

Towards a Clearing House Mechanism for Bulgaria

Based on a report

Submitted by:

Analytical Creative Group, Ltd.

Sofia, Bulgaria

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2. Executive Agency on the Environment Brief
3. BlueLink Brief
4. NACID Brief
5. BULBIONET Brief

* All materials included as appendices have been provided by the respective organizations

Acronyms and Abbreviations

ACG	Analytical Creative Group
ARD	Associates in Rural Development, Inc.
BAS	Bulgarian Academy of Sciences
BCEG	Biodiversity Conservation and Economic Growth Project
BD	Biodiversity
CBD	Convention on Biological Diversity
CHM	Clearing House Mechanism
CITES	Convention on International Trade with Endangered Species
EAE	Executive Agency on the Environment
EEC	European Economic Community
EIA	Environmental Impact Assessment
EU	European Union
GEF	Global Environment Facility (note the acronym “GEF” is also generically in Bulgaria for the USAID/GEF Biodiversity project)
IT	Information Technology
MOAF	Ministry of Agriculture and Forests
MOEW	Ministry of Environment and Waters
MOU	Memorandum of Understanding
NACID	National Information and Documentation Center
NCESD	National Center for Environment and Sustainable Development
NFP	National Focus Point
NGO	Non-Government Organization
NNPS	National Nature Protection Service (of MOEW)
NSC	National Steering Committee
PMU	Project Management Unit (ARD team for BCEG Project)
REC	Regional Environment Center
REI	Regional Environmental Inspectorates
TOR	Terms of Reference
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
USAID	United States Agency for International Development

Preface

The Biodiversity Conservation and Economic Growth (BCEG) Project is funded by the United States Agency for International Development, (USAID), as part of its strategic support to the Republic of Bulgaria. The Project is sponsored by USAID in conjunction with the Government of Bulgaria – the Ministry of Environment and Waters (MOEW). The Project is governed by a Memorandum of Understanding (MOU) between the two governments, and its implementation covers the period: May 2000 – October 2002.

This Project is a logical evolution of earlier USAID assistance to biodiversity conservation in the country. It follows some 10 years of assessment, technical assistance and financing of Bulgaria's biodiversity conservation strategic development, new protected areas legislation, and new national park institutions. The Project is designed to capitalize on the achievements of the Bulgaria Global Environmental Facility (GEF) Biodiversity Project (implemented during the period June 1995-April 2000), and builds on lessons learned.

The BCEG Project addresses six specific contract themes known as “contract result packages”. The BCEG Project includes the finalization and implementation of two national park management plans, the development of a new management plan for Rila Monastery Nature Park. It assists in the development of financial mechanisms and strategies to ensure the solvency of national parks. The Project pilots economic growth activities with select target groups around two Bulgarian national parks. And it continues to build on the principles of strong public information and awareness as stepping stones for informed public engagement and promotion of biodiversity conservation and protected area management activities.

This Project is issued as a Task Order (Contract Number LAG-I-00-99-00013-00) under the USAID Global Biodiversity and Forestry Indefinite Quantities Contract; and is implemented on behalf of USAID by Associates in Rural Development, (ARD) Inc., of Burlington, Vermont, USA.

The Project is implemented through a Project Management Unit (PMU) based in Sofia, and includes a Team Leader, three Bulgarian technical specialists, and support staff. Project activities are coordinated through two mechanisms –

- (a) Project Counterpart Team – PMU staff and MOEW/NNPS counterparts
- (b) Project Coordination Group – that serves as a steering committee for Project planning and monitors implementation. This consists of the National Nature Protection Service of the MOEW, and national park directors, the PMU and USAID.

The Project is largely implemented through the Directorates for Rila and Central Balkan National Parks. Additional technical assistance is provided by Bulgarian and international consultants, and is based on specific terms of reference.

Summary

This report presents the results of a “needs assessment” related to the development of a national mechanism for the exchange of biodiversity information known as a **Clearing House Mechanism** (CHM). The concept of a CHM is based on Article 18, Paragraph. 3 of the Convention on Biological Diversity (CBD), which stipulates the exchange of information on biological diversity (at both national and international levels) as the basis for co-operation and informed decision making between the parties that are signatory to the Convention.

This needs assessment is conducted to determine the stakeholders, preparedness, and levels of biodiversity information and its management in Bulgaria. The needs assessment was conducted over a two month period (March and April 2001), by Analytic Creative Group (ACG), Ltd. It is prepared to help guide the establishment of a national CHM in the country. It illustrates the availability of substantial amounts of information already collected regarding biodiversity and its conservation in the country. It also reinforces the strong need for Bulgarian compliance with the CHM, and the need for strong national and international information sharing on biodiversity based on Bulgaria’s rich natural heritage and diversity. This is essential for Bulgaria to take up its rightful role as a leader in European and international biodiversity conservation efforts.

This survey is **NOT** a needs assessment based on an established CHM, National Focal Point, or CHM management board. It is not related to capacity building or strengthening of an existing CHM. It is conducted in the absence of a national biodiversity information management plan and effective exchange system. This survey is however, conducted in anticipation of the first step described in the *User’s Guide to the Clearing-House Mechanism*, developed by the United Nations Environment Program (UNEP)/CBD Secretariat. The *User’s Guide* indicates that the first step is most often “the development of an institutional framework, a budget and financial mechanisms in support of a CHM”. At the time of this assessment, the Government of Bulgaria, represented by the Ministry of Environment and Waters, Department of National Nature Protection Service (NNPS) had established a National Focus Point (NFP) for a Biodiversity Clearing House Mechanism, with support from United Nations Development Program (UNDP).

This assessment reveals that information exchange on biodiversity and its conservation has not previously been a subject of systematic review nor is there a history of effective bio-information exchange in the country. National biodiversity information sources are widely scattered among individuals and institutions. In the absence of a systematic national index for biodiversity information, it is virtually impossible to categorize and organize effectively the existing amounts of information. Information formats vary widely, as do information management technologies. And while there is an abundance of information on biodiversity and its conservation in the country, the assessment discovered a general reluctance to share information, and often outright skepticism about the quality of different biodiversity information and its sources.

This needs assessment was able to:

1. Illustrate that there is sufficient biodiversity information and information collection experience in the country to commence with development of a CHM immediately.
2. Identify and prioritize biodiversity “primary” information sources and needs (users).
3. Identify approximately 6-10 biodiversity “primary” information categories that could serve as the basis for an index of a national biodiversity “meta-database”.
4. Identify several Government institutions and agencies that have a direct, or indirect role in the collection and distribution of biodiversity information – (National Center for Information and Documentation; National Forestry Board/Agroles, Executive Agency for the Environment, the NNPS, and the Bulgarian Academy of Sciences (Central Ecology Laboratory - Bulbionet). It was also able to reconfirm the interests of certain NGOs (Bulgarian Society for the Protection of Birds, Bluelink, and the Regional Environment Center) in participation in the future development of a CHM.
5. Identify the broad need for an immediate and basic information management system (agreement on a national biodiversity database and index; computer technology requirements and software (Information Technology-IT); basic parameters for primary information collection, storage, distribution, and access “protocols/procedures”.)
6. Illustrate the experiences (pitfalls and successes of other countries who have established CHMs). The study helped to establish important international and regional contacts, and highlight some of the aspects that could help ensure a more effective CHM for Bulgaria from the outset.
7. Contribute to deliberations on the future of a CHM in Bulgaria, at a workshop hosted by REC and UNDP, in May of 2001. The report of this workshop is presented in the first appendix to this report.

This assessment is a situation analysis of the state of affairs of biodiversity information management in the country. It is supported by a rigorous set of appendices (in the Bulgarian) analyzing the information collected. They are helpfully organized into a wide range of subjects, including information sources, typology of information “owners”, as well as of biodiversity information users and attitudes surrounding biodiversity information management in the country. The report also suggests categories and sub-categories of biodiversity information that should prove useful to those eventually taking the mandate to organize the management of biodiversity information and the functions of a Clearing House Mechanism.

The assessment indicates that there is sufficient interest and need among both biodiversity information collectors (sources) and users to assure the need for an immediate national CHM. There is a clearly expressed need for a mechanism that gathers and redistributes information (based upon a network of clearly identified information providers). The assessment also illustrates the need for easy and efficient

access to this information through an effective redistribution system. A hierarchy of national information users is also identified.

The “*User’s Guide to the Clearing-House Mechanism*” was previously translated into Bulgarian, and distributed to all stakeholder attending a CHM workshop in May of 2001. This user’s guide is viewed as an effective framework for developing a Bulgarian CHM.

This report offers some practical suggestions for the development of a “Project” approach to the development of a Bulgarian CHM. It suggests a phased approach supported by formation of a national steering committee and provisions of select technical assistance. It also makes provisions for the strategic development of a set of phased financial mechanisms that support the operations and maintenance of a CHM, indicating that some international financial assistance will be necessary in the first phases.

Finally, the report suggests a role for Bulgarian environmental NGOs on the national steering committee, and a parallel role during the development and first phases of the establishment of a national CHM.

1. Introduction

The needs assessment was conducted by Analytical Creative Group (ACG) Ltd, under a contract with Associates in Rural Development, Inc. (ARD) between February and April 2001. The needs assessment forms part of the public awareness and information access that is included in the USAID funded, “Biodiversity Conservation and Economic Growth Project” (BCEG Project), managed by ARD. In particular, the assessment is aimed at increasing public access to biodiversity information in the country. The needs assessment was designed to complement the programmatic interests of two other international organizations – the United Nations Development Program (UNDP), Bulgaria, and the Regional Environment Center (REC), Budapest. Both organizations are contributing to the first steps in the development of a CHM – both are assisting the development of a CHM strategy and framework, supporting institutional links, and operational financing of a CHM in Bulgaria. This study was designed to identify important information needs, sources, opportunities and impediments to the development of a CHM in Bulgaria.

The study had the following main objectives:

- Identify and analyze the legal framework and policy context for a CHM in Bulgaria;
- Identify sources of available information on biodiversity and categorize these sources into classes developed in accordance with CBD goals;
- identify the main groups of owners and users of information on biodiversity and its conservation in Bulgaria;
- Identify the potential role(s) of NGOs in the development and functioning of a CHM;
- Study and analyze the experience of other countries that have established CHM;
- Formulate guidelines and recommendations concerning the development of CHM in Bulgaria.

In order to achieve these objectives, ACG Ltd., conducted a set of information gathering surveys between March 25 and April 25, 2001:

1. **Study of policy documentation** with the purpose to clarify legal issues pertaining to the legislation that will regulate CHM building in Bulgaria.
2. **Identify and review sources and owners of information on biodiversity** with the purpose to clarify the characteristics of each owner of information and analyze their capacity to integrate with a future CHM. This allowed us to also identify new owners and sources of information .
3. **In-depth interviews** Contacts were made with 76 persons working with different institutions and organizations . These people were identified as experts on the basis of their qualification or current position/occupation. They included: representatives of the main structures of the Ministry of the Environment-NNPS, the Executive Agency on the Environment, Regional Environment Inspectors (REIs), the National Parks Directorates, Ministry of Agriculture and Forests (MOAF), National Forestry Board, and other ministries related to biodiversity and its conservation. In addition, ACG also included interviews with municipal government ecologists, the

Bulgarian Academy of Sciences and its Institutes of Biology, Zoology, Ecology, National Natural History Museum, environmental NGOs, Universities, Colleges, journalists, private companies and tourist organization. The analysis comprises the results of 64 interviews.

4. **Focus groups:** two focus group discussions were held in Sofia with experts in the area of biodiversity. They represented both sources and potential users of biodiversity information. Focus groups were used in order to check and identify attitudes, perceptions and motivation of key importance to the development and functioning of CHM.
5. **A national representative survey of the population over 18 in the country.** A two-tier cluster sample was used with 1247 respondents. This made it possible to probe attitudes regarding the use of information on biodiversity and its conservation. ACG reviewed the views of the general public, but also of the groups with an expressed interest in nature (the so-called nature-lovers) who form a small proportion of the adult population in the country (about 5%).
6. **An e-mail questionnaire** sent to national CHM focal points from other countries. A total of **116** e-mails were sent to national focal points included in the attachment to the *User's Guide to the Clearing-House Mechanism*. Of these, **20** were returned due to a non-existent address. The number of answers amounted to **12** (*Austria, Great Britain, Germany, Israel, Canada, Mongolia, New Zealand, Peru, Poland, USA, Finland and Jamaica*).
7. **Study and analysis of CHM web-pages** of other countries: **14** national CHM web-pages were studied, the web-pages were taken from the *User's Guide to the Clearing-House Mechanism*, from received e-mail, and from Search operations on the Internet.

A summary of this report and its findings was shared at a national workshop in Bankya, Bulgaria, May 21-23, 2001, conducted under the aegis of the Regional Environment Center, Budapest and UNDP. International contributors were also present from UNDP and Slovakia. (A Summary of the Workshop and its participants is attached as Appendix 1).

The Bulgarian version of this report is accompanied by considerable volumes of appendices. The appendices are organized into two sections. One section of appendices directly supports the analysis and conclusions provided in the body text of the report. The other section of appendices includes more general reference sources (bibliographies, organization of sub-categories of information, lists of data sources, etc.) These will hopefully contribute to the future steps towards CHM-building in Bulgaria.

2. General Observations regarding Biodiversity Information Management and this Needs Assessment

Biodiversity information access, management, and sharing are still relatively new phenomena in Bulgaria. Earlier efforts to manage this type of information were initiated during the first steps in development of the National Biological Diversity Conservation Strategy for Bulgaria, completed with USAID assistance, in 1994. The National Strategy represents a wealth of information that was accumulated and synthesized in preparation of Europe's first national biodiversity conservation strategy. In concert with the national strategy, the USAID supported the establishment of the *National Center for Environment and Sustainable Development (NCESD)*, located within the Ministry of Environment, (Information Division). This Center's primary role was the collection, reporting, and dissemination of data on the state of the environment in Bulgaria. In 1996, the Center had the largest and most modern computing equipment in Bulgaria. The Environmental Protection Agency of the U.S. government provided equipment and training to the Center from 1993. At this point in time, the Center was theoretically in modem connection with 16 Regional Environmental Inspectorates, located throughout the country. Regional offices collected data on a daily, weekly and monthly basis, and reported it back to the NCESD. Information collection was largely restricted, however, to ambient air quality only.

