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EXCERPTS FROM THE NATIONAL STRATEGY AND ACTION PLAN FOR THE CLEARING-HOUSE MECHANISM OF BURUNDI

INTRODUCTION

1. This document contains excerpts from the national biodiversity strategy and action plan for the clearing-house mechanism of Burundi for the 2012-2020 period. The official document is available at: www.cbd.int/doc/world/bi/bi-nbsap-oth-fr.pdf.

2. The excerpts are as follows:

(a) Pages 3-4: Content;

(b) Pages 5-6: Acronyms and Abbreviations;

(c) Pages 8-13: Executive Summary;

(d) Pages 42-48: III.3. Capacity for Gathering and Dissemination of Information;

(e) Pages 49-51: III.4. Possible Target Groups to Which Information Exchange Is Relevant;

(f) Pages 52-53: III.5. Summary of Limitations for the CHM;

(g) Pages 54-60: IV.1 Components of the Strategy;

(h) Page 61: IV.2. Objective 1 of the Action Plan.

In order to minimize the environmental impacts of the Secretariat's processes, and to contribute to the Secretary-General's initiative for a carbon-neutral UN, this document is printed in limited numbers. Participants are kindly requested to bring their own copy to the meeting.

PAGES 3-4 CONTENT

PAGES 5-6 **ACRONYMS AND ABBREVIATIONS**

ACRONYMS AND ABBREVIATIONS

ABEIE:	Burundian Association for Environmental Impact Assessments
ABO:	Burundian Association for the Protection of Birds
ACVE:	Green Belt Association
AFEB:	Association for Women and the Environment in Burundi
APRN-BEPB:	Association for the Protection of Natural Resources for the Well-Being of the Population of Burundi
CARPE:	Regional Programme for the Environment in Central Africa
CBINET:	Burundian Internet Centre
UNCCD:	United Nations Convention to Combat Desertification
UNFCCC:	United Nations Framework Convention on Climate Change
CBD:	Convention on Biological Diversity
CHM:	Clearing-House Mechanism
CITES:	Convention on International Trade in Endangered Species of Wild Fauna and Flora
NBF:	National Biosafety Framework
CNTA:	National Agri-Food Technology Centre
COMIFAC:	Central African Forest Commission
COP:	Conference of the Parties
CSLP:	Strategic Framework for Growth and the Fight against Poverty
DGA:	Directorate General of Agriculture
DGATE:	Directorate General of Land-Use Planning and the Environment
DGCD:	Directorate General of Development Cooperation
DGE:	Directorate General of Livestock
DGFE:	Directorate General of Forestry and the Environment
DGMAVA:	Directorate General of Mobilization for Independent Development and Agricultural Extension
DPAE:	Provincial Directorate of Agriculture and Livestock
ENS:	Grande École Normal School
ENVIRO-PROTECT:	International Association for the Protection of the Environment in Africa
FAO:	Food and Agriculture Organization
FARA:	Forum for Agricultural Research in Africa
FCBN:	Civil Society Forum for the Nile Basin
GEF:	Global Environment Facility
FFEM:	French Global Environment Facility
IFAD:	International Fund for Agricultural Development
FORENAR:	Forum for the Protection of the Rusizi Nature Reserve
NBI:	Nile Basin Initiative
IGEBU:	Geographic Institute of Burundi
INECN:	National Institute for the Environment and the Conservation of Nature
IRAZ:	Institute of Agricultural and Animal Research
IRScNB:	Royal Belgian Institute of Natural Sciences
ISABU:	Burundian Institute of Agronomy
ISSN:	International Standard Serial Number
ISTEEBU:	Institute of Statistics and Economic Research of Burundi
MEEATU:	Ministry of Water, the Environment, Land-Use Planning, and Urban Planning
MESRS:	Ministry of Higher Education and Scientific Research
MINAGRIE:	Ministry of Agriculture and Livestock
MINATE:	Ministry of Land-Use Planning and the Environment
MINEM:	Ministry of Energy and Mining
MINIFINANCE:	Ministry of Finance
RMCA:	Royal Museum for Central Africa - Tervuren
MRDF:	Methodist Relief and Development Fund
ODEB:	Organization for the Protection of the Environment in Burundi

GMO:	Genetically Modified Organism
NGO:	Non-Governmental Organization
PANA:	National Action Plan for Climate Change Adaptation
IFP:	Interinstitutional Focal Point
NFP:	National Focal Point
CHM-NFP:	CHM National Focal Point
UNDP:	United Nations Development Programme
UNEP:	United Nations Environment Programme
PPNELT:	Programme for the Protected Landscape of the Northeast of Lake Tanganyika
PTK:	Portal Toolkit
SAN:	National Agriculture Strategy
SIAs:	Agricultural Information Systems
NSAP-CHM:	National Strategy and Action Plan for the CHM
NBSAP:	National Biodiversity Strategy and Action Plan
NSAP-FSD:	National Strategy and Action Plan for the Fight against Soil Degradation
UB:	University of Burundi
IUCN:	International Union for Conservation of Nature
XML:	Extensible Markup Language

PAGES 7-8 **PREFACE**

PREFACE

In Burundi, management of biodiversity faces a variety of complex difficulties. They include the scarcity of information and awareness-raising, which limits the possibility of the various actors concerned to effectively and efficiently adopt appropriate measures or carry out well-grounded action for the conservation of biological diversity, for the sustainable use of genetic resources, and for the fair and equitable sharing of benefits arising from such use. This state of affairs has led to greater degradation of biodiversity, as a result of brush fires, water pollution, poaching, the introduction of invasive alien species, and climate change.

However, Burundi remains convinced that information provides a solid basis for the development of education, training, and public awareness which makes it possible for the population to have the in-depth knowledge and skills necessary for sensible decision-making in respect of the conservation and sustainable use of biodiversity.

This conviction, held by Burundi for so long, impelled the country to establish its clearing-house mechanism (CHM) in 2002, within the framework of the Belgian Partnership under the Convention on Biological Diversity. Since then, various activities have been carried out in order to provide information on national biodiversity. Examples of such activities include the creation of the Burundian CHM website, the establishment of the Interinstitutional Focal Point Committee for the CHM, the creation of the scientific bulletin published by the clearing-house mechanism, and the raising of awareness on a variety of subjects among different actors.

Despite the multiple activities already carried out, the Burundian CHM has not yet accomplished its mission to inform all the relevant actors, including local communities, of the implementation of the Convention on Biological Diversity. The country's population is still unaware of the importance of biodiversity and of ecosystem services. Knowledge of the components of biological diversity and of practical methods for their conservation and use remains limited.

This National Strategy and Action Plan for the Exchange of Information on Biodiversity is a solution in keeping with the national vision, which stipulates the following: "By 2020, all the stakeholders will be provided with information on the scientific and traditional knowledge, tools, methods, innovations, technologies, and best practices for the review and implementation of the national biodiversity strategy and action plan (NBSAP)."

In light of this strategic document on the exchange of biodiversity information, I am thoroughly convinced that the clearing-house mechanism will ensure that our population has the necessary motivation to actively participate in the protection of biodiversity, and that this mechanism is a true source of hope as regards better management of biological resources. Thus, efforts must be made to put this policy into practice with the active participation of both Burundians and the partners of Burundi. Among the prior actions necessary, I would include the strengthening of the structure of the Burundian clearing-house mechanism, the establishment of mechanisms for the monitoring and assessment of information-exchange measures, and the establishment of a financing mechanism for the activities of the Burundian clearing-house mechanism.

The adoption of this document on policies concerning the exchange of information arrives at a time when Burundi is preparing to revise its NBSAP. In this context, the message of the Tenth Meeting of the Conference of the Parties, which was held in Nagoya, Japan, is clear. All the Parties are invited to revise their national biodiversity strategies, taking into consideration the Strategic Plan for Biodiversity 2012-2020 and the Aichi Targets. This document on information-exchange strategy, which already includes the Strategic Plan and the Aichi Targets, will serve as the basis for the review of the NBSAP it is to implement.

We thus wish to extend our thanks to the people of Burundi, the national institutions, and the non-governmental organizations which have been extensively involved in the development of the National

Strategy and Action Plan for the Exchange of Information on Biodiversity. I would especially like to thank the Directorate General of Development Cooperation of the Kingdom of Belgium, the Royal Belgian Institute of Natural Sciences, and the Belgian clearing-house mechanism for their unflagging support of Burundi in the development of its own clearing-house mechanism.

Jean Marie NIBIRANTIJE

Minister of Water, the Environment, Land-Use Planning, and Urban Planning

PAGES 8-13 **EXECUTIVE SUMMARY**

EXECUTIVE SUMMARY

INTRODUCTION

This National Strategy and Action Plan for the Exchange of Information on Biodiversity (NSAP-CHM) was developed within the framework of the "National Strategy and Action Plan for the Exchange of Information on Biodiversity and Strengthening of the Clearing-House Mechanism (NSAP-CHM)" project, with funding from the Belgian clearing-house mechanism within the Belgian Partnership system under the Convention on Biological Diversity.

I. PRESENTATION OF BURUNDI

Burundi is a Central African country with an area of 27,834 km². Its topography is characteristic of East Africa's Great Rift region, which formed Lake Tanganyika in a rift valley to the west and a series of plateaus with very jagged relief to the east. The Burundian population is estimated at 8,053,574, making for an average density of 310 inhabitants per square kilometre. The country's economy is largely based on the primary sector, and agriculture continues to be the predominant activity, practiced by 93% of the population. Burundi has terrestrial ecosystems, most of which are in 15 protected areas having an area of approximately 157,662.85 ha, or 5.6% of the country's surface. Aquatic ecosystems cover an area of approximately 214,000 ha, and few are in protected areas. As regards agricultural biodiversity, farms average 0.5 ha and provide for subsistence agriculture. Animal resources are also characterized by low productivity with low revenue.

In Burundi, degradation of the biodiversity of the natural environment is linked to deforestation, brush fires, water pollution, poaching, the introduction of invasive alien species, and climate change. The degradation of agricultural biodiversity is tied to low soil fertility and the loss of agro-ecological services and of natural ecosystems, to the insufficiency and limited use of production-enhancing inputs, to new outbreaks of disease and pests which are very harmful to crops, and to climatic disturbances which interfere with agricultural and pastoral activities.

II CLEARING-HOUSE MECHANISM (CHM)

The CBD Clearing-House Mechanism (CHM) is an information-exchange tool created to promote and facilitate technical and scientific cooperation with a view to implementing the three objectives of the Convention. The Secretariat of the CBD and all the Parties thereto are obligated to implement the CHM. The Tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity established the CHM Strategic Plan for 2011-2020. Its goals, as follows, are to ensure that: i) the central clearing-house mechanism provides effective global information services to facilitate the implementation of the Strategic Plan for Biodiversity 2011-2020; ii) national clearing-house mechanisms provide effective information services to facilitate the implementation of national biodiversity strategies and action plans; and iii) partners significantly expand the clearing-house mechanism network and services. The CBD CHM provides effective information services worldwide to facilitate the implementation of the Strategic Plan for Biodiversity 2011- 2020 and the Aichi Targets. Belgium has established the Belgian Partnership for the CHM, which assists countries in improving their access to information and providing the means to transmit this information nationally. The Belgian Partnership also contributes to the exchange of specialized scientific and technical knowledge. Within the framework of the Belgian Partnership, Burundi launched its own clearing-house mechanism (Burundian CHM) in 2002.

III. STATUS OF INFORMATION EXCHANGE IN BURUNDI

III.1 POLITICAL, LEGAL, AND INSTITUTIONAL FRAMEWORK FOR INFORMATION EXCHANGE

In Burundi, many policy papers highlight various measures associated with the exchange of information or pointing out the need to exchange information using both traditional and modern tools, such as the web. Examples include the Strategic Framework for Growth and the Fight against Poverty, the National Biodiversity Strategy and Action Plan, the National Strategy and Action Plan for Biodiversity Capacity-Building, the National Action Plan for Climate Change Adaptation, the National Strategy and Action Plan for Environmental Education and Awareness-Raising, National Strategy and Action Plan for the Fight against Soil Degradation, the National Biosafety Framework, and the National Agriculture Strategy.

With a view to meeting its environmental challenges, Burundi adopted various legal instruments governing the management of natural resources and the environment, the most important being the Environment Code. The country also adhered to the regional treaties concerning biodiversity, thereby obtaining an exceptional framework for cooperation and the exchange of information with other countries. Moreover, Burundi's ratification of various international initiatives and agreements requires the country to comply with its obligations by implementing all environmental provisions, particularly those related to information exchange and technical and scientific cooperation. The most relevant agreements are the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention to Combat Desertification (UNCCD), the Ramsar Convention, and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Various ministries are involved in information exchange and scientific and technical cooperation in the area of biodiversity. The key ministries significantly involved in Burundi's clearing-house mechanism are as follows: the Ministry of Water, the Environment, Land-Use Planning, and Urban Planning; the Ministry of Agriculture and Livestock; and the Ministry of Higher Education and Scientific Research.

The mission to host the clearing-house mechanism has been entrusted to the National Institute for the Environment and the Conservation of Nature (INECN), which is the CHM and CBD focal point institution. In addition to these State institutions, several national NGOs participate in the conservation of biodiversity; three of these NGOs are involved with the CHM, namely the Burundian Association for the Protection of Birds, the Burundian Association for Environmental Impact Assessments, and the Association for the Protection of Natural Resources for the Well-Being of the Population of Burundi.

Within the framework of bilateral cooperation, INECN receives support from the Royal Belgian Institute of Natural Sciences to ensure the operation of Burundi's CHM. In a multilateral context, Burundi's CHM has received funding from the Global Environment Facility (GEF) within the framework of enabling activities associated with biodiversity.

III.2. CREATION AND IMPLEMENTATION OF THE BURUNDIAN CHM

In 1998, Burundi appointed its CHM national focal point (NFP). The CHM itself, however, was created in 2002, under the Belgian Partnership. In 2003, a Committee of ten CHM interinstitutional focal points (IFPs) was established. It was necessary to provide training to strengthen their ability to create institutional webpages. In 2005, the Belgian CHM established a Portal Toolkit (PTK). In Belgium in 2006, the Burundian CHM national focal point received PTK training, and the new website was established at http://bi.chm-cbd.net. The IFPs also received training on PTK management in Bujumbura in July 2007.

In 2007, the Belgian CHM established an awareness-raising project for the purpose of strengthening the abilities of the CHM national focal points as regards the implementation of the Convention on Biological Diversity. Since then, Burundi has benefited from various awareness-raising projects focused on the valuing of traditional knowledge and on the protection of pollinizers. In 2010, with a view to strengthening the partnership between Burundi and Belgium, a memorandum of understanding was signed for the activities in the 2010-2012 period. In February 2012, in order to strengthen the CHM, other IFPs from institutions and NGOs were appointed.

Since its creation in 2002, the Burundian CHM has carried out several activities. Seven types of activities have already been carried out, namely: publicizing of the Burundian CHM, gathering and circulation of information, Burundian CHM capacity-building, development of awareness-raising activities, development of research activities, repatriation of information, creation of a reference library, and the promotion of technical and scientific cooperation as well as knowledge-sharing among the Parties to the Convention.

Multiple lessons have been learned as a result of all the activities of the clearing-house mechanism. In one year of analysis, there were 2,029 visits to the website, for a total of 10,419 webpage views. Overall, only 35.76% of the webpages were visited; 32.12% of visits were repeat visits and 67.78% were new ones. Several strong points guarantee the CHM's lasting operation. Such strengths include the experience arising from 10 years of the CHM's operation, the tools available, which are to be used as a basis for its progress, and the cooperation framework which has already been initiated in association not only with the Belgian CHM, but also with other Parties to the CBD in several areas concerning the CHM. Despite this, there remain many deficiencies, including little publicizing of the Burundian CHM, insufficiency of information disseminated, little information on the implementation of the Convention on Biological Diversity, the low level of cooperation, insufficiency of channels of information, and the low degree of financial commitment on the part of the government. Nevertheless, there are several opportunities which give hope for the improvement of the operation of the CHM. These opportunities include Burundi's adoption of fibre optics, which will improve Internet connectivity; the possibility of receiving financial support from the GEF; the possibility of networking with other clearing-house mechanisms from countries in the subregion; the clearly increased desire to publish scientific articles in the scientific bulletin published by the CHM; and the possibility of renewing the memorandum of understanding between Burundi and Belgium.

III.3 CAPACITY FOR INFORMATION-GATHERING AND DISSEMINATION

All the institutions involved in the CHM have various types of information available. The information available at the institution which acts as the national focal point (the INECN) consists primarily of scientific studies, management plans and identification studies for protected areas, policy papers, legal texts and thematic studies, reports by Burundi to the COP, scientific documents, research results published in the scientific bulletin, and the like.

As regards other State institutions which are CHM focal points, the information available consists primarily of the following: international and regional treaties; strategy documents; policies; sectoral programmes and plans; data on domesticated species; and alternatives to the detrimental effects of climate change on species. IFPs also have information on agri-silvi-zootechnical production sectors, technology and biosafety, improvement of agricultural production and fertility, crop protection, crop adaptation according to ecological zones, and the like. University institutions can provide information resulting from research on ecology, habitat and population dynamics, microbiology, biotechnology, and the like.

As regards non-governmental organizations acting as CHM focal points, the information available includes the updated list of birds of Burundi and their nationwide distribution, plans for non-consumptive use of natural resources, best practices for the conservation of biological resources, environmental impact assessments, and alternatives for endangered biological resources.

The basic equipment and essential tools are available at all CHM-NFP and CHM-IFP institutions. However, said equipment and tools are not of good quality. Most institutions have a bandwidth of less than 64 kbps, which does not facilitate real-time publication or downloading. The Burundian CHM has staff trained to gather and disseminate information. However, half of the 12 employees to whom Belgium has already given website management training no longer work for the CHM.

Burundi has no information-exchange network within the framework of the CHM. However, the existing network of environmental clubs, the Civil Society Forum for the Nile Basin, and the Forum for the Protection of the Rusizi Nature Reserve can provide a basis for the creation of CHM networks. On a regional level, it is also possible to establish networks with the other CHMs and to partner with FARA-RAILS (Regional Agricultural Information and Learning Systems), which is a network managed within the framework of the Forum for Agricultural Research in Africa (FARA).

III.4. ANALYSIS OF CHM TARGET GROUPS

The specific target groups for the exchange of biodiversity information are the decision-makers, the various planners in the agricultural and environmental sectors, aboriginal and local communities, NGOs, and the various partners concerned. The CHM must use systems, tools, and technologies to transmit information to the various target groups. The tools identified include the Internet, panel discussions, web forums, radio broadcasts, workshops, pamphlets, and documentation on shipping and the status of environmental requirements, and the like.

III.5. SUMMARY OF LIMITATIONS FOR THE CHM

The CHM has deficiencies in the gathering and dissemination of information. These deficiencies include limited access to information developed at other institutions, limited reproduction of printed documents for broad distribution at libraries, limited scanning of printed documents for distribution on the website, lack of information on best practices and experiences of actors operating in the field, and the current format of consultation papers, which makes them difficult to use.

As regards capabilities, the limitations in terms of equipment and tools are as follows: the insufficiency of computer-based tools for information exchange; limited connectivity, which hampers publication and downloading of documents; and data banks which are not regularly replenished. The deficiencies as regards human capabilities are related to the fact that, because the IFPs trained often change position, there are often new employees needing to be trained. Moreover, the agents assigned to the reference library do not have the technical skills for its management. The CHM has not yet received particular government funding. No CHM financing mechanism exists yet.

The limitations encountered in reaching target groups are as follows: a lack of information-exchange channels through which to reach the base population; the absence of a favourable context in which to raise awareness among decision-makers; the absence of a framework for discussion between planners and beneficiaries; a predominance of illiteracy among rural beneficiaries; and a lack of transmission of environmental research and development knowledge in rural areas.

The deficiencies found in terms of scientific and technical cooperation include ignorance of existing networks and their level of acceptability vis-à-vis association with other information-exchange

mechanisms; limited willingness shown in respect of African CHMs regarding the establishment of an operational network; a lack of tools for networking in the country; little cooperation with member countries as regards information exchange; and insufficiency of South-South cooperation initiatives launched by Parties to the CBD.

IV. STRATEGY AND ACTION PLAN

IV.1. COMPONENTS OF THE STRATEGY

In 20 years, the Burundian CHM will be influenced by several factors of change, including the following: the evolution of the CBD and its links to the other Rio treaties, which will require various types of information-exchange systems; the evolution of the National Biodiversity Strategy and Action Plan, which will include different issues related to biodiversity; the gradual evolution of communication and information-exchange technologies; and the evolution of socio-economic and technological conditions in Burundi, making the exchange of information increasingly important. Given these factors, the Burundian CHM will have to be a tool for strengthened implementation of the Convention, for assistance in decision-making and communication, for education, and for awareness-raising. To achieve this, the CHM will have to undergo a properly structured organization process and become more dynamic and interactive with new information technologies. This will require the strengthening of the focal points and the establishment of networks which are highly organized, properly managed, and dynamic. The national vision stipulates the following: "By 2020, all the stakeholders will be provided with information on the scientific and traditional knowledge, tools, methods, innovations, technologies, and best practices for the review and implementation of the national biodiversity strategy and action plan." To make this national vision operational, the CHM has set four strategic approaches, namely: (1) the efficient and effective dissemination of information, knowledge, data, tools, technologies, practices, and awareness-raising for the implementation of the CBD; (2) capacity-building within the biodiversity information-exchange centre; (3) facilitation and strengthening of scientific and technical cooperation; and (4) the establishment of a financing mechanism for the Burundian CHM. To make these four strategic approaches operational, 13 objectives have been set. Each objective includes strategic orientations on which actions are based.

Approach 1: The efficient and effective dissemination of information, knowledge, data, tools, technologies, practices, and awareness-raising for the implementation of the CBD

Objectives:

- By 2014: To ensure that institutions, organizations, local communities, the private sector, and partners have access to information so that biodiversity and ecosystem services are integrated into policies, sectoral programmes and plans, and the population's way of life.
- By 2016: To ensure that institutions, organizations, local communities, the private sector, and partners have access to information so that direct pressure on biodiversity is reduced and sustainable use of genetic resources is encouraged.
- By 2015: To ensure that institutions, organizations, local communities, the private sector, and partners have access to information for the preservation of ecosystems, species, and genes.
- By 2015: To ensure that institutions, organizations, local communities, the private sector, and partners have access to information in order to strengthen the fair and equitable sharing of benefits arising from the use of genetic resources and to integrate ecosystem services.
- By 2020: To facilitate and contribute to the review and implementation of the National Biodiversity Strategy and Action Plan (NBSAP), to capacity-building, and to the improvement of knowledge within institutions, organizations, the private sector, and local communities.

Approach 2: Capacity-building within the biodiversity information-exchange centre
Objectives:

- By 2014: To strengthen the Burundian CHM website.
- By 2014: To strengthen the biodiversity information-gathering system.
- By 2015: To establish traditional tools for dissemination of information in order to ensure equitable access to information.
- By 2020: To build a national reference library for biodiversity.

Approach 3: Facilitation and strengthening of scientific and technical cooperation
Objectives:

- By 2016: To create and maintain biodiversity information-exchange networks.
- By 2020: To facilitate technology transfer and technological cooperation.

Approach 4: The establishment of a financing mechanism for the Burundian CHM

Objectives:

- By 2014: To establish a national fund for the CHM.
- By 2014: To establish a financing mechanism for the CHM.

IV.2. ACTION PLAN

The action plan developed comprises measures which have been determined in accordance with the strategic approaches, the objectives, and the orientations formulated. Those primarily responsible are the CHM national and interinstitutional focal points. The idea is that a maximum number of measures should be taken in accordance with the timeframe specified in the objective. Performance indicators are also provided.

IV.3. CHM-NSAP IMPLEMENTATION MECHANISMS

To ensure the effective implementation of this CHM strategy and action plan, three main strategic orientations have been established:

- Strengthening of the structure of the Burundian clearing-house mechanism;
- Establishment of mechanisms for monitoring and assessment of information-exchange actions; and
- Establishment of a financing mechanism for actions of the Burundian CHM.

PAGES 42-48 **III.3. CAPACITIES**

III.3 CAPACITY FOR GATHERING AND DISSEMINATION OF INFORMATION

III.3.1. Type of Information and Methods of Information-Gathering

III.3.1.1. Gathering and Dissemination of Information at INECN

The Burundian CHM, located at the INECN, receives information classified into four categories:

- *Scientific studies*: Scientific studies are continuously carried out at the INECN in collaboration with the University of Burundi. They consist of annual studies on ecology, taxonomy, and inventories of fauna and flora, in addition to studies carried out regarding biological resources and the associated traditional knowledge. All these studies are essentially carried out in the protected areas of Burundi. Currently, the INECN has research programmes on arachnology (spiders), entomology