species and will benefit significantly from the initiative. (Please, see the appended description for details.) The initiative is part of Sweden’s efforts concerning biodiversity and sustainable development resulting in a large scale venture with the title ‘Inventories and studies of current Swedish species, their requirements, natural behaviour and roles in the ecosystem. Implications for conservation and environmental control’.</p> <p>The venture has been given a governmental grant during the period 2002-2004, which goes to the Swedish Species Information Centre and the two research councils Vetenskapsrådet (‘The Swedish Research Council’, www.vr.se) and FORMAS (‘The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning’, www.formas.se); the grants distributed by FORMAS have in part been set aside for the digitization of the natural history museum collections in Sweden.</p> <p>This venture is an acknowledgment of the fundamental importance of highly developed taxonomic competence and thriving natural history museums to all aspects of biological research, conservation, and environmental monitoring. For the fulfillment of Sweden’s commitment to the CBD, it is essential that these efforts are given continued support.</p>
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Switzerland	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic assessment
	3 rd Natl Report	Not Submitted
	Report on	Comprehensive national taxonomic needs assessment made

	GTI	A working group "Taskforce Systematik und Taxonomie" of the Swiss Academy of Sciences is currently conducting a needs assessment of taxonomy in Switzerland. Priorities identified include (i) raising public awareness for the importance of taxonomy, (ii) strengthening of taxonomy at universities and museums by increasing the number of taxonomists and courses offered, and (iii) ensuring and expanding curation of museum collections. It must be stressed, that this Taskforce is working on a voluntary basis, practically without financial input from the responsible Agency.
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Syrian Arab Republic	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Basic national taxonomic needs assessment made There is a preliminary assessment of national needs for taxonomy which was done during the add-on activities of NBSAP. These needs are: 1- Needs for taxonomists in some plant and animal groups. 2- Lack of infrastructures such as museums, botanic gardens and herbaria. 3- The project of National Capacity Assessment for the three conventions of Biodiversity, Climate Change and Desertification is in progress.
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Tajikistan	1 st Natl Report	
	2 nd Natl Report	Early stages of national taxonomic needs assessment made Taxonomy in the country was presented in several publications: "Flora of Tajikistan" Data Book in 10 volumes (1957-1991), "Tajikistan Fauna" in 20 volumes (1960-1988); "Identification of Vascular Plants of Tajikistan" (1999), as well as publications on birds (Fauna of Tajikistan/Birds, 19 Volumes, Parts 1,2,3 (1971, 1973, 1977),

		<p>fish, insects in paleontology and mammals. These publications cover about 10 thousand flora and around 13.5 thousand fauna species.</p> <p>The specific national policy on taxonomic studies in the country does not exist. The country also doesn't have special taxonomic programs or action plans due to the lack of financial resources as well as due to absence of a special coordinating body in this area. Similarly there are no relevant resources for enhancing availability of taxonomic information. So far there are no electronic catalogs of collections. This doesn't allow access to taxonomy information as well as broad taxonomy information dissemination.</p> <p>Information dissemination it is done by the mentioned above scientific institutions, depending on their means and resources. There are no special financing for collections maintenance. Since the collections are located in academic institutions, they are maintained only by means of the institutes' budgets, which does not allow for their effective protection from deterioration and attack by vermin.</p>
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>Monitoring of taxonomy species has been partially conducted by research institutions and Universities. Though surveys carried do not have the expected results due to the lack of financial and technical resources, etc.</p>
	Report on GTI	<p>No national taxonomic needs assessment made</p> <p>Our country has not yet undertaken taxonomic needs assessment, but there is relevant potential and materials, and being the centre of global diversity the country is planning this at Phase II of NBSAP in the nearest future, as the issue is a priority for our country.</p>
	NBSAP	The weak links in assessing and developing plans and programs include: lack of common monitoring techniques and center for biodiversity regulation and systematization;
	Regional Taxonomy Workshops	
Thailand	1 st Natl Report	Existing scientific institutions lack proper supports on biodiversity inventories. For example, with only few experts on bryophytes in Thailand, the inventory of the species in all national parks would take considerable number of years to complete. Thailand seriously lacks qualified personnel on all species, including higher plants and animals.
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	<p>Basic national taxonomic needs assessment made</p> <p>ONEP, as the national GTI focal point, has conducted national taxonomic needs assessment, compile national lists of institutions and experts on taxonomy, and establishing and maintaining a national taxonomic network. With support from ARCBC, outcome of the study were consulted at national meeting in Bangkok on 17-18 October 2001 and presented briefly in Thailand 2nd National Report which can be summarized as follow:</p>