As of 1996, the NCESD mandate did not include data processing and analysis. All data collected was used directly by other departments in the MOE. As of 1996, a professional assessment made by ARD/GEF Biodiversity Project, (Environmental Information Specialist) of the capacity at the NCESD, showed that the institution demonstrated little understanding of how to use the data collected in "policy formulation and analysis." As of the date of that assessment, very few requests for data and products were being made by the MOE. There was also no comprehensive list available for data collected by the NCESD. In summary, *the "NCESD had very little actual capacity to provide these services (sic. computer resources, data storage, data access, and full capabilities for output and reporting) due to minimally functioning information system, lack of trained staff, data, and clear policies on access to data and other resources."*

While the newly appointed and reconstituted Executive Agency on the Environment (EAE, within the Ministry of Environment and Waters) goes a long way to correcting this situation, its efforts are still in the nascent stages. The needs assessment discovered that the basic requirements for environmental information management and supporting information management procedures are still largely absent from the operations and institutional framework of the MOEW. This affects biological diversity information, as well as the future role and dimensions of a CHM. This issue is not restricted however, to the EAE. ACG discovered similar situations with other organizations, agencies, and institutions interviewed.

Based on this survey, ACG believes that some of the following "characteristics" of environmental information management in Bulgaria, particularly for biodiversity information, must be addressed in any effort to set up a CHM:

- Often there is a general unwillingness and/or anxiety to share available information. Too often ACG discovered that people with whom they spoke treated information as confidential. Without the right authorization, information could not be released.
- Unfamiliarity with the concept of environmental information, a CHM, and how biodiversity information could be treated and/or managed within their respective scopes of work.
- Lack of clearly defined job responsibilities and internal organization for biodiversity information management.
- There is often a narrow specialization represented by those interviewed. Institutional employees are not always aware (knowledgeable) of what information their institution actually possesses. This is particularly typical of interviewees who are not at top-level positions in their respective institution.
- The absence of clearly identified index of information pertinent to biodiversity in Bulgaria, and biodiversity conservation, sustainable development, and the “environment”. This makes it difficult to ensure that information categories within this needs assessment are an accurate reflection of what professional institutions, agencies and NGOs understand as being included within these categories.

ACG repeatedly encountered an absence of unified and well-organized systems of information collection on biodiversity and its conservation, as well as an incomplete biodiversity monitoring system, and a clear understanding of monitoring metrics. Therefore, even if a CHM were to exist, many contributors to this needs assessment are unsure what to contribute to a CHM, and what information will be used to update it, let alone how often and in what formats this information will be collected.

3. Bulgarian Legislation and the Development of CHM

3.1 International Conventions

The Convention on Biological Diversity (CBD) was agreed by the international community, on June 5th 1992 at the UN Conference on Environment and Development, in Rio de Janeiro. It aims at preserving biological diversity and ensuring sustainable use of its elements, fair and equal distribution of benefits from exploiting genetic resources, equal access to genetic resources, technology exchange and transfer while taking into account the rights on these resources and technologies as well as the necessary financial means.

The Republic of Bulgaria ratified the CBD on February 29th 1996 (*The National Gazette*, issue 22 of 1996; enforced on July 16th 1996).

Implementing the Convention principles puts parties under the obligation to co-operate in biodiversity information exchange, technical and technological collaboration, including the practical exchange of this information. Each party is obliged to facilitate the exchange of information ***“from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries”*** (Art. 17, Paragraph 1). Art. 17, Paragraph 2 defines the scope and aims of this exchange as ***“exchange of results from technical, scientific and socio-economic research, as well as information on training and survey programs, specialized knowledge, indigenous and traditional knowledge as such, and in combination with the technologies referred to in Article 16”***.

In addition to securing free and open access to information, the contracting parties are under the obligation to promote co-operation and provide opportunities for technical, technological and scientific cooperation in the field of conservation and sustainable use of biological diversity while relying on the appropriate national and international institutions. Article. 18 of the Convention specifies the parties’ obligations in this sphere and provides general guidelines for their implementation. ***One of the most significant recommendations is related to setting up a clearing-house mechanism (CHM) for centralized collection, classification and exchange of information.***

Article 18, Paragraph 3 of the CBD stipulates that the unified approach to establishing this mechanism should be determined at the first meeting of the Conference of Parties. Establishing a unified information exchange system of the CHM type is interpreted by the CBD as one of the major activities that will warrant implementation of the Convention principles of equal access to biological resources. The aim is to ensure unrestricted access to information, (i.e. mostly to the information collected, processed and preserved by national and international institutions). The CBD promoted an approach that seeks to **make the information collected by public means, accessible and useful to the public**. Special attention is given to ***“the development and strengthening of national capabilities by means of human resources development and institution building”*** (Article 18, Paragraph 2). The democratic spirit of the Convention

is also embodied in the working regulations for its decision-making body: the Conference of the Parties where decisions are taken by consensus.

Establishing the CHM is inseparable from the implementation of Article. 18 of the CBD. Decision III/19 of the Conference of the Parties stipulates that establishing a CHM is the basis for the performance of the obligations arising from ensuring technical, technological and scientific exchange as well as institution building. The bulk of the technical work related to preparation and development of a CHM within nation states, was performed in the period 1996 – 1999. Regional and national issues pertaining to it were discussed at a succession of Regional meetings. On the whole, the parties that are signatory to the CBD followed the recommendation of setting up a network of ‘national’ CHMs that provide opportunities for mutual links and exchange. These succeeded in taking shape with various degrees of success and are discussed later in this paper.

3.2 Legal Aspects in Bulgaria

By signing and subsequently ratifying a number of international treaties in the field of environmental protection and biodiversity conservation, Bulgaria has expressed its political and legislative will to comply with the best principles of preserving biological diversity to the benefit of all its citizens.

The following legal acts are pertinent to this field in the Republic of Bulgaria:

Constitution of the Republic of Bulgaria (1991)

- **Referring to the Status of international legislation and its relations with Bulgarian Laws:**

Pursuant to Art. 5, Para 4 of the Constitution, any ratified international agreements shall come into force on their ratification and promulgation in the *National Gazette*, and shall supersede any domestic legislation stipulating otherwise. In case of a controversy with the existing domestic legislation or with domestic legislation adopted after the ratification date it is international agreements that shall prevail legally. It follows that international agreements, which have been signed, ratified and enforced but not promulgated in the Republic of Bulgaria under Art. 5, Para 4 of the Constitution shall not be considered part of the domestic legislation of the country.

- **Citizens’ rights of access to information**

Texts in the Constitution that refers to regulating citizens’ rights of access to information include the following:

Article 41

(1) Everyone is entitled to seek, obtain and disseminate information. This right shall not be exercised to the detriment of the rights and reputation of others, or to the detriment of national security, public order, public health, and morality.

(2) Citizens shall be entitled to obtain information from state bodies and agencies on any matter of **legitimate interest**¹ to them which is not a state or official secret and does not affect the rights of others.

3.3 Relevant policies regulating the public right of access to information

3.3.1 National legislation

- Law on Administration
- Law on Access to Public Information
- Law on Protection of the Environment

3.3.2 International legislation

- Convention on Access to Information, Public Participation and Access to Justice in the Area of Environment Protection (*Aarhus Convention*)

3.3.3 European legislation

- Directives on protecting biological diversity
 - ◆ Directive 79/409/EEC on the Conservation of Wild Birds
 - ◆ Directive 92/43/EEC on the Conservation of Natural Habitats of Wild Fauna and Flora
- Directive 90/313/EEC on the Freedom of Access to Information on the Environment

It is clear from this legal analysis that all legislative conditions in Bulgaria exist for setting up a mechanism for centralized gathering, classification and exchange of information in agreement with the provisions of Article. 18, Paragraph 3 of the CBD. The country's Constitution and legislation provide for citizen access to information for the benefit of the free exercise of their constitutional right. Thus, potential difficulties in conducting the free exchange of information do not arise from obstacles and gaps in the legislative base.

ACG are aware of several national legislative and public information efforts which are being promulgated and/or prepared by the National Government. Specifically,

- Ratification and promulgation of the Aarhus Convention
- Adoption of a new Law on Environmental Protection
- Adoption of a new Law on Biodiversity Conservation

These are intended to implement fully the articles of the Convention and the EU Directive on access to information on the environment.

¹ The term 'legitimate interest' is used in Bulgarian law to regulate access to information in the country. European environmental law adopts the stance that it is not necessary for citizens to have legitimate interest in order for them to seek for and obtain information on the environment. Such a limitation contradicts the Aarhus Convention.

In principle, these acts will not introduce new and unknown obligations in the Republic of Bulgaria. Rather they will contribute to improving and refining the existing legislation. In this way a number of potential uncertainties related to the interpretation, implementation and exercise of citizens' rights and legal persons in this sphere will be avoided.

Adopting the new **Law on Biodiversity Conservation** (in compliance with the requirements of EU Directives and international conventions), will contribute to better development and delineation of the CHM scope, and in the process of its establishment.

Both European Directives on biodiversity conservation cited earlier in the text, as well as the National Biological Diversity Conservation Strategy, the National Biodiversity Conservation Plan, and newly drafted Biodiversity Conservation Act, are all excellent tools for helping to structure the scope and content of a nationally significant CHM for biological diversity and its conservation. They all provide important substance to the eventual categories of a CHM.

4. Approaches to and Categorization of Available Biodiversity Information

In order to identify and categorize the information available on biodiversity and its conservation, 24 main categories and 81 subcategories were created. These draw heavily on categories from existing Bulgarian biodiversity conservation strategies and plans. At the same time, interviewees' answers were not always easily put into these categories, suggesting that further refinement and understanding of categories and sub-categories is needed.

Main Category	Subcategories
International conventions and directives	1. Bulgaria's obligations under international treaties listed; 2. Harmonization of the Bulgarian legal system to that of EU;
International policies/campaigns related to biodiversity (BD)	3. Obligations arising from international treaties; 4. Initiatives that are not binding; 5. Developing our country's prestige;
National legislation in the area of BD	6. Individual laws; 7. Nature conservation traditions in Bulgaria (laws of historic value) 8. Official institutions and administrative structure: obligations of the parties;
National policies/strategies and plans/campaigns on BD conservation	9. Implementation of international treaties/policies; 10. Obligations under strategic international documents; 11. National institutions/organizations for implementing agreed obligations; 12. Integration of the experience of sustained BD management; 13. Sources of financing and budgeting;
Regional (sub-regional) policies/strategies/plans on BD conservation	14. Correspondence to and implementation of national policies; 15. Obligations under international/national documents; 16. Regional institutions/organizations for implementing agreed obligations; 17. Sources of financing, budgeting; 18. Local practices and experience;
BD conservation and agriculture	19. Agriculture and environment: BD of the rural landscape/ecosystems; 20. impact of agrarian practices; 21. traditional methods, breeds and varieties: extensive agriculture; 22. organic/ecological land cultivation; 23. sustainable agricultural practices

BD conservation and forestry	24. BD of forest ecosystems; 25. Impact of forestry practices; 26. Forest management; 27. Economic issues; 28. Afforestation as an environmental factor: advantages and disadvantages;
BD conservation and hunting/fishing/fish-farming	29. traditional hunting practices: hunting tradition and culture; 30. hunting as an organized economic activity; 31. legal and ecological aspects of hunting/the hunting business;
The protected territories network: site protection	32. types of protected territories; national parks, reserves, natural parks, protected sites, sites of interest; 33. visits, services in protected territories;
The national ecological network/the European networks: protection of sites and habitats	34. obligations under European Directives 92/43 and 79/409; 35. obligations arising from the national legislation: the Law on Biological Diversity; 36. data bases: CORINE biotopes, sites of ornithological significance, scientific information, international projects, registers of MOEW;
Protected species, the Red Book/lists/ CITES – protection of species	37. obligations under international conventions; 38. national laws; 39. administrative and institutional regulation of the implementation of protection regimes;
BD conservation <i>ex-situ</i>	40. zoos, botanic gardens, semen banks; 41. private collections and partnerships; 42. legal aspects and institutions;
Scientific/academic institutions	43. running research projects; 44. results, data bases on sites, species and habitats; 45. intellectual property and rights: legal and moral issues; 46. academic activities as a precondition for developing a potential;
NGOs and BD conservation	47. projects on BD conservation; 48. partnerships; 49. educational projects; 50. human potential of NGOs; 51. the role of NGOs in society; 52. results, data bases on sites, species and habitats
BD conservation and central and local authorities	53. national institutions: legal and administrative regulation, roles and activities; 54. regional institutions: legal and administrative regulation, roles and activities; 55. local institutions: legal and administrative regulation, roles and activities; 56. results, data bases on sites, species and habitats;

Bi-lateral and multi-lateral cooperation	57. international initiatives; 58. preparation of binding documents; agreements on projects; 59. funding mechanisms and possibilities;
Regional and transborder interaction	60. at the level of central government; 61. regional administration, municipalities, civil sector;
CD conservation and human resource development	62. enhancing the potential of institutions; 63. the role of NGOs; 64. education: university and high school; 65. knowledge, educational courses, consultations, research;
Technologies	66. for BD monitoring and assessment; 67. for data gathering/ computer systems, data base equipment, standards;
Biotechnology and BD conservation	68. biotechnology; 69. BD conservation and genetically modified organisms; 70. Risks; 71. Legal issues;
Health and the environment	72. value of BD and human health; 73. usage of natural resources;
Sustained BD usage	74. successful practical experience of sustained usage;
Business and BD conservation	75. trade; 76. natural products processing; 77. labeling, certification; 78. marketing; 79. sponsorship/funding
Threats for BD	80. present ones; 81. future ones.

This categorization was developed especially for the purpose of this survey. Here ACG attempted to develop a biodiversity information matrix/index that allowed the surveyor to describe existing information types, information needs, and information sources for the purposes of a situation analysis. ACG then used the same index as the basis for prioritizing information for this assessment. Both represent ACG's efforts to contribute to the creation of a "internationally compatible" standard for information on biodiversity and its conservation.

Identification of pertinent/available information is done at the level of institutions – more a situation analysis rather than a needs assessment. This establishes a reliable context for the next step necessary in developing an index in support of a CHM - assessment of the information of each owner, at an expert level, from the point of view of its suitability for inclusion in a future exchange.

In order for this to happen, it presupposes a preliminary structuring of a CHM in Bulgaria.

4.1 General Conclusions and Results from a Review of Information Sources

Respondents to the Needs Assessment found it difficult to organize information in accordance with goals of the CBD and the survey tool. However, there is a considerable amount of information on biodiversity and its conservation in the country already available in different institutions and in different formats, and collected with different purposes. Despite the wide range of biodiversity sub-categories, ACG could find information on all of them within the institutions they contacted. Interviewees also added another 18 subcategories on which they personally hold information.

Trends

Legal information (both national and international law, legislation, directives, etc.) represents a fairly large amount of information to which stakeholders already have access. Including international legal information, therefore, in a CHM will probably be least problematic. This information is available and specific. It is widely available in both Bulgarian and English.

A distinctive feature of the thematic distribution of biodiversity information turned out to be its unevenness. Information on some subcategories can be found in 5-10 institutions, while on others – in 25 to 30 institutions. This trend shows the highly dispersed and disparate character of information on biodiversity and its conservation under each subcategory. Information can be found in institutions of radically differing status, and respectively, different interests and responsibilities.

Given the volume and dispersed character of biodiversity information in the country, ACG envisions three proposals that are directly linked to information sharing:

- (1) to emphasize and advertise the node for biodiversity information in the country and to make it/those clear, (often referred to as National Focal Point),
- (2) to appoint biodiversity information focal points within other stakeholder institutions and agencies; and,
- (3) to ensure the integrity of information, so that it can not be tampered with, and/or changed at the discretion of a user.

ACG also concludes that Bulgaria has sufficient information to start a CHM. More importantly, there is an immediate need to systematically index and categorize the information on a national level, prioritize those categories, and create/negotiate links with their primary collectors/caretakers. Bulgaria needs a detailed (and clearly acceptable) meta-information categorization for biodiversity and its conservation.

4.2 Information Available According to Subject Area

There are two main ways of summarizing the results of this data.

Main Categories

Interpreting results of the survey, ACG indicates that using the main categories of biological diversity information has certain important advantages. They correspond more clearly to categories and headings of the CBD. They represent the general

framework within which details (sub-categories) can be developed and maintained. They emphasize the major directions of the process of information management. In this sense they can serve as the basis for developing an internationally compatible standard for the organization of national biodiversity information.

ACG found it difficult, however, to summarize/organize available information under the main categories. They were limited by respondents who perceived that:

1/ main categories were too general to allow an effective organization of their available biodiversity information. Even with sub-topics identified, the categories appeared inappropriate. Some respondents wanted new categories;

2/ there are major differences between the amount of information assumed within different main categories; as a consequence some respondents felt that categories should allow for the more even distribution of biodiversity information.

Consequently, for purposes of analysis, they applied a combined criterion so that most frequently identified subcategories and a relative balance in the internal division into subcategories.

Eight main categories stood out. These categories possess the largest quantity of available information in the country.

- Protected territories network
- Protected species, the Red Book/lists, CITES – species protection
- International conventions and directives
- National ecological network, European networks: conservation of sites and habitats
- NGOs and biodiversity
- National legislation in the area of biodiversity
- Threats to biodiversity
- Scientific and academic institutions in the area of biodiversity.

Sub Categories

The 80 sub-categories allowed respondents to ‘arrange’ more easily their own information, and to place different information in their possession within the structure of the main categories. These categories allowed ACG to partially overcome the problem of different interpretation of biodiversity topics caused by an absence of a national biodiversity index, absence of any systematic organization of information relevant to biodiversity.

ACG believe that these 80 sub-categories could be useful when building a CHM in Bulgaria. The collection of information during this needs assessment, and its graphic presentation shows the imbalance in the internal structure of main categories of biodiversity information in the country. They also reveal available sources as well as gaps in information that could be overcome by developing a program for priority collection of information to fill these gaps. Thus it is only at the level of sub-categories that the reader can view most clearly the gaps in information resources.

The results of the survey therefore are presented graphically, so that they are easier to interpret: (*See Graph 1: Available information according to subcategories.*)

4.3 Characteristics of Available Information

The dispersed and highly diverse information on biodiversity and its conservation makes it difficult to extract general information characteristics according to main categories or subcategories. However, ACG believes that certain shared characteristics on information management emerge. It can be assumed fairly safely that they apply to the information under each subcategory:

- Even within sub-categories, there is not systematic organization of information in most institutes and organizations. Without an **index** of primary information relative to biodiversity, a CHM will flounder under confusing categories of information, and will fail to allow interface (networking) between information categories and sub-categories.
- Information on biodiversity and its conservation is to a great extent maintained and accessible only by individual (owners) and/or users within the same institution.
- Information that **is** accessible has varying degrees of conditions governing its access.

ACG also encountered people who declared that particular information is secret – information related to new developments, such as biotechnology, enterprises with high commercial value, information related to national interests, specific endangered species and their locations, etc.

4.4 Information sources

The availability of information on each subcategory in different institutions presupposes different sources of generating information. Despite slight variations (e.g. scientific data bases, species data, habitats), information on biodiversity and its conservation under each subcategory was collected from the following sources:

- The primary source of information on biodiversity and its conservation turns out to be scientific research - both field and laboratory research. Research is largely carried out by the institutes of BAS, under MOEW projects on specific territories, and as part of international donor projects. The final product of this research often takes the form of a book ('Bulgaria's Fauna', the Red Book, the GIS for Central Balkan National Park, GIS for Rila National Park, etc), which then becomes a secondary basic source of information for other organizations.
- Scientific papers published as dissertations, reports, and specialized national and international editions.
- Results from monitoring systems: Primary data offered most frequently by the quarterly editions and the annual edition of the Executive Agency on the

Environment, which monitors the elements (air, water) in accordance with approved and regulated methodologies.

- State of the Environment Reports: These reports summarize a host of smaller papers and reports. They include, for example, the National Report on the Condition of the Environment in Bulgaria - the Green Book).
- Forest Inventories and Forest Enterprise Development Plans: The MOAF, and the National Forestry Board maintain these, and update them on both annual and after 10-year periods. The AgrolesProject is typically used to compile this information.
- The Ministry of Agriculture and Forests stated the availability of an organized system for collecting operative information on agro-statistics and markets. Detailed information can be obtained from the respective department. However, it was not collected in the course of the present survey.
- Periodicals and books: These contain individual and collective analyses of biodiversity with varying degrees of “scientific” accuracy and rigor. These are usually accessible through the libraries. Their references and bibliographies offer concrete information on printed sources and their publishers.
- Special projects - (completed by individuals and/or academic teams) – The quality and accuracy of this information again varies. But in many cases, these papers are not always published, and are many times only accessible due to the personal popularity of their authors.
- There are also guidelines, formats, and “toolkits” (located within governmental institutions, BAS, NGOs) for conducting certain activities, such as developing plans on protected areas management, field surveys, species counting, resource assessment, etc. These are both international and Bulgaria-specific in nature.
- Laws and ordinances/regulations through which the legislative powers provide the general framework as well as the concrete regulation of activities related to biodiversity conservation.

The information sources listed above exist predominantly in paper and/or electronic formats – in different languages, and in different software formats.

Other information sources include respondents who cited contacts with colleagues (direct or on the Internet), local people, and specialized groups (hunters) were important information sources from which one can obtain oral information.

ACG found very little evidence of attempts to record and categorize traditional knowledge, attitudes and practices regarding biodiversity, ethno-botany, rare animal breeds, cultivars, and traditional agriculture, etc. This is particularly ironic in a country with such a long tradition of ethno-botanical and biodiversity conservation traditions and practices.

4.5 Characteristics of Mechanisms for Biodiversity Information Collection and Updating

In principle, the process of biodiversity information gathering, updating and processing manifests itself in different structures and degrees of systematization in the different institutions. From the ACG survey, one can conclude that:

Information is stored rather than processed. There are few exceptions. This impedes information sharing, even with regard to the monitoring data acquired by the Executive Agency on the Environment.

Specific examples observed and reviewed during this assessment include:

- **MOEW** - At present there is no unified structure for systematic information management within the Ministry. While information collection and distribution on biodiversity is considered a priority for the NNPS, at present they are ill-prepared to collect, store, process and distribute such information.

In June of 2001, the MOEW is expected to mark the beginning of activities that will lead to an inventory of available information in the MOEW. While this will go some way toward helping to organize and catalog existing information, information is still not distributed in a systematic manner. ACG discovered that distribution is done based on the decisions of individuals. The MOEW's existing web page, which is updated infrequently, does not provide a catalogue of the information available to the public, let alone on biodiversity.

At present the most efficient way to access information within the Ministry is to visit one of two information centers in Sofia. But here ACG discovered that there is no systematic storage of information; information storage formats varied between hard copies, audio-tapes, CDs and floppy disk files.

- **Executive Agency on the Environmental (formerly the National Center for Environment and Sustainable Development)** - The Agency is a unit of the MOEW that collects and processes environmental information. However, biodiversity information collection and processing is generally lacking as part of its operations. The Agency retains mostly biodiversity legal documents, and some aspects concerning protected areas and the national ecological network. The process of biodiversity information gathering has only started fairly recently. The EAE exchanges information with the National Natural Protection Service (NNPS) and less frequently with NGOs. The Agency publishes quarterly editions and an annual report on the state of the environment.
- **Agrolesproject** - Formerly a state-owned company (now para-statal) which had the exclusive arrangement with the Committee of Forests to provide forest fund management plans and develop protected area management plans. The company is considered one of the foremost sources of spatial, digital and quantitative information on the nation's forest estate. The company possesses exhaustive information on Bulgaria's forests, mainly from an economic point of view, but

recently it has started acquiring additional information on biodiversity. It also possesses rich information on protected territories, scientific research and concrete projects (e.g. nature park management projects). The company still retains a close working relationship with the Ministry of Agriculture, National Forestry Board.

- The national **library** system contains information on biodiversity and its conservation amounts to a small proportion of library collections. The information from the national network, however covers most of the proposed categories addressed by this survey. The National Library deserves special attention since it receives 90% of all printed editions in the country. Libraries (public and others) do not select incoming literature according to its quality. Information in scientific libraries follows a centralized pattern and this stems from the BAS. Their library and its index is regularly updated, and comprises mainly articles and other publications in the academic exchange (in Bulgaria and abroad). Generally there is little electronic information taken into and exchanged by the BAS library. Large libraries update their information on a monthly basis (periodical editions, new books) while smaller libraries do it less regularly. Literature comes in mainly through donations, purchases, subscription (for periodicals) or inter-library exchanges. The published information available in libraries is mostly outdated.

4.6 Information Classification Systems, Storage, Formats

As already indicated, ACG did not encounter a unified system for classifying information on biodiversity, which makes it difficult to find information.

Information classification is done by different organizations in accordance with their own needs. Scientific institutes use specialized classifications relevant to their academic discipline. Information in libraries is classified in accordance with the nationally adopted classification system that allows for subject searches and author searches.

A frequently used method of information classification relates to geographic units (regions) (AgrolesProject, Regional Environment Inspectors) and protected area territory and/or units of natural resource (forests).

A large part of existing information is stored on paper (texts and maps). Storage on paper makes information difficult to extract, and to standardize its format, storage and exchange. For the last 7-8 years some information has been preserved digitally (national laws, European directives, conventions, international project results, databases etc.). This study was unable to determine the compatibility, formats and construction of relevant biodiversity data bases located within different institutions and organizations.

Map access and production is problematic in the country, as land restitution, and development of a new national cadaster are in progress. In addition, geo-reference coordinates are often intentionally inaccurate, a holdover from days where significant sections of the country were considered military secrets. The veracity of most maps, therefore, is questionable, and the corresponding use of Geographic Information systems, still limited.

It is rare to find information in the form of videos, films, photos and maps, and digital formats, even if such are in great demand.

4.7 Information Risks

Results of this needs assessment indicated that the most significant risk to effective biodiversity information collection and sharing in Bulgaria is the absence of an information management system, and failure to allocate funds for its operation and maintenance. Respondents also indicated that many sources of information were also unnecessarily monopolized, underused and outdated.

Bulgarian biodiversity information management also lacks the necessary information management safeguards against information corruption, theft and data manipulation.

5. Main Groups of Information Owners

5.1 Characterizing Information Owners

Approximately 70 biodiversity information stakeholders were identified. Depending on their roles and responsibilities regarding biodiversity information, they can be divided into several groups:

- (1) information generators for whom biodiversity information collection amounts to a primary activity (BAS, some universities, some NGOs),
- (2) information preservers (libraries, specialised organizations (tourists, hunters),
- (3) information distributors (MOEW, the mass media, electronic exchange systems (Bluelink),
- (4) mixed information managers (NGOs, municipalities, ministries).

The range of information possessed by each institution or organization ranges significantly. This also holds true for branch offices of these same institutions or organizations.

As can be expected, the widest range of information on biodiversity was maintained by the MOEW. They claimed to possess information on 90% of all sub-categories. The private sector possessed the most limited range of biodiversity information – only about 15% in 12-17 sub-categories. There was also a considerable differences among some groups interviewed – the media varied greatly in terms of information possessed (8 to 63 sub-categories), while universities (9-63 sub-categories), Government ministries (7-71 sub-categories), even Regional Environmental Inspectors (20-72 sub-categories) only appear to re-confirm inconsistencies and the incidental nature in the amount and distribution of primary and secondary biodiversity information.

Table 1: Main groups of owners

	Number of identified subcategories	
	<i>Minimum</i>	<i>Maximum</i>
MOEW including:		
NNPS	74	77
Park Directorates	24	57
REIs	20	72
Other ministries	7	71
BAS	16	54
NGOs	10	64
Universities	9	61
Tourist companies	6	44
Private sector	12	17
The media	8	63

5.2 Main Characteristics of Biodiversity Information Owners

ACG found that the “characteristics” of different institutions can affect their willingness to gather and share information on biodiversity. During their survey, they sought to identify characteristics that could serve to unify the management and sharing of biodiversity information in the country. Unfortunately, their analysis reveals a trend towards differentiation rather than unification amongst biodiversity information owners. This suggests difficulties in creating a shared vision and consistent set of joint activities on CHM building in Bulgaria. ACG believes that institutional differences are greater than similarities when it comes to cooperative design and development of a CHM for Bulgaria. Their findings indicate that biodiversity information stakeholders have:

- A different interpretation of the concept of biodiversity. ACG attributes this to the narrow specialization of many of those interviewed. They did not detect a common framework for discussing the elements of biodiversity, biodiversity conservation, and sustainable development. They found that many interviewees described biodiversity from a highly personal perspective and from a perspective of a specialist.
- Differing assessment of and familiarity with the new information technologies and their role for biodiversity, conservation information management, and subsequently, information sharing.
- Differing degrees of familiarity with other (outside) institutions (national and international) related to biodiversity and its conservation in terms of their aims, roles, activities, and information.
- Differing perspectives and attitudes on, and familiarity with the legal issues and requirements (national and international) regulating activities on biodiversity, its conservation and information sharing.
- Significantly limited financial resources; many often treat their information as a commodity and try to sell it.
- Fewer and fewer opportunities (due to limited funding) to update information, or to conduct new studies. Information is increasingly becoming outdated and difficult to renew.
- Outdated or obsolete information processing technology. ACG also noted that few people were able to operate and use their existing technology to full capacity.
- A very high degree of academic preparation for their tasks, and similarly, a high degree of potential with the development and maintenance of any future biodiversity information system.

6. Information Needs

ACG used the same survey tool and approach, (including the same categories and sub-categories) to determine the information needs of biodiversity stakeholders. Results are summarized in detail in the appendices of the Bulgarian version of this report. ACG have presented the results in an abbreviated form in the English version of the report.

6.1 General Public Preferences

General public information needs were identified using a technique that was previously used by ACG in 1997 to determine public attitudes and information needs regarding protected areas, national parks, and biodiversity conservation. A two-tier cluster samples was used to question 1,247 respondents. This technique allowed us to analyze biodiversity information needs in the adult population of Bulgaria, and to compare results of the 1997 survey, with the results of the 2001 survey.

Three major public typologies emerge amongst the general public (according to their interest in biodiversity/nature):

- a group lacking any interest and who does not want to use any information related to nature and nature conservation;
- a group with a general interest in biodiversity and its conservation. They receive information on nature from the general flow of daily information (newspapers, radio, TV, periodicals); and.
- a group with a well-expressed interest in biodiversity. They make efforts to find information on biodiversity, its conservation and sustainable development. ACG were able to confirm that the latter group (as a percentage of the entire population) has remained stable over the last five years. This was reconfirmed in survey samples taken in 2000 and 2001

The comparison between the present survey and the survey conducted in 1997 makes it possible to outline trends shared by group:

There is a persistent (yet restricted) public interest in environmental topics related to:

- the state of the environment (water, air, the sea and the coastline);
- health and the environment: the importance of biodiversity to man;
- rare plants and animal, and species threatened by extinction;
- forests, forestry and biodiversity conservation;
- legislation aimed at protecting the environment in Bulgaria;
- biological diversity in Bulgaria;

There are also emerging trends in a desire for information about:

- biodiversity conservation (ex-situ) - zoos and botanic gardens;
- the role of local government in biodiversity and its conservation; regional strategies for biodiversity conservation;

- environmentally friendly land cultivation (biodiversity and sustainable agriculture);
- the influence of hunting, fishing and fish-farming on biodiversity;
- reserves and national parks;
- afforestation as a factor in biodiversity conservation .

6.2 Perceptions and Expressed Needs for Biodiversity Information among Institutions and Organizations

Seven main categories of information emerged from our interviewees as general requests/needs for information. These were:

- 1 bi-lateral and multi-lateral co-operation;
- 2 national policies/strategies and plans on biodiversity conservation;
- 3 the national ecological network and examples of European networks: protection of sites and habitats;
- 4 biodiversity conservation and the role of central and local government;
- 5 business and biodiversity conservation;
- 6 biodiversity monitoring and data processing technologies;
- 7 national and international NGOs and their roles in biodiversity conservation.

When ACG analyzed their findings by sub-categories, several interesting information needs and trends emerged: (*see Graph 2: Necessary information under subcategories on the following page*)

- There is an immediate, priority need for additional information on results and data bases on sites, protected areas, species and habitats. Many of these are seen as controlled and managed by scientific institutes;
- There is significant expressed need for information on all levels about the opportunities for funding related to biodiversity, its conservation, and sustainable development. Specific mention was made for funding information related to activities at national level, within international cooperation agencies, and the business and enterprise development field;
- There is also a need for information on the current status of environmental policies in the country. More specifically, people wanted to know about Bulgaria's obligations to implement strategic international documents, conventions, European directives, share informational data bases, and to understand the use of the Emerald and CORINE biotopes system;
- There is a growing interest in some of the fields of biodiversity and sustainable agriculture related to "labeling", organic certification, marketing, bio-prospecting, intellectual property rights, organic agriculture, biodiversity conservation on private lands. ACG discovered that this is a growing field of interest, and that demand for information is quickly growing.

From the results of the survey, and by using the basic categorizations for biodiversity information, ACG was able to identify the following type and scale of potential users (stakeholders) in light of a CHM.

Table 2: Main groups of potential institutional users

	Number of identified subcategories	
	<i>Minimum</i>	<i>Maximum</i>
MOEW including		
Park directorates	20	28
REI	3	26
NNPS	3	6
BAS	1	24
Environmental NGOs	4	24
Universities	0	20
Tourist companies	0	20
Private sector	3	10
Other ministries	0	9
The media	0	9

The survey results do not imply a ranking of information needs. Rather, ACG believe that their results illustrate a perception among these institutions of the bare minimum information they require (by category). It also illustrates that the agencies and organizations that are most engaged in biodiversity, its conservation, and sustainable development issues, represent the biggest users of information in the country. While this confirms an obvious information need by groups specializing in biodiversity information categories, it also means that preliminary establishment of a CHM should be able to take place with a minimum number of institutional stakeholders.

Among the most demanding of biodiversity information users were park administrations. They consistently expressed needs for information on the highest number of subcategories in comparison to all the other respondents. They are also far more unanimous and consistent in their information needs. ACG believe that this can be most easily attributed to the new protected area network and specialist institutions emerging in this country. The fact that a new profession is dealing with biodiversity and its conservation makes them one of the largest producers and suppliers of information related to biodiversity conservation in the country.

A general typology of information stakeholder emerges from the surveys. The following clusters of potential users are target groups for future information generation, use, and sharing. Identification of these target groups should contribute to a network of potential CHM users.

- *Policy implementers and Decision makers* – these are users taking decisions related to implementing the overall policy on biodiversity protection or protected territories: the Council of Ministers, MOEW, NNPS, REI, MOAF, National Forestry Board, park directorates and specific parliamentary commissions;
- *Local Government, in particular their Ecological administrators* – these are users taking decisions related to implementing and managing local environmental policies, biodiversity conservation in areas outside the protected area network, and advising municipalities, and mayors;

- *Sustainable Development Practitioners* – these are users taking decisions related to managing activities based on/concerning biodiversity in: agriculture, tourism, trade in natural products/resources, biotechnology;
- *EIA Practitioners* – these are users taking decisions related to managing activities indirectly concerning biodiversity and its conservation: transport, civil engineering, industry, territorial planning;
- *Academia* – particularly the institutes of ecology, forestry, botany, natural history, and zoology - these are users of primary information and its analysis as linked to the pursuit of science;
- *Conservation and Environmental Educators* – these are members of the education system and its various levels: secondary school, higher education, specializations and academic progress;
- *Special interest groups* – these are users without specific decision making powers but who collect and use biodiversity information for personal edification or as members of watch-dog groups
- *the Mass Media* - these are users of information who are most frequently engaged in selling news and views on biodiversity to the public;

7 Building a CHM in Bulgaria

7.1. Assessment Summary

Any “good” clearing house mechanism is premised on the notion of clear information exchange and access procedures and guidelines. During this needs assessment, ACG identified that:

- The present exchange of information on biodiversity lacks clarity, regularity, and consistency. Too much of existing information exchange is dependent on personal initiative and contacts. This is particularly true for accurate and up-to-date primary information.
- Information access is equally problematic. In large part, these problems can be attributed to the absence of a clear policy among institutions and organizations regarding primary information access and exchange. In the absence of these policies, information access remains too often subject to the vagaries of individual administrators.
- In institutions and organizations where information exchange prevails easily internally, the same does not hold true for information sharing outside the institution.
- Scientific institutes are a critical part of biodiversity primary information in the country. Any attempt to create a CHM must recognize the important role that they play in both the veracity and quality of primary information on biodiversity. It remains however difficult to both determine and ensure ready information exchange intra-institute as well as inter-institute. ACG discovered that is highly unusual for primary information to be share outside institutes (with the public) unless such information formed the work of an international project, or was published as a monograph.

7.2 Electronic Information Exchange Systems

There are two functioning electronic systems of information exchange in Bulgaria - BlueLink and NACID. They disseminate information on the biodiversity and its conservation in Bulgaria, in addition to many other topics. This information has been provided by each organization:

BlueLink

BlueLink is an Internet-based information network at the service of non-governmental organizations in Bulgaria involved in environmental conservation. It serves primarily Bulgarian NGOs, but is open to any organizations and individuals with an interest in environmental conservation, the media, research and educational institutions, state and municipal bodies and the private sector.

BlueLink offers information on all aspects of environmental conservation and sustainable development. The issue of biodiversity is emphasized as it directly concerns the efforts of NGOs in monitoring policy and legislative development, public

awareness, and education in biodiversity. While BlueLink does not specialize solely in biodiversity, it has the potential to provide in-depth coverage of this subject.

BlueLink draws on biodiversity-related information mainly from NGOs, the media and the Ministry of the Environment and Waters. The volume and rate of the information flow depends mostly on the issues, activities and degree of involvement of the source NGO in the respective field. The information is published on-line as soon as it arrives- no attempt is made to determine its accuracy or veracity.

BlueLink operates its own classification system in which biodiversity is an integral aspect. The subject of biodiversity is not subdivided into smaller units at present. However, BlueLink is keen on ways to improve the classification system.

The information provided and disseminated by BlueLink is electronically stored on its own designated server, on the hard disks of computers operating in a network, and on computer diskettes. In addition, some important data are also stored in printed (hard copy) form.

BlueLink exchanges information with the Ministry of the Environment and Waters, the media, NGOs, private individuals and the academic community. Information access is free, and no rules govern information use.

The National Information and Documentation Center (NACID)

NACID is a directory of Bulgarian web-sites providing links to all sites listed in it by means of an interactive Guide-Index. The listing system contains the names of all sites while providing a hyper-link to each site's web address. The Guide-Index deals with two aspects of information: thematic and institutional. It gives information on fifteen principal themes of social and economic activity in Bulgaria and about numerous governmental and non-governmental organizations.

On the subject of 'Biodiversity', the Guide-Index, through its 'Ecology' hyper-link, will locate and identify for the user almost 20 *sites containing information resources* (specifically, ecology-related information), as well as about 30 *sites operated by organizations and institutions* involved in the subject and theme of ecology. Should the user be interested more specifically in biodiversity, the Guide-Index can provide a link to just three sites.

The Guide-Index provides links to a number of legal instruments constituting Bulgaria's ecology-related legislation. The system also has a News feature disseminating information about current and forthcoming events. The Ministry of the Environment and Waters, non-governmental ecological organizations, programs or projects can post that information online.

The Guide-Index is a popular and accessible mechanism of information and documentation exchange and although it is not specialized on biodiversity it is readily available to all institutions willing to supply information on all issues related to it. Everyone willing to share information on biodiversity can apply directly to its site.

The Guide-Index may be used as a base for developing the national mechanism of biodiversity information exchange (CHM). Again, information access is free, and there is no attempt to control or verify the contents of anyone posting information by the Center.

BulBioNet

The first specialized biodiversity electronic system of information exchange in Bulgaria is expected to be the one created by **BulBioNet** Project.

The Project is funded by the National Eco Trust Fund and implemented by the Central Laboratory of General Ecology of the Bulgarian Academy of Sciences. It began in April 2000.

The goal of the project is to develop, equip and install a dedicated information network and to provide access to a database on biodiversity in Bulgaria by means of setting up a web-site accessible to Bulgarian and foreign users.

The system targets the broad Bulgarian public, as well as some specialized users. These include academic and applied research institutions, universities, museums of natural history, zoos and botanical gardens, dendrariums, genetic bio-resource banks.

The BulBioNet information network represents an open-type, de-centralized national information system. Based at the Bulgarian Academy of Sciences, it will be linked to the World Wide Web through its own web-site and server. Its principal terminals are to be set up at the Institute of Zoology, the Institute of Botany, the Central Laboratory of General Ecology, the Institute of Oceanography, and the Institute of Forestry.

As an information system, BulBioNet will support specialized databases providing information classified into two sub-systems, of species and habitats, at two levels of access: reference and specialized (in-depth). User access to the reference section will be free for all, while the specialized section will have restricted-access status.

The project could be seen as a pilot phase of a comprehensive program for the development of a scientific information infrastructure on biodiversity conservation in Bulgaria. Once completed it could serve as a basis for the national information exchange mechanism (CHM) in conformity with the Convention on Biological Diversity. The system is not yet operational, but intends to use a private contractor to manage its operation.

7.3 General Perceptions and Challenges

This survey and needs assessment are not conclusive, but several important perceptions and challenges for establishment of a CHM in Bulgaria were collected from those people and institutions that were surveyed.

- Absence of a clear description of biodiversity and biodiversity conservation categories. Without a clear index of what information is embraced by the term biodiversity, and how information categories/sub-categories designed and linked, it is difficult to determine how this information is best organized.
- Absence of unified standards and formats regarding available information on biodiversity and its conservation.
- There is a big disparity between the quality and operating systems of information management computers and software;
- Interviewees expressed a wide variety of familiarity and trust in the use of the Internet as both a data reference and data access tool
- Absence of both a policy and mechanics for access to information. How does one deal with issues of copyright, payment for information, and other proprietary concerns?
- Absence of guidelines on public access information. No one is clear about what information and/or subject matter can be considered part of the public record, and what remains confidential and/or restricted in its access.

7.4 Existing Role of NGOs in Biodiversity Information Management

The perceptions of NGOs and their roles in biodiversity information management, and CHM are determined from two general target groups in this survey. One source of information is the government and scientific agencies that were interviewed, while the other is the environmental NGOs themselves. ACG maintains that the role of NGOs in Bulgarian society is not very clear to those interviewed.

It is important to understand the context in which NGOs operate, and how they are perceived by Government and Academia. There are over 4000 registered NGOs in Bulgaria, with 120 of these citing an “environmental” specialization in their registration. During this survey, government and academic interviewees expressed their skepticism as to the organizational and academic maturity of many of these NGOs. The prevailing opinion is that *“due to their number and multi-orientation they attract considerable financial resources without developing adequate products”*. There is a wide range of impressions about the individual and collective abilities of NGOs, their leadership, and their motives. There is consistent skepticism regarding the quality of their biodiversity information, including collection methodology, the veracity of the information, its analysis and the competence of its authors.

The only positive opinions ACG encountered about the roles and functions of the NGOs as regards biodiversity information stems from the opinions of NGOs themselves. Environmental NGOs (with a biodiversity mandate) perceive themselves as a “government policy and practice” monitor. “We are a corrective means to national authority”. Environmental NGOs are given towards skepticism of government commitment and competence in biodiversity conservation. They also acknowledge a

level of competition between themselves, where sole access or possession of information adds value and credibility to individual NGOs. They believe it also assures them of contributions to national discussion and debate on biodiversity conservation. According to the results of this survey, the NGOs, as a whole, see themselves possessing ‘more recent’ information and more relevant information (writ. conservation biology). NGOs see themselves as “very well informed, even better than state institutions on which they ‘exert pressure’ to update their (the State’s) information.”

The mismatch between NGOs’ self-assessment and the assessment of others, however, can lead to conflict of interests (especially between NGOs and scientific circles). This mismatch could be a major obstacle to NGO participation in a National CHM, or to effective exchange of information between institutions and organizations – where both are suppliers and users of information.

8. CHM - the World Experience

In addition to the collection of information and needs associated with biodiversity and a CHM in Bulgaria, ACG targeted other national focal points by e-mail and web-pages of functioning CHMs in other countries. Information was gathered with the aim of accumulating the major characteristics and practical experience of others engaged in the establishment of CHMs worldwide. The following observations and remarks are a conclusion from the response of 12 national CHMs and the review of 14 CHM web pages.

8.1 Start-up and Development

CHM is a national requirement as defined by the Convention on Biological Diversity. As a signatory to the Convention, each country is bound by this requirement. There are, however, no preconceptions as to the role, scope, aims, and priorities within a national CHM. Apart from the effective international exchange of information on biodiversity, its conservation and its links to sustainable development, the Convention stresses that **each country** needs to develop specific national needs, aims and priorities for its own CHM. What is clear is that each country will find an advantage in:

The identification and classification of information categories in a national CHM is based on the Convention on Biological Diversity, the decisions of the Conference of Parties, the needs as defined by participants in the working group and/or research, discussions and presentations at regional and national conferences.

Information is most often presented and organized under the following categories:

- Convention on Biological Diversity (CBD);
- Information on CBD and CHM;
- Implementation of the decisions of the Conference of Parties;
- Strategy of the respective state with regard to introducing CHM: national strategy, national plan, national reports;
- Legislation: national and international obligations in the field of biological diversity and its conservation;
- Participants in the national CHM;
- General information on biological diversity;
- Biological diversity in the respective country;
- Conservation of rare and very rare species;
- Protection of habitats and species;
- Genetic resources and biosafety;
- Economical usage of natural resources;
- Scientific institutes, research and projects in the field of biological diversity;
- International cooperation – projects, programs embracing national participation at national, regional and international levels;
- Education;

- Management and assessment of biological diversity and its conservation;
- Financial resources and funding.

CHM development has traditionally started by establishing a “national body” that includes representatives of key organizations and institutions, with state institutions playing a leading role. This body is given the mandate to plan, organize and supervise CHM related activities by means of consensus on the basis of an adopted National Plan.

- The “national body” is most frequently shaped up by several key figures, the most important being the national ministry of the environment. Scientific and academic institutes, other governmental agencies, non-governmental organizations, and private agencies. The composition and participation of a diverse set of stakeholders is viewed by all international initiatives, as **mandatory** at the outset of developing a national CHM.
- The operations/running of a CHM should be managed by the “national body”, or some other “smaller” unit identified by it.
- The number of participants in a “national body” differs between countries, e.g. 6-8 (Poland) and 10 (Germany).
- A key factor for success is reaching a consensus and adopting a National Plan on CHM development.
- “The National Plan must be carefully designed in such a way as to correspond to CBD requirements and national needs.”
- CHM development and operations requires the participation of state institutions, especially of the national ministries of the environment. Ministries of Environment have a more comprehensive mandate and more significant responsibility for collecting and updating information. They often have the primary responsibility for implementing national policies, and for ensuring the integrity and quality of relevant information.

International experience also points to the role of NGOs in start-up and development of CHMs. CHMs in other countries acknowledge that environmental NGOs play a specific role because they impact on public opinion, influence political discussion, provide a “monitoring” or “watch-dog” role on environmental matters. Specifically, relevant NGOs have been used effectively in the:

- Development and complementing the content of the national CHM;
- Moderating and “brokering” CHM information intended for NGOs and the public;
- Providing information and links to and from the national CHM.

Participation of the *private sector* in the functioning of national CHMs is generally weak. There were exceptions - Germany (where private sector representatives are members of the National Working Group) and Finland (where private sector representatives are members of the National Committee on the National Plan for Biological Diversity Conservation).

International experience also pointed to some important qualities in creating a motivated team for CHM building and cooperation amongst CHM participants. These are specific quotes from among those CHMs that were surveyed and responded.

- “A motivated CHM team is needed – a team familiar with CBD principles.”
- “You should include a maximum number of information owners and study their real needs and expectations concerning the national exchange system.”
- “The team should include ecologists and information technology experts.”
- “One needs good contacts with similar national and international institutions and organizations.”
- “Different institutions perceive CHM differently: their expectations vary from nil to extremely complex requirements.”
- “You should be open to innovation and new partners.”

International respondents also noted that development of a CHM was time-consuming. All noted the value of a project approach that used phases and clearly identified steps for its development. The following quotes shed an interesting light on the experience of CHM development in other countries – primarily because they are “customer” driven, suggesting that a successful CHM was a bit like a business plan, in as much as a successful CHM has clearly defined product(s), a sense of user/customer needs, real operating costs, marketing and advertising component, and decision making apparatus:

- “You have to understand that the national CHM, in addition to its tasks, will have to identify and develop specific national needs which makes it a unique formation that requires a lot of time to achieve its goals.”
- “CHM must satisfy customers’ needs.”
- “One should start with something small and continue in accordance with the existing resources.”
- “It is best to start with the essential aspects of a CHM, with the basic structures identified by a National Work Group, such as the one used for the National Plan for Biological Diversity Conservation.”
- “Start with something fairly simple: remember that you need time, and go step by step.”
- “Do not duplicate other people’s functions! Concentrate on your national needs and information. Link your information to the CBD Global Site.”
- “In the beginning it is best to present a ‘light’ CHM version and learn from the feedback you will receive.”
- “At a later stage it will be compulsory to conduct a survey that establishes attitudes, expectations and experience of the national CHM users.”
- “Do not begin the work unless you have the necessary political and financial support.”
- “Identify funding sources for CHM activities.”
- “Financial resources are important not only for CHM start-up, but for CHM running and renewal as well.”

8.2 Experience with Operational CHMs

The phenomenon of CHMs is still fairly new. The duration of CHMs operating in other countries varies between 3 years (Mongolia, Finland) and 6 years (Germany). ACG discovered typically, that CHM users originated both within that country, as well as being from other countries. The majority of users were scientist and researchers (50%

for Germany), governmental and non-governmental organizations, decision makers, other national CHM focal points, and special interest groups such as teachers, journalists, etc.

The experience of USA and Finland in transforming information for the purposes of different “clients” (i.e. teachers and students) as well as specialized ‘scientific’ target groups (i.e. scientists and researchers in Finland), is of particular interest. As regards CHMs that operate using web/ internet-based operating systems, Poland has the experience of operating a CHM for almost five years. They experience as many as 100,000 “hits” or visits to their web site each year, and are able to track at least 140,000 users of relevant data bases linked to the CHM in the country.

Experience with the maintenance and renewal of CHMs is also growing. Typically, a CHM starts with an inventory, index and set of strategic links between national biodiversity resource data bases. These data bases contain information that is updated by the participants in the national CHM through national reports, and with the help of partner organizations, scientific institutes, universities and specific projects. The frequency with which these data bases are up-dated depends on the available resources: financial, human, and the capacity for language translations. Given the fairly short operating period of most national CHMs, it is all the more remarkable that their renewal has already initiated. For example, the CHM in Finland started a period of renewal in 1998 and this was finalized in 2000; the Austrian CHM is currently being renewed. In Germany, since March 2001, their CHM also functions in two languages, one of them English).

Information exchange through a CHM takes different forms. The most frequently selected one is that of a web page containing information on a number of categories related to biological diversity and its conservation. Developing a web page is the preferred form of CHM functioning due to its relatively low cost. It also offers “real time” exchange of information, and easy access to large amounts of information at very low costs. The general experience is that information is usually presented as database with a multitude of links to web pages of national institutions. Some web-based networks also connect to CHMs in other countries, as well as to the original “owners” or proprietors of information on biodiversity. Obviously this requires computer-based systems of information management, as well as internet access and web site operations and maintenance.

The most frequently used components of a CHM are based on meta-databases, internet servers, web sites and computers that are used to access to databases of other national institutions (Poland, the Netherlands), the capacity to employ key word searches (Canada, USA), in addition to subject specific and organization-specific searches (Great Britain).

Interestingly, several countries have experience with additional methods of CHM development. Some of these are pertinent to Bulgaria. They include:

- Participation in developing the European Union CHM.
- Joined projects between national CHMs (Germany-Columbia).

- Initiating joined projects on CHM development, especially with developing countries and countries in transition (Finland).
- Serving as a node for the circulation of information received from the CBD Secretariat.
- Becoming a biodiversity printing house, especially in countries where information access is restricted by computer access and use.
- Developing and introducing software products: the **BioBot** search tool (USA).

Finland has also included a new CHM function – the CHM includes the organization of seminars and ‘on site’ visits for decision makers when a concrete biodiversity problem or issue arises.

As regards proprietary information, experience shows that information offered through a CHM remains the property of the “owner” who is responsible for its quality, reliability and update. Typically, all access to information is open and free of charge.

Two mechanisms for information distribution ACG also discovered by the international survey conducted. Both have eventual organizational, operational and financial repercussions:

- Active distribution to key user groups (as in Germany). Information is collected and distributed on a regular basis to key user groups within the CHM network. This distribution does not require a solicitation, but is done on a regular basis, often through a “subscription” and password;
- Sending information by request. This is a service based operation of a CHM. In some cases assistance with the location of information, its retrieval, or provision in certain format is paid for.

9. Recommendations for Building a CHM in Bulgaria

The following set of recommendations arise from ACG's interpretation of the results of the survey that was conducted in Bulgaria between March and May 2001. They also include the preliminary observations and recommendations of the Workshop conducted under the direction of UNDP and REC in May of 2001. (A summary of the workshop and its participants is attached as a separate appendix to this report).

These recommendations draw heavily upon the *User's Guide to the Clearing House Mechanism* produced by the CBD secretariat, as well as the experience extracted from the ACG internet surveys and responses from other CHMs. Finally, these recommendations are intended to steer the actions and financial support of others in the development of a CHM for Bulgaria.

The recommendations are formulated to include four consecutive stages with an expected duration of 4-5 years.

Phase 1 CHM Start-up – Strengthening the National Focal Point and Creating the conditions for Building a CHM

Proposed Duration – 6 to 8 months

Both the theoretical and practical framework for a CHM in Bulgaria exist. While not specifically stated within the Bulgarian National Biodiversity Conservation Plan, a national CHM already has both the institutional framework, as well as the partners identified for its development. The National Biodiversity Conservation Plan goes a long way in describing the relevant, general requirements for a CHM. These include:

- the legislative and policy base;
- institutional strengthening;
- the establishment and maintenance of a national ecological network;
- the expansion and maintenance of the protected areas network;
- restoration and maintenance activities;
- strengthening the scientific base; and
- information, education, and training.

The CHM is viewed as a tool directly contributing to the success of this National Plan. This Plan, however, finishes its first, five-year phase in 2003. UNDP is already contributing to the creation of a National Focal Point (NFP) within Bulgaria. The NFP is located within the NNPS, the Ministry of Environment and Waters. At present, the NFP is a single individual. While operating under the guidance and supervision of the NNPS and MOEW, the NFP still requires formation of a “national body” (perhaps a National Steering Committee - NSC) to shape the participation and procedures necessary to realize a national CHM.

NSC should bear the responsibility for the organization and supervision of activities related to building and running a Bulgarian CHM. It should include representatives of those parties identified in this survey, as well as by the National Biodiversity Conservation Plan. These include (with the need for more specificity in the membership and organizational affiliation):

- Governmental institutions and organizations;
- Scientific institutions;
- Non-governmental organizations;
- State owned and private commercial organizations;

We also recommend that the NSC include media representative(s) in view of the need for active promotion of the CHM building process, especially among the general public.

We recommend that the National Focal Point serve as the NSC secretariat.

The NSC would then have five major activities in this first phase:

1. Develop Terms of Reference and operating procedures for the NSC

This would include level and frequency of participation, pilot funding and financial management, operational structure of the Committee, and reporting requirements.

The National Steering Committee should draw heavily on the experience and composition of the group engaged gained in the development of the National Biodiversity Conservation Plan (1998-2003). We believe that several lessons learned from this exercise will contribute to a more efficient and embracing style of operation.

2. Develop a National Plan for CHM Building in Bulgaria.

In complying with the requirements of CBD and other national and international documents, the NSC will want to identify the primary components of a CHM network for the country. The NSC will want to consider other primary biodiversity conservation tools in the country, to include at least, the new development of National Ecological Network, as the Network is seen as a primary tool for developing a national biodiversity conservation approach. The NSC will also wish to:

- Reconfirm the primary users of information on biodiversity and its conservation;
- Reconfirm the primary and essential national needs for exchange of information on biodiversity and its conservation;
- Reconfirm the volume and condition of essential and primary information;
- Reconfirm the technical and institutional capacity of information owners and users;

At the very least, the NSC will have to describe the minimal operating levels and participants required for effective information gathering and exchange. This report holds some clues and indicators for continuing to frame a CHM in the country. Still the NSC would need to consider some basic parameters for the future CHM. These include:

- methods, rules and format needed to create, operate, management and maintain a national CHM. These should include the proposed structure, working relationships with other organizations and agencies, financial mechanisms, and decision-making structure for a national CHM.
- rules for collecting, preserving and updating information;
- rights and responsibilities with regard to information exchange ;
- rules for access to information;
- the tasks and obligations of each participant in the CHM

A National Plan for CHM should be developed with a three-five year horizon, in order to ensure that the activities are identified and carried out in a realistic time frame.

3. Identification of Information Management Technical System and Standards

If information is to be collected, shared and used efficiently, then it will require an effective set of technical systems and standards. While this is clearly within the reach of any IT system operating in Bulgaria, this needs assessment demonstrates that there is a glaring absence of any information management system applied to biodiversity in the country. Therefore we recommend that an IT and Information Management System be established. These should describe the basic set of operating maintenance standards for the CHM.

4. CHM Operating Strategy - Developing Terms of Reference (TOR) and Financing Plan

One of the key elements of the national plan will be to decide on the mechanism that will be used to operate the CHM. A CHM operating strategy must consider the relative advantages of operating as a government unit, (within a Ministry – either NNPS or the Executive Agency for the Environment), or as a contractor, (hired to operate and maintain the CHM on a contractual basis, for the relevant Ministry, and/or National Steering Committee). Either operating strategy requires careful consideration, and an eventual terms of reference and financing plan.

5. Political endorsement and financial support of the CHM and National Plan.

Formation and organization of the NSC should ensure wide support for the CHM and National Plan. However, additional efforts should be made to develop a strong institutional and political consensus for its operations and maintenance. A targeted public information campaign should be considered aimed at the Parliamentary Commission on the Environment and Waters, the Council of Ministers, and international donors group. We believe that significant good will and financial support for the CHM will be derived from effective connections to the National Biological Diversity Conservation Strategy, the National Biodiversity Plan, the National Ecological Network, as well as new environmental legislation.

Phase 2 CHM – Information Organization and Networking Phase

Expected Duration – 1 year

Purpose To develop a comprehensive index, and meta-database for the organization and networking of primary biodiversity information. This stage would establish the standards and operating procedures for key biodiversity information stakeholders and for the management of primary information collectors/providers and users. During the year, primary sources of information would be categorized, indexed and standardized for database purposes, and a system of links and data base queries developed to ensure those linkages are effective and operational.

In addition, this phase would be accompanied by the development of focal points within the 6-8 primary organizations and agencies considered an essential part of a national biodiversity network. Each focal point would be assisted with the necessary technology and training to allow it to maintain a information management systems according to the standards developed for biodiversity, and to facilitate networking, information collection and sharing.

We recommend that this phase of the National Plan be largely national in focus and provide for primary, national networking on basic information.

This phase would also be accompanied by a targeted public awareness campaign, aimed at select target groups within the country. Participants in the national campaign as well as targets of this campaign would include the National Assembly, the BAS, the Regional Environmental Inspectorates, Ministries of Regional Development and Local Government, as well as environmental NGOs. The campaign would explain the purpose, functions, and operational strategy of the CHM, and its ties to the National Biodiversity Conservation Plan.

Phase 3 CHM Pilot Phase

Expected Duration 1-2 years

Purpose - To test a model of CHM operations and to refine the systems of information management, including collection and reporting, storage, access and networking with other national and international agencies and organizations.

We expect this phase of an operational model for CHM to be testing both the primary information management system and its networks/links, as well as the operating efficiency of the National Focal Point and/or a CHM contractor. The Ministry of Environment and its regional and national departments will be developing parallel systems (for example: a protected areas ecological monitoring program, protected areas operations and administrative systems, and the national ecological network). A CHM should be tied to the primary sources of information that support the development of these parallel systems.

This phase of a national plan has a strong institutional building and capacity building component.

Phase 4 CHM – “Going Public” – Expanding the Model

Expected Duration - 2-3 years

Purpose With the successful implementation of a national CHM, characterized by clear information management “supply and demand” networks, the CHM will become increasingly accountable to host of biodiversity information clients. We could expect to see the efficacy of a CHM catering to regional clients in Bulgaria, as well as to clients within the Balkan Region and Europe. This would be in keeping with the tentative timetable for EU Accession, and concurrent fulfillment of Bulgaria’s obligations to the Emerald Network/Corine Network, and various EU Directives.

Successful indicators of a national CHM would therefore be:

1. Existence of an index and meta-database for primary biodiversity information in the country.
2. Appointment and operations of a national steering committee and appointment of appropriate focal points within the primary biodiversity information stakeholders.
3. An effective mechanism operating with the ability to collect and store information regularly, in formats that are accessible to its constituents and clients;
4. An ability to seek and maintain funding levels in conjunction with government multi-year and annual funding requirements;
5. Maintain and operate information technology and management systems that provides for a hierarchy of primary information users and providers;
6. In fulfillment of the Aarhus Convention, we would also expect to see a component of the CHM addressing issues of regional and national environmental management, impact and assessment activities and results associated with biodiversity.
7. Successful links to the primary components of the CBD and the country’s National Biodiversity Conservation Plan, particularly the indicators for sustainable use of the country’s biological resources;
8. That has developed effective procedures for regular information update and sharing on an unsolicited basis;
9. A mechanism that has a public information and education component tied to the demands and/or needs of its clients, as well as to the general public.

10. Potential Role for NGOs in a National CHM

The possibilities for NGO participation in CHM depend mostly on:

1) public trust in and assessment of NGOs and their role in biodiversity conservation

Public opinion varies greatly here. National survey information indicates that the general public has little or nothing to do with most national biodiversity conservation NGOs. There is however a perception that biodiversity-oriented NGOs do have an important role in national biodiversity conservation. This is particularly true among the 5% of the Bulgarian adult population over 18, or approximately 150-200,000 people who believe in the role that environmental NGOs play in biodiversity conservation. We submit that this is significant enough to warrant a role for NGOs in a national CHM.

2) information on biodiversity and its conservation possessed by NGOs

While the information collected in this needs assessment is not conclusive, environmental NGOs, as a whole, and with limited resources, have been very active in biodiversity information collection and sharing. We also appreciate how narrow an audience this information enjoys, and learned that this information remains largely inaccessible to other NGOs and biodiversity stakeholders. Apart from those projects and funding organizations that often pay for its collection, NGO biodiversity information remains largely unknown, unadvertised. What is available is found in a host of different formats.

3) the degree of their organizational preparedness, and their level of capacity to participate in a national CHM.

In the absence of a national plan and organizational strategy for CHM, this assessment did not look at the preparedness of any individual environmental NGO to participate in the national CHM. The assessment did not evaluate the NGO level of capacity. However, if preparedness and capacity are determined, in part, by the organizational history, performance level, and membership in an NGO, then there are only a few national environmental NGOs with both the tentative preparedness and some capacity for participation in a national CHM.

There is also an increasing level of organizational coordination and participation demonstrated by the BlueLink network to which most environmental NGOs subscribe.

Worldwide experience demonstrates that it is critical to engage the NGOs at three different levels in order to determine their level of interest and commitment to participation (as well as degree of participation) in a national CHM.

1. The NNPS, as the National Focal Point for the CHM in Bulgaria, needs to organize a focused forum of discussion for NGOs on the CHM concept, the issues confronting a national CHM, and to brainstorm the dimensions that NGOs participation could take in this mechanism. This began with the UNDP/REC Workshop in May. This dialog could be sustained by a specific number of electronic discussions between NGOs that are supported through the BlueLink network, and supported financially by the

Regional Environment Center. We submit that REC might establish and fund a small NGO/CHM secretariat whose sole focus would be to arbitrate and negotiate the future role of NGOs in a national CHM. These electronic discussions would be summarized and form the basis for an eventual publication about the role and responsibilities of environmental NGOs in national CHMs.

2. Make a selection of NGOs to the national discussion on the formation and operations of a National Steering Committee for CHM. We believe that the BlueLink network and a REC supported NGO/CHM secretariat could develop the criteria for NGO participation in a national discussion contributing to the formation and TOR of the country's first national steering committee for CHM.
3. NGO participation in the CHM - National Steering Committee, and their participation in the development of a national plan could be advertised and publicized through the same REC supported NGO/CHM secretariat. NGO participation in the preliminary stages of a CHM would have three different dimensions:
 - To share the developments/decisions of the NSC in a timely fashion with the environmental NGO community;
 - To further assess and develop a mechanism for information collection, storage and exchange as part of the development of a national meta-database;
 - To develop a public information website on Bulgarian biodiversity, focusing on those elements of the Bulgarian biodiversity scene that are readily and easily accessible; and to promote these to a Bulgarian and international audience.

We believe that the results of this level of NGO participation in the development of a CHM national plan and operational strategy will go a long way toward engaging government and academia with NGOs. This should improve their level of engagement and mutual respect in a national CHM. We also believe that engaging NGOs early on (by using an existing electronically based network, **BlueLink**) and with the financial support of **REC** for a small, independent secretariat for NGO/CHM issues), will yield positive result.

Among these results we count:

1. more frequent information exchange on biodiversity and conservation issues between NGOs using an existing electronic network;
2. confidence in a existing NGO mechanism to select the their own representatives to a national forum on CHM development;
3. More specific information collection and inventory on biodiversity information that exists among NGOs, and collected with greater confidence in how it contributes to a national CHM on biodiversity;
4. NGO engagement in development of procedures and policies for information access and proprietary rights;
5. NGO development of a secretariat dealing specifically with NGO/CHM issues that can be refined and maintained within the national CHM, or replaced;
6. Preliminary development of a web-based public information and education mechanism dedicated to promoting biodiversity information publishing for Bulgarian and the international community.

Appendix 1
**Report on the Workshop “National Clearinghouse Mechanism on
Biodiversity and Its Preservation”**

(Regional Environmental Center consultants)

REPORT

On The Workshop

“National Clearinghouse Mechanism on Biodiversity and Its Preservation”

May 21st – 23rd, 2001
Bankya Palas Hotel

Contents:

- ***Objective and Aims of the Workshop***
- ***Working Process***
- ***Main Results***
- ***Appendixes***

Appendix 1 – Workshop Agenda

Appendix 2 – List of Participants

Objective of the Workshop:

To initiate the process of the establishment of a national clearinghouse mechanism (CHM) for the biodiversity and its protection.

Aims of the Workshop:

- To discuss and clarify the legal aspects in view of the exchange of information on the biological diversity at the national scale.
- To present and analyse the information regarding the needs of, the problems and the perspectives for the establishment of a CHM for the biodiversity and its protection in Bulgaria.
- To present and analyse information on the foreign experience in the field of the establishment and functioning of the CHM.
- To initiate a dialogue for and start the process of reaching agreement of all the Bulgarian stakeholders in the field of the biodiversity protection in concern with:
 - The format of CHM operation – the mechanism structure and information exchange channels;
 - Potential partners and partners' interaction – roles, responsibilities, readiness for participation in the process;
 - Information's contents and structure, priority themes.
- To analyse the problems linked to the information to be circulated through the clearinghouse mechanism – sources owners, reliability, etc.

Working Process:

May 21st, Monday

Mrs. Mira Mileva (REC Budapest) opened the workshop with a short welcoming address. The participants and the organisers of the workshop were asked to present themselves by their names and the institutions they represent. They were also asked to point out the motives of their presence at the meeting. Immediately after this, the objective, the aims and the agenda of the workshop were presented. They were discussed and approved by the participants.

The workshop continued with a presentation by Mr. William Boot - consultant of the UNDP. The purpose of his presentation was to introduce the participants to the meaning and the main principles of a national CHM in a given field. Mr. Boot also facilitated a short discussion, based on the participants' questions, in this direction.

During the lunch break – about sixty minutes – Mrs. Meglena Kuneva, Ph.D. introduced the participants to the juridical aspects and the legal framework, determining the possibility for establishment of a clearinghouse mechanism in the field of the biodiversity, that are also predetermining the interactions of the potential participants into such a mechanism.

After the lunch break the representatives of the institutions, that supported the workshop (REC Budapest, the Biodiversity Conservation and Economic Growth Project and the UNDP), Mr. Bozhinov (NNPS Director), as well as the other participants, had the opportunity to present their views concerning the idea for the establishment of a CHM, to describe the steps undertaken so far and to share ideas about the development of the process.

Till the end of the working session the results of a national-wide study for assessment of the needs, the potentials and the prospective of establishment of a national CHM in the field of biodiversity were presented and discussed. The participants were given comprehensive information, which can be thematically divided in the following fields: description of the current situation – sources of the information, state of the information, needs of information, etc.; the world-wide experience in the field of the CHM and recommendations for the establishment of a CHM in Bulgaria. This study was carried out by the ACG, Ltd., upon a request of the ARD's Biodiversity Conservation and Economic Growth Project.

The main objective of the work during the first day has been to introduce the participants to sufficient information about the idea for the establishment, the meaning and the principles of a CHM and discuss it in the plenary sessions. This had to serve as a basis for discussing of concrete problems during the second day.

May 22nd, Tuesday

In the beginning of the day Mrs. Mira Mileva and Mrs. Zuzana Guziova represented the European Union's and the Slovak Republic's experiences in the establishment of CHM-s. The work till the end of the day has been dedicated to discussions on concrete issues of the establishment of a CHM in Bulgaria. The discussions took

place in two working groups – each of them consisting of the representatives of different types of institutions. The same problems have been discussed in the two groups. The results of the small groups' work were presented and discussed at a plenary session at the end of the day. The following problems were particularly discussed:

- ⇒ **Needs and problems predetermining the necessity of the establishment of a CHM**
- ⇒ **Objectives of the CHM**
- ⇒ **Structure and functioning of the CHM**
- ⇒ **Potential partners and interrelations – roles and responsibilities**
- ⇒ **information's contents and structure – categories of information, themes, priorities**

May 23rd, Wednesday

There have been three main tasks left for the last day of the workshop: *to summarise the conclusions reached till now; to draft the follow up activities and to assess the workshop's effectiveness.*

In the beginning of the day the participants were given a summary of the small groups' work on the problems discussed. The summary was discussed and amended so that it eventually reflected the reached consensus on the debated issues. Based on this summary was drafted a list of the activities needed to accomplish, according to the participants, to establish a CHM.

Then the participants were proposed to identify their responsibilities for the activities, to determine the time-frames for the implementation of activities and define the concrete activities forming the workshop follow up, in which they can participate.

At the end of the workshop its effectiveness was assessed.

Main Results of the Workshop:

1. Summary of the Small Groups' Work

- ⇒ **Needs and problems predetermining the necessity of the establishment of a CHM**
 - Need of categorising and systemising of the information – thematic and typological;
 - Need to transform the information to a form, allowing for multiple exchange, access to large volumes of information and quick speed of the access;
 - Avoid the bureaucratic obstacles to the access of information;
 - Need of data on where and what kind of information is available, who possesses it, in what form it is and what are the accessibility conditions for;
 - Need for access to large volumes of information for the purposes of the decision making processes;
 - The stakeholders need information to be able to: take competent decisions, undertake timely corrective activities; to measure effectively each contribution, to demonstrate to what extent they are fulfilling their obligations;

- Working definition of a CHM – the CHM is also a forum for exchange of information, for education, for capacity building, for scientific and technical co-operation.

⇒ **Objectives of the CHM**

- To provide information, which should contribute for the formation of dynamic actions for the biodiversity protection and towards sustainable use of the natural resources;
- To meet the national obligations under different international conventions and treaties.

⇒ **Structure and functioning of the CHM**

- Need of specialised bodies to facilitate the information exchange;
- Need of a consultative and/ or co-ordination council, consisting of all the stakeholders, that should exist in the process of establishment and for the maintenance of a CHM;
- The State (MOEW) should be a main player in the process;
- The participation should be on a voluntary basis;
- The CHM is a system opened to future development;
- The information flows in all directions;
- The CHM is formalised and legalised – it has written rules, determining the participation, the relations, etc.; the opposite opinion was also shared, i.e. that the CHM should remain informal;
- The CHM is bi- or multilingual;
- The CHM is based on current technologies;
- There should be mechanisms to claim for the reliability of the information or a reliability standards.

⇒ **Potential partners and interrelations – roles and responsibilities**

- The participants should have equal opportunities;
- Rules for co-operation should be developed and agreed by the participants;
- The participation should be as broad as possible;
- The issues of the motivation for participation should be clarified;
- The issues of the royalties and the costs of the information should be clarified – possible solution is that the information is given only in a case that it is considered accessible to the wide public;
- The CHM is not only a transmission of, but is also actively collecting and disseminating information;
- The CHM possesses and creates its own information.

2. Activities¹ for the establishment and functioning of the CHM

- × To identify the information's sources and owners
- × To define the themes and the priorities
- × To develop a list of the available data

¹ The activities are either permanent or should be initiated before the end of 2001.

- × To establish a working group (a small team) to facilitate the establishment of a CHM
- × To initiate the process of involving the main stakeholders
- × To elaborate a strategy for the establishment of a CHM
- × To create a consultative body
- × To draft the rules for the operation of the CHM
- × To determine the time-frame and the resources needed to establish the CHM
- × To clarify the issues of the membership/ participation
- × To provide support for the process in the future - REC Budapest, the Biodiversity Conservation and Economic Growth Project and the UNDP
- × To review the international experience
- × To use the adequate existing software; to adapt or develop a new software package
- × To create a web-page
- × To develop a plan for the promotion of the CHM idea among the potential participants and to ensure proper public relations
- × To study the available technical equipment – needs and capacities
- × To plan for the CHM monitoring
- × To summaries the workshop's debates and conclusions and disseminate them among the participants.

3. Ideas and readiness for follow up activities

- **Exchange of information among the participants and with the Society in Transition Foundation regarding the follow up activities (till June 06th, 2001)**
- **Development of a web-page**
- **Reaching of a consensus on the principles and the modes of forming of the working group**
- **Dissemination of the results of this workshop among wide range of potential participants to the CHM.**

Workshop
“National Mechanism for Exchange of Information on Biodiversity and its Conservation”

21 – 23 May 2001
Bankya Palace Hotel

town of Bankya, 70, Varna St.
phone: 99 77 311

Objective of the Workshop:

To initiate the process of the establishment of a national clearinghouse mechanism (CHM) for the biodiversity and its protection.

Aims of the Workshop:

- To discuss and clarify the legal aspects in view of the exchange of information on the biological diversity at the national scale.
- To present and analyse the information regarding the needs of, the problems and the perspectives for the establishment of a CHM for the biodiversity and its protection in Bulgaria.
- To present and analyse information on the foreign experience in the field of the establishment and functioning of the CHM.
- To initiate a dialogue for and start the process of reaching agreement of all the Bulgarian stakeholders in the field of the biodiversity protection in concern with:
 - The format of CHM operation – the mechanism structure and information exchange channels;
 - Potential partners and partners' interaction – roles, responsibilities, readiness for participation in the process;
 - Information's contents and structure, priority themes.
- To analyse the problems linked to the information to be circulated through the clearinghouse mechanism – sources owners, reliability, etc.

AGENDA

21. 05. 01	
09.30 – 11.00	Opening Presentation of the objectives and goals of the workshop, and of the guests and participants; of the agenda and of the manner of work. Presentation of the idea and the essence of the CHM – William Booth, UNDP consultant
<i>11.00 – 11.30</i>	<i>Coffee break</i>
11.30 – 13.00	Presentation of the idea and the essence of the CHM – continued. Legal aspects and legal framework for the CHM – Mrs. Meglena Kuneva, D.L.
<i>13.00 – 14.30</i>	<i>Lunch</i>
14.30 – 16.30	Position and attitude of the participants regarding the idea for the creation of a National Mechanism for Exchange of Information on Biodiversity. Presentation of the results of the national sociological study of the needs, issues and perspectives for the construction of the CHM.
<i>16.30 – 17.00</i>	<i>Coffee break</i>
17.00 – 18.00	Questions concerning the study Closing of the day
<i>19.00</i>	<i>Dinner</i>
22. 05. 01	
09.30 – 11.00	Presentation of the foreign experience in CHM construction
<i>11.00 – 11.30</i>	<i>Coffee break</i>
11.30 – 18.00	Small-group work Discussion of the problems and formulation of conclusions, decisions and recommendations concerning: <ul style="list-style-type: none"> • a form of the functioning of the CHM – structure of the information exchange mechanism and channels; • potential partners and partner interaction – roles, responsibilities, preparedness for participation in the process; • content and structure of information, priority topics; • possibilities and mechanism for financing of the CHM. • Issues related to the information to be included in the exchange mechanism – sources, owners, reliability. ... Closing of the day
<i>19.00</i>	<i>Dinner</i>
23. 05. 01	
09.30 – 11.00	Summary of the results and formulation of general conclusions
<i>11.00 – 11.30</i>	<i>Coffee break</i>
11.30 – 13.00	Determination of subsequent activities Evaluation of the efficiency and closing of the workshop
<i>13.00</i>	<i>Lunch</i>

WORKSHOP

NATIONAL BIODIVERSITY CLEARING-HOUSE MECHANISM

LIST OF PARTICIPANTS

organisation / state	name	address
REC - Budapest	1. Mira Mileva	IUCN - REC Sofia Biodiversity Initiative Hungary, 2000 Szentendre, Ady Endre ut. 9 - 11, Tel. (36-26) 504 049; Fax (36-26) 311 294 mmileva@rec.org , miram@rec.org
UNDP - Bulgaria	2. Carsten Germer	Tzarigradsko shose, 7 km Tel. 96 09 50, 9753 32 96; Fax: 974 30 89
Biodiversity Conservation and Economic Growth Project	3. Svetlana Aladjem	1000 Sofia; 55, Parchevich Str. tel. 986 36 86, 986 74 18; tel./fax 980 72 40 saladjem@ardbg.org
UNDP consultant	4. William Boot	
Slovakia	5. Zuzana Guziova	Zuzanaguzi@yahoo.com
Analytical Creative Group	6. Snejana Kostadinova 7. Krasen Daskalov 8. Natalia Ivanova	1000 Sofia; 5, Pirotska Str. Tel. 987 34 65 sue@main.infotel.bg
Legal consultant	9. Meglena Kuneva	kuneva_m@yahoo.com
MOEW - NNPS	10. Hristo Bozinov – NNPS Director	1000 Sofia; 22 Maria Louisa Blvd. tel. 940 65 41
MOEW - NNPS	11. Ivailo Zaphirov – NNPS expert	1000 Sofia; 22 Maria Louisa Blvd. tel. 940 66 62; fax 980 55 61
MOEW - Environmental agency	12. Madlena Jivkova Pavlova – Protected areas and biodiversity expert	1618 Sofia; 136, Tzar Boris III Blvd. Tel. 940 64 73 Fax: 955 90 15

Vitosha Nature Park - Ministry of Agriculture and Forests – National Forestry Board	13. Toma Belev – Vitosha Nature Park Director	park_vitosha@spline.net
Vitosha Nature Park– RIEW Sofia	14. Desislava Vuleva Buchvarova – public relations expert	1000 Sofia; 22 Maria Louisa Blvd. room 102 tel. 981 29 64; 940 65 70; 940 65 71; fax 988 56 76 vitoshapark@moew.govrn.bg
Strandja Nature Park - Ministry of Agriculture and Forests – National Forestry Board	15. Milena Kostadinova Slavova – expert	8530 Malko Turnovo; 1, Yanko Maslinkov str. Tel. 05952 / 22 29; Fax 29 63 Strandja@yahoo.com 5600 Burgas; 8, Ivan Shishman Str., floor 4, Strandja Nature Park tel. 056 840127; 088 44 36 00; fax: 056 84 27 79 milena_efendy@gbg.bg
Vratchanski Balkan Nature Park - Ministry of Agriculture and Forests – National Forestry Board	16. Krasimir Borisov Donchev – scientific and conservation expert	3000 Vratca; 1, Ivanka Boteva Str. tel. 092 / 3 31 49; tel./fax 2 14 73 krassimir_dontchev@lycos.com
Pirin National Park - MOEW	17. Georgi Kletcherov – Vice Director	2770 Bansko; 4, Bulgaria Str. tel. 07443 / 24 28; 56 16; 23 24; fax 22 40; 048 86 20 87
Central Balkan National Park - MOEW	18. Gentcho Ivanov Iliev – GIS expert	5300 Gabrovo; 3, Bodra smiana Str., P. Box 80 tel. 066 / 6 13 02; 6 22 79; 6 12 61; 6 22 65 np_cb_gb@mbox.eda.bg
Bulgarian Academy of Sciences – Institute of Zoology	19. Mladen Jivkov – scientific secretary	1000 Sofia; 1, Tzar Osvooboditel Blvd. tel. 988 51 15; 988 31 63; fax: 988 28 97 zoology@bgcict.acad.bg
Bulgarian Academy of Sciences – Institute of Botany	20. Valeri Georgiev	1113 Sofia; bl. 23, Acad. G. Bontchev Str. tel. 979 21 94; fax: 71 90 32 valeri@bio.bas.bg
Bulgarian Academy of Sciences – Forests Institute	21. Rumén Dobrev Dobrev	1756 Sofia; 132, Kliment Ohridsky Blvd. tel. 962 04 42; fax: 962 04 47 forestin@bulnet.bg
Bulgarian Academy of Sciences – Central Laboratory of Ecology	22. Yordan Ouzunov	1113 Sofia; 2, Yuri Gagarin Str. tel. 73 61 37; fax 70 54 98 uzunov@ecolab.bas.bg

NGO Wilderness Fund	23. Geko Spiridonov	1000 Sofia; 101, Vassil Levski Blvd. tel. 983 32 50 wild_fund@mbox.cit.bg
NGO Bulgarian Society for Birds Protection	24. Irina Kostadinova	1111 Sofia; POB 50 tel. 70 75 79 bspb_hq@mb.bia-bg.com
NGO Green Balkans	25. Simeon Marin – conservation director tel. 048 78 26 51	4000 Plovdiv; 160, September Sixth Blvd. 032 / 26 45 16; 62 69 77 greenbal@mbox.digsys.bg
NGO Borrowed Nature	26. Stoyan Dimitrov Yotov – project co-ordinator	tel. 981 66 15; fax: 986 45 74 bornat@mbox.cit.bg
NGO Balkani	27. Veselina Kavrukova	1164 Sofia; 8, Dragan Tcankov Blvd. tel. 963 14 70; fax: 963 31 93 balkani@bluelink.net
NGO Bluelink – Information Network	28. Maria Dimitrova Dimitrova – content co-ordinator, web editor	1303 Sofia; 114-B, Pozitano Str. tel. 920 15 47; fax: 21 76 23 office@bluelink.net ; maria@bluelink.net
Bulgarian-Swiss Biodiversity Conservation Programme	29. Stojan Mihov – Burgas Wetlands Project	tel. (056) 4 92 55, 84 46 17 burgaswet@bsbg.net
Swiss Embassy Co-ordination Office	30. Gerasim Gerasimov Program Officer	tel. 946 1827, 946 1828, 943 4072, fax 943 31 42 mobile: 088 632328 gerasim.gerassimov@sdc.net
Sofia University Faculty of Biology	31. Albena Georgieva Gionova – assistant prof.	1421 Sofia; 8, Dragan Tcankov Blvd. tel. 63 30 374, 048 85 32 78 gjonov@biofac.uni-sofia.bg

Meeting Organisation

Society in Transition Foundation
Tel. 988 07 72, stf@techno-link.com

Appendix 2
Executive Agency on the Environment Brief

MINISTRY OF ENVIRONMENT AND WATERS
EXECUTIVE ENVIRONMENTAL AGENCY (EEA)
1618 Sofia, 136 Tsar Boris Blvd. Tel. 955 98 11, fax 955 90 15
e-mail: pafmon@nfp-bg.eionet.eu.int

The EEA has 3 Directorates: Monitoring and sustainable development; Information systems (IT). This is the software/hardware information-managing center. It was equipped by PHARE program with new and sophisticated machines. Works on ORACLE and has ArcInfo and ArcView GIS and Laboratories. Makes different analysis.

In the first Directorate there is a Land, Forests and Protected areas Department. Its head is Ivanka Todorova. Madlen Pavlova, a forestry engineer is responsible for the Protected Areas.

The EEA is a member of the "European Environmental Agency" and representative of Bulgaria there. They are The National Reference Center concerning outgoing information on European level.

The EEA has the following information related to biological diversity:

- Habitats of rare and protected plant and animal species within the protected areas. This information is contained in the protected area register;
- Data from the on-going hydro-biological monitoring (HBM)
- List of rare and endangered species in the Black Sea.

The information is collected from the MoEW bodies, i.e. REWI

- the data about the habitats of rare and protected plant and animal species are in accordance with the documents of declaration and amendment of PA;
- the data from HBM come from our own surveys and observations in accordance with the HBM guidelines;
- The Black Sea Red Data Book is prepared in accordance with the Black Sea Convention.

The HBM data come in twice or once a year or once in two years for different indicators. The biological part of the HBM consists of determining the number of macro-invertebrates – macrozoobentos, families and species.

Data analysis is published once a year in the *Annual Book on the Condition of Environment*.

The information is stored in hard and electronic format. The users of the available information include MoEW, BAS, all organizations and teams preparing EIA reports. The information is provided upon request.

There is exchange of information with REWI, BAS, Forestry University, Sofia University, NGO and other organizations. The exchange is not made on a regular basis, but at separate requests and queries.

Appendix 3
BlueLink Brief

*What Is BlueLink?
What Is Its Goal?
Who are the target users of Blue Link?
What Does BlueLink Offer?
BlueLink and Biodiversity
The Founders of BlueLink
The BlueLink Structure and Management
What Does BlueLink Seek?*

The BlueLink Mission

BlueLink aims to create an independent forum for exchange of information in order to support democracy, advance civil society and assist sustainable development in Bulgaria.

What Is Blue Link?

- *An Internet-based information network at the service of non-governmental organizations (NGOs) in Bulgaria involved in environmental conservation;*
- *An electronic forum enabling communication and the exchange of information and ideas between environmental organizations in Bulgaria and the public at large, among the media, research institutions and environmentally concerned organizations around the world;*
- *A convenient tool for posting and obtaining information on environmental issues in Bulgaria and around the world and for publicizing events, financing activities, ideas, campaigns, and projects.*

What Is Its Goal?

- *To facilitate the exchange of information and to provide links between Bulgarian NGOs; to improve the quality and efficiency of their efforts for environmental conservation and the establishment of civil society in Bulgaria;*
- *To stimulate public concern about nature, the environment and health issues, and to create an awareness of the processes of establishing civil society.*

Who are the target users of Blue Link?

BlueLink serves primarily Bulgarian NGOs, but is open to any organizations and individuals with an interest in environmental conservation, the media, research and educational institutions, state and municipal bodies and the private sector.

What Does BlueLink Offer?

BlueLink designs and produces web-sites; creates electronic mail lists and hosts chat forums; disseminates news and information; provides consulting services to environmental organizations in their media and PR campaigns; develops specialized applications for use by NGOs; training and capacity building for NGOs in the use of information technology, strategic information management and the Internet.

BlueLink and Biodiversity

- *BlueLink offers current, up-to-date information on all aspects of environmental conservation and sustainable development. The issue of biodiversity is emphasized as it directly concerns the efforts of NGOs towards instituting legislation, public awareness campaigns and education in biodiversity. While BlueLink does not specialize solely in biodiversity, it has the capacity to provide in-depth coverage of this subject.*
- *BlueLink draws biodiversity-related information mainly from NGOs, the media and the Ministry of the Environment and Waters. The volume and rate of the information flow depends mostly on the issues, activities and degree of involvement of the source NGO in the respective field. The information is published on-line as soon as it arrives.*
- *BlueLink operates its own classification system in which biodiversity is an integral aspect. The subject of biodiversity is not subdivided into smaller units at present; however, BlueLink strives to improve the classification system.*
- *The information provided and disseminated by BlueLink is electronically stored on its designated server, on the hard disks of computers operating in a network, and on computer diskettes; more important data are also stored in printed (hard copy) form.*
- *Among the biodiversity information users are Bulgarian and foreign NGOs involved in environmental conservation, the Bulgarian public, the media and research institutions.*
- *BlueLink exchanges information with the Ministry of the Environment and Waters, the media, NGOs, private individuals and the academic community.*

The BlueLink Structure and Management

- *BlueLink has been registered as a foundation in 1999 under the Persons and Families Act. In pursuing its mission it receives grants from sponsor organizations in Bulgaria and overseas.*
- *BlueLink is operated by an Executive Board.*
- *The supreme body of BlueLink is the Founders' Council comprising representatives of 7 NGOs and three private individuals. The Council defines the strategy for the network's development and oversees the fulfillment of its mission.*
- *The decision-making body of BlueLink is the Steering Group, comprising one representative of each founding organization, as well as the project coordinator.*
- *The BlueLink personnel are all highly motivated professionals to whom nature is a calling and a source of inspiration.*

What Does BlueLink Need?

- *BlueLink welcomes ideas and proposals for collaboration in harmony with its mission and declared objectives.*
- *BlueLink seeks volunteers and associates to carry out its activities and develop new ideas in the field of information technology and the Internet.*
- *BlueLink is grateful for any forms of financial, material and technical support by persons and organizations in harmony with its mission and declared objectives and in compliance with Bulgarian law.*

YOU ARE WELCOME to contact us by mail or just stop by at the BlueLink office, Morava House, Zone B05, 114B Pozitano Street, 4th floor, Sofia 1303, or call (02) 920-1547, 292-2151, fax 217-623.

But best of all, you can reach us at our e-mail address: office@bluelink.net

Appendix 4
NACID Brief

National Information and Documentation Center (NACID)

The National Information and Documentation Center (NACID) is a directory of Bulgarian web-sites providing links to all sites listed in it by means of an interactive Guide-Index. The listing system contains the names of all sites while providing a hyper-link to each site's web address. The Guide-Index deals with two aspects of information:

Thematic	Institutional attributes (status) of the entity operating the site
<p>The information in the directory is classified according to 15 principal domains of social and economic activity in Bulgaria, based upon the applicable National Classification System. The thematic section is organized in two sub-sections:</p> <ul style="list-style-type: none">• Web addresses of sites containing information resources, products and services;• Web addresses of sites operated by organizations and institutions involved in the respective subject or theme. <p>List of domains according to the thematic classification: Civil society; Telecommunications; Eurointegration; Health Care and Social Work; Economics and Finance; Ecology; Culture, Art, Sport and the Media; Science and Education; Defense and National Security; Industry; Agriculture; Commerce and Tourism; Construction; Legislation; Transportation.</p>	<p>Government agencies vs. Non-governmental organizations</p>

On the subject of 'Biodiversity', for instance, the Guide-Index, through its 'Ecology' hyper-link, will locate and identify for the user almost 20 *sites containing information resources* (specifically, ecology-related information), as well as about 30 *sites operated by organizations and institutions* involved in the subject and theme of ecology. Among the latter are: the Ministry of the Environment and Waters, the Laboratory of General Ecology, the Institutes of Botany and Zoology of the Bulgarian Academy of Sciences, ecological NGOs, the Department of Ecology of the University of Sofia, the Faculty of Marine Science and Ecology of the Varna Polytechnic, etc. – a total of over 50 links to different sites. Should the user be interested in a more specific attribute, say, biodiversity, for the time being the Guide-Index will provide a link to just three sites.

The Guide-Index provides links to a number of legal instruments constituting Bulgaria's ecology-related legislation:

- The Environmental Protection Act:
<http://www.moew.government.bg/legislation/ensavingbul.html>
- The Protected Areas Act:
<http://www.moew.government.bg/legislation/protterbul.html>
- The Restriction of Waste Impact on the Environment Act:
<http://www.moew.government.bg/legislation/protterbul.html>
- The Hunting and Game Protection Act:
http://www.mzgar.government.bg/BG/of_doc/of_doc.htm
- The Clean Air Act:
<http://www.moew.government.bg/legislation/cleanairbul.html>

The system also has a News feature broadcasting information about current and forthcoming events. That information is posted online by the Ministry of the Environment and Waters, non-governmental ecological organizations, programs or projects.

NACID is a legal entity funded by the state budget and engaged in gathering, storage, processing and provision, to a wide community of users, of information and documentation on the latest scientific and technological achievements in all areas of industrial production worldwide.

The Guide-Index welcomes anyone willing to register online in a sphere or domain that they are active or interested in, by applying directly to: <http://guide.nacid.nat.bg/guidereq.htm> The Guide-Index is a popular and accessible mechanism of information exchange that is readily available to all institutions willing to supply information on biodiversity. The Guide-Index may be used as the basis for developing a nation-wide mechanism of biodiversity information exchange.

NACID

<http://guide.nacid.nat.bg/>

Address: 52A G.M. Dimitrov Boulevard

Sofia 1125, Bulgaria

Phone: 02/719-203

Fax: 02/710-157

E-mail: INFDOC@NACID.NAT.BG

Regional information bureaus:

For Plovdiv:

1 Gladstone St., Plovdiv 4000

Phone: 032/239-004

For Varna:

25 Tzar Simeon St., Varna 9000

Phone: 052/221-120

For Rousse:

1 Dondukov St., Rouse 7000

Appendix 5
BULBIONET Brief

ESTABLISHMENT OF THE *BULBIONET* BIODIVERSITY INFORMATION NETWORK IN THE REPUBLIC OF BULGARIA

Funded by the EcoTrust Fund

The project was formally launched in the year 2000, but in practical terms its implementation began only in spring 2001. So far, the following stages have been completed:

- The software concept has been approved;
- The requisite computer and networking equipment has been provided;
- A contractor has been appointed to develop the software package;
- The information gathering effort has begun.

The next step is to create the actual software package for the database and the network management system. That will enable the network operators to enter data into the system and format it for future use.

Contractor:

The Central Laboratory of General Ecology of the Bulgarian Academy of Sciences, in collaboration with other academic institutions.

The need to create an information network supporting databases on biodiversity in Bulgaria arises directly from the priorities of the *National Strategy of Biodiversity Conservation in Bulgaria*. It also conforms to resolutions by a number of international bodies on the establishment of compatible national and international biodiversity information systems to facilitate access to information for scientific research and conservation management.

This project presumes to meet general requirements and standards governing the form and content of databases and employs the latest technology of information handling. Conformity to international standards is ensured through consultations with authorized representatives of competent institutions within the EC, IUCN, CBD and/or others. A team of experts will communicate with the currently built EUNIS network of the European Environmental Agency (EEA) and the Pan-European Program for Biodiversity and Landscape Conservation.

Purpose:

The network is designed for the systematic gathering, storage, processing and retrieval of information regarding biodiversity in the territory of Bulgaria; once completed, it will cater to the interests and needs of Bulgarian and foreign users, including international bodies and organizations.

Main goal:

The project seeks to develop, equip and install a dedicated information network, called BULBIONET, and to provide access to a database on biodiversity in Bulgaria by means of setting up a web-site accessible to Bulgarian and foreign users.

Main tasks:

- Development and distribution of special-purpose software for the creation of dedicated databases on biodiversity;

- Creating an information system of specialized biodiversity databases;
- Setting up the BULBIONET specialized information system;
- Linking the BULBIONET specialized information system to the World Wide Web and providing wide user access to the biodiversity information system and database.

Target audience:

The system targets the broad Bulgarian public, as well as some specialized users: academic and applied research institutions, universities, museums of natural history, zoos and botanical gardens, dendrariums, genetic bioresource banks.

Project description:

The BULBIONET information network represents an open-type, de-centralized national information system dedicated to biodiversity in Bulgaria. Based at the Bulgarian Academy of Sciences, the system will be linked to the World Wide Web through its own web-site. Its principal terminals are to be set up at the Institute of Zoology, the Institute of Botany, the Central Laboratory of General Ecology, the Institute of Oceanology and the Institute of Forestry.

As an information system, BULBIONET will support specialized databases providing information classified into two subsystems, of species and habitats, at two levels of access: reference and specialized (in-depth).

The **reference** access level will feature two sub-levels:

- Systematic: containing data about the (sub)species within a given genus, family, order, class and type of Bulgarian flora/fauna, and
- Species-related: containing habitat and biotopic data, information regarding living conditions, incidence and distribution, degree of endangerment, conservation status, *in-situ* and *ex-situ* conservation efforts and other data.

The specialized access level will contain and provide information and data regarding:

- ‘economics’: the commercial significance of any given species/habitat and its current and/or prospective use as a bioresource);
- ‘distribution’: textual and/or visual information about the sites/loci of each (sub)species in the territory of Bulgaria;
- ‘abundance’: structured quantitative data about the incidence and numbers of each (sub)species.

User access to the reference section will be free for all, while the specialized section will have restricted-access status.

The software package for operating the system will be based on MS SQL and MS Office 2000, allowing data to be formatted also for MS Excel and Access compatibility. The operating program will incorporate a special interface enabling the graphic presentation of data on the territory (map) of Bulgaria using GPS equipment.

Project sustainability:

The project is to be seen as a pilot phase of a comprehensive program for the development of a scientific information infrastructure of biodiversity conservation in Bulgaria; it may serve as the basis for a nation-wide information exchange mechanism in conformity with the Biodiversity Convention.