		<ul style="list-style-type: none"> - Urgent need for taxonomist to replace those who retired, to develop para –taxonomists who can shift some work load from taxonomists, - Improve collection facilities, laboratories, equipment for specimen collection, for classification and for data collection, and taxonomic reference materials - Extra investment to create taxonomic information network, forum for information exchanges and technical workshop
	Report on GTI	<p>Some national taxonomic needs assessment made</p> <p>The results from the survey indicate that highest priority for implementation was capacity-building of relevant personnel/staffs. The other priority issues were information networks, experts and the budget. The department requires taxonomic work on identification of some problematic introduced aquatic species especially those are potentially harmful to biodiversity. This work, from the department view point, is routinely operated. The government policy has many other subjects in priority as a result taxonomic work at the department is identified as a second priority.</p>
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	<ul style="list-style-type: none"> -Most specimens are held in museums outside Thailand -With a few exceptions most collections are scattered -There is no designated national biosystematic centre or natural history museum in Thailand. -There is a limited number of taxonomists in various taxonomic groups -Thailand is in great need of support: basic infrastructure, and physical facilities, taxonomists, consultants, experts, technicians, reference materials, pertinent literature, laboratories electronic supporting services
The Former Yugoslav Republic of Macedonia	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Togo	1 st Natl Report	Taxonomic needs and priorities not mentioned

	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Basic national taxonomic needs assessment made Informations supplémentaires sur l'évaluation nationale des besoins et capacités taxonomiques. En terme de flore, une base de données est disponible à l'Université de Lomé sur les Angiospermes et Ptéridophytes. Un travail poussé est en cours sur les champignons spontanés du Togo. Les autres groupes taxonomiques sont à explorer.
	Report on GTI	Not Submitted
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	-Comprehensive taxonomic needs assessments have been completed for invertebrate and vertebrate animals, nonvascular and vascular plants. -Major biological collections are actively curated and protected against decay, but are not adequately staffed or electronically databased. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -No groups of organisms have been listed for priority research. Taxa that should be listed include insects, reptiles, angiosperms, fungi and viruses of agronomic importance and fishes -Major stumbling blocks preventing progress in taxonomic effort are running costs, lack of staff, scientific and collecting equipment, electronic equipment, project-related research funding, basic taxonomic literature and library facilities. -Generally taxonomy is not adequately addressed
Tonga	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Trinidad and Tobago	1 st Natl Report	Taxonomic needs and priorities not mentioned

	2 nd Natl Report	Not Submitted
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	PRELIMINARY STRATEGIC RECOMMENDATIONS Development of a program of applied research, which will fill the gap in knowledge on the population biology of the country's terrestrial fauna. This should be developed through collaboration between the primary management Agencies (EMA, Forestry Division, National Parks and Wildlife Authority) and the training and research institutions in the country (IMA, NIHERST, ECIAF and UWI), and any other interested parties. This research programme should focus on monitoring the size of remaining habitats, wildlife population sizes, biosystematics for invertebrates and socio-economics of wildlife use and conservation.
	NCSA	
	Regional Taxonomy Workshops	
Tunisia	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	Basic national taxonomic needs assessment made Les orientations majeures ont été arrêtées et classées et des programmes sont en cours d'élaboration.
	Report on GTI	Some national taxonomic needs assessment made La Tunisie a organisé le premier atelier National de Taxonomie en decembre 2003.
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Turkey	1 st Natl Report	-Improve biophysical inventories at ecosystem, species and genetic levels by: developing and applying regionally integrated landscape-level classification systems for terrestrial, freshwater and marine areas to provide a framework for the collection of information and the management of resources; linking biological inventories and soil, climate and other surveys; conducting biological inventories, based upon jurisdictional priorities, that take into consideration vulnerable, threatened and endangered species and ecosystems, critical habitats, little-studied taxonomic groups, taxonomic groups of economic importance, areas of high diversity and areas where human

		<p>development and disturbance are the most significant; and aging the use of innovative and traditional methods to increase knowledge about the diversity of micro-organisms, their functional roles in ecosystems, and their potential economic uses.</p> <p>Enable and individuals to conduct biological and biophysical inventories by:</p> <ul style="list-style-type: none"> -a ways to funding sources and determine priorities for inventories; and ensuring that there is available to conduct inventory work, including taxonomists, parataxonomists, museum professionals, ecologists, geneticists and -Support efforts to improve the reliability and cost-effectiveness of biological inventory methodologies and -Maintain capacity of and describe, and store collected specimens, as as maintain ability to disseminate data and information. -Continue to establish to develop and harmonise data bases for the conservation of vulnerable, threatened and endangered species and ecosystems. -Improve inventories to determine the genetic diversity of domesticated and non-domesticated biological resources to maximise and USC of resources. -Collaborate with to populations and habitats of particularly those that are at risk.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not submitted
	Report on GTI	Not Submitted
	NBSAP	
	NCSA	
	Regional Taxonomy Workshops	
Turkmenistan	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Support taxonomic and inventory surveys of key resource species
	NCSA	

	Regional Taxonomy Workshops	
Uganda	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made The national needs identification and assessment in Taxonomy has been attempted by the Ugandan arm of Eastern African Biosystematics Network of BIONET International but this was not a government initiative and is not well known. The contact institution for this initiative is the Crop Science Department, Makerere University, Kampala. Many of the international programmes such as the Global Taxonomy Initiative are not known by relevant stakeholders in Uganda due to poor communication between the CBD Focal Pont and the stakeholders. Issues of the GTI should be addressed as soon as possible. Uganda was represented at a GTI Africa Regional Workshop in Kirstenbosch, South Africa in early 2001 and the issues discussed at the workshop were very new to the participant.
	3 rd Natl Report	Basic national taxonomic needs assessment made Taxonomic capacity needs assessment was carried out for the Uganda as part of the Eastern African sub-region under the auspices of EAFRINET (Eastern African Biosystematics Network), a branch of BioNET International.
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	-Inadequate training in taxonomy, biodiversity research methods data manipulations assessments and monitoring techniques. -Train taxonomists and parataxonomists;
	Regional Taxonomy Workshops	-A comprehensive taxonomic needs assessment has not been completed -Major biological collections are protected against decay actively curated but are not adequately staffed or electronically databased. -Staff numbers in taxonomic institutions are inadequate to address taxonomic issues -There are no groups of organisms that have been listed for priority research. Taxa that should be listed include orchids, grasses, legumes, small mammals and insects, especially beetles. -Major stumbling blocks preventing progress in taxonomic effort are institutional running costs, lack of staff, scientific and collecting equipment, electronic equipment, project-related research funding, basic taxonomic literature and library facilities. -Generally taxonomy is not adequately addressed
Ukraine	1 st Natl	Taxonomic needs and priorities not mentioned

	Report	
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
United Arab Emirates	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
United Kingdom of Great Britain and Northern Ireland	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	National taxonomic needs assessment completed
	3 rd Natl Report	Thorough national taxonomic needs assessment made An assessment of taxonomic needs in the UK was recently completed by the National Focal Point. The assessment highlighted the importance of taxonomists working closely with conservationists in order to deliver appropriate information for biodiversity conservation, and for better communication of information on biodiversity conservation initiatives to grass-roots level conservation organizations. For more information see; http://www.nhm.ac.uk/science/biodiversity/gti.html
	Report on	Some national taxonomic needs assessment made

GTI	<p>The UK Systematics Forum carried out an assessment of the needs of systematic biology in the UK, based on the database of systematic expertise which they had developed, in 1998. This assessment was included in the document, “the web of life, A STRATEGY FOR SYSTEMATIC BIOLOGY IN THE UNITED KINGDOM”, available online at http://www.nhm.ac.uk/hosted_sites/ukxf/web_of_life/index.htm</p> <p>In 2002 the House of Lords Select Committee on Science and Technology produced a report on the state of systematic biology titles, “What on Earth, The Threat to the Science Underpinning Conservation.” This report made a number of recommendations relating to financial support, collaboration and priority setting for the systematic biology community in the UK. Information on the report and on the Government’s response to it is available online at http://www.publications.parliament.uk/pa/ld200203/ldselect/ldsctech/130/13001.htm. The 2002 Biodiversity Action Plan Reporting Round highlighted taxonomic information and services as a major limiting factor to biodiversity conservation activities in the UK. Among the most significant limiting factors were poorly understood autecology and a lack of baseline survey data. More information is available at http://www.ukbap.org.uk/2002OnlineReport/mainframe.htm</p> <p>Currently the UK’s National Focal Point is conducting national needs assessment designed to identify the needs of the biodiversity conservation community for taxonomic services and information. This will be used to inform the strategic priorities of the UK’s taxonomic institutions in order to best serve biodiversity conservation and implementation of the CBD. The UK’s taxonomic capabilities have been identified in part through the Register of UK Taxonomic Expertise developed by the National Focal Point. This is available online at http://www.nhm.ac.uk/science/biodiversity/gtiregister.htm</p>
NBSAP	<p>The need for continued taxonomic research as part of these endeavours has been recognised in a recent NERC initiative in Taxonomy designed to promote new training and research in taxonomy in a number of UK universities.</p> <p>The Natural History Museum and the Royal Botanic Gardens at Kew and Edinburgh are the largest UK campuses for postgraduate training in taxonomy. In addition to the training given to their own systematists and curators, staff from both institutions contributes to the undergraduate and MSc courses in universities. In their 1993 Corporate Plan the Royal Botanic Gardens identified three priorities in the field of education and training:</p> <ul style="list-style-type: none"> -to share knowledge effectively over as wide a front as possible; -to establish Kew as a world leader in the interpretation and teaching of systematic botany, conservation, herbarium and botanic garden management, economic botany and horticulture; -to collaborate closely with leading universities and other organisations in the development of relevant science education programmes. <p>The Royal Botanic Garden Edinburgh (RBGE), like Kew, has an important role in training. Its staff teach plant taxonomy and botany at Edinburgh University on a range of courses at under-graduate and post-graduate levels. In 1992- 93, the RBGE jointly started with Edinburgh University a one year MSc course on plant taxonomy and biodiversity.</p> <p>The Red Data Books are a key source of guidance in identifying priorities for action but there are many taxonomic groupings for which no such books have been prepared.</p> <p>In 1993 the NERC announced a major funding scheme to help revitalise taxonomic research, both directly and</p>

		through attracting more young scientists into that area of the environmental sciences.
	NCSA	
	Regional Taxonomy Workshops	
United Republic of Tanzania	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made Apart from limited resources, little has been done in the field of taxonomy due to the following reasons:- (i) There are inadequate training and re-training resources, (ii) There is an inadequate infrastructure development such as laboratories and lab. equipment and materials. In order to alleviate this problem there is need for support in training and infrastructure development in the field of taxonomy, identification and monitoring. Tanzania is also striving to make taxonomic information held in its collections more widely available through public awareness and encouragement of students at the Universities to undertake taxonomic studies. Further taxonomic information is available for research and other uses by the public.
	3 rd Natl Report	No national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	Not Submitted
	NCSA	
	Regional Taxonomy Workshops	
Uruguay	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	El relevamiento de un total de 788 citas bibliograficas indico la siguiente distribucion

		de trabajos, los que corresponden mayoritariamente a trabajos de taxonomía y biología. - Invertebrados no Artropodos 5,9% - Invertebrados Artropodos 42,5% - Vertebrados 43,9% - Fauna(general) 4,5%
	NCSA	
	Regional Taxonomy Workshops	
Uzbekistan	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Although no formal needs assessment, there is development of national potential considered by GVT
	Report on GTI	Not Submitted
	NBSAP	No relevant information
	NCSA	
	Regional Taxonomy Workshops	

Vanuatu	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	No national taxonomic needs assessment made Vanuatu presently has limited taxonomic capacity. A herbarium collection is poorly housed and deteriorating in condition. There are scattered, incomplete and often inadequately housed collections of some fauna. There are no professional taxonomists within the country and no facilities to support their work. Requests have been made for assistance in developing taxonomic infrastructure to enable appropriate housing of collections and to make them more accessible for use, but donor funding has not been available. The Australian Government has assisted Vanuatu to establish a computer flora and fauna database. However this work has been delayed and remains incomplete.
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	The capacity of government departments to monitor and manage biodiversity is hampered by their limited access to laboratory facilities, technical equipment and reference collections. The greatest need is for a scientific laboratory that can be used not only for biodiversity and taxonomic work but for all environmental analyses. Secondly, priority is to improve capacity of staff to make optimum use of technical resources.
	NCSA	
	Regional Taxonomy Workshops	
Venezuela	1 st Natl Report	Not Submitted
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Formacion de taxonomos y paratax6nomos.

		Capacitación de taxonomos, ecologos y guardas marinos para la gestión y el seguimiento del uso de los ecosistemas coralinos
	NCSA	
	Regional Taxonomy Workshops	
Viet Nam	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Early stages of national taxonomic needs assessment
	3 rd Natl Report	No national taxonomic needs assessment made A national workshop on biodiversity training needs assessment has been organized by National Environmental Agency (currently Vietnam Environmental Protection Agency)
	Report on GTI	Taxonomic needs and priorities not mentioned
	NBSAP	Taxonomic needs and priorities not mentioned
	NCSA	
	Regional Taxonomy Workshops	
Yemen	1 st Natl Report	Ex-situ conservation of rare and endangered native taxonomic groups of plants species by improving knowledge and understanding of species and ecosystems, and through the establishment and strengthening of gene banks, seed banks, green belts, botanical gardens and public gardens.
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	Yemen experiences a shortage of specialists in several biodiversity related disciplines such as, taxonomy, marine biology, entomology, land-use planning and resource management. The country is also in need of experienced public relations and community development specialists. This situation is aggravated by lack or shortage of funds and resources to conduct proper training on a regular and systematic basis. There are no formalized training courses devoted to biodiversity conservation available within the country, and thus far there have been too few opportunities for international studies, because of limited options and language

		<p>deficiencies. It is therefore imperative that all development assistance projects and programs recognize this situation and place capacity building and institutional development among the priorities for assistance. The nation's selfreliance and abilities to carry out the demanding tasks ahead in biodiversity conservation depend upon it. Therefore, there is an urgent need to increase funding support to establish a systematic programme for scientific and technical training of human resources within the formal and informal education systems. Only with this investment will the country be able to meet the required qualifications and training needs in biodiversity conservation and natural resource management.</p> <p>Key Issues</p> <ul style="list-style-type: none"> § Weak monitoring capabilities for endangered and rare species. § Lack of enforcement of wildlife protection measures. § Inadequate systematic population monitoring of species, specially endangered ones. § Lack of information on the status and habitat requirements of species at risk. § Habitat destruction caused by activities associated with development.
	NCSA	
	Regional Taxonomy Workshops	
Zambia	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	Not Submitted
	3 rd Natl Report	Not Submitted
	Report on GTI	Not Submitted
	NBSAP	<p>Lack of proper training in biodiversity management especially in Taxonomy has contributed to poor documentation of biodiversity in the country and its management.</p> <p>Outdated Information. In spite of recent advances in taxonomic knowledge of different groups of organisms, some of the literature reviewed was published several decades ago. Thus recent changes in species names and status may not have been checked in all the cases due to time constraint.</p> <p>Goal 3 Objective 3.' To improve Biodiversity knowledge in Zambia.</p> <p>Outcome.' Increased knowledge of biodiversity among the stakeholders. Strategy.' Expand the understanding, the conservation of biodiversity and its sustainable use through research, training and information dissemination.</p> <p>Activities: i. Developing guidelines for biodiversity assessment.</p> <p>ii. Conducting systematic assessment of biodiversity in all ecosystems with particular emphasis to areas outside the protected areas.</p>

		<p>iii. Documenting scientific and indigenous knowledge about biodiversity.</p> <p>iv. Training taxonomists in various key fields of biological resources.</p> <p>v. Providing positions and facilities for taxonomical work in various key fields of biological resources.</p> <p>vi. Disseminating knowledge about biodiversity.</p>
	NCSA	
	Regional Taxonomy Workshops	<p>-A comprehensive taxonomic needs assessment has not been completed.</p> <p>-Major collections are actively curated, protected against decay and are currently being electronically databased but are not adequately staffed.</p> <p>-Staff numbers in taxonomic institutions are inadequate to address taxonomic issues</p> <p>-No groups of organisms that have been listed for priority research. Taxa that should be listed include Poaceae, Bryophytes, Fabaceae, Orchidaceae, Zamiaceae</p> <p>-Major stumbling blocks preventing progress in taxonomic effort are institutional running costs, lack of staff, scientific and collecting equipment, electronic equipment, project-related research funding, basic taxonomic literature and library facilities.</p> <p>-Generally taxonomy is not adequately addressed</p>
Zimbabwe	1 st Natl Report	Taxonomic needs and priorities not mentioned
	2 nd Natl Report	<p>Early stages of national taxonomic needs assessment</p> <p>In the past the field of taxonomy was given a high priority. The situation is different now, primarily due to the declining economy resulting in the decline of resources.</p> <p>Capacity needs assessments in taxonomy were carried out at the beginning of SABONET. The project “enabling activities in the biodiversity area” is also currently assessing the capacity of these institutions and the gaps that are reducing their efficient delivery.</p>
	3 rd Natl Report	Basic national taxonomic needs assessment made
	Report on GTI	Not Submitted
	NBSAP	However, the taxonomic position of nitrogen fixing bacteria in Zimbabwe's forests is not well known and no efforts have been made to collect, characterise and conserve beneficial strains. Foregoing analysis of institutions involved in forest biodiversity management shows that there is considerable human capacity in this area. However, there are apparent inadequacies in professions such as biosystematics, botany and ecology, which are critical in biodiversity conservation. Furthermore, weak cross-sectoral linkages do not facilitate the judicious utilisation of

		available skills. Consequently, there is need for detailed human resources and skills audit.
	NCSA	
	Regional Taxonomy Workshops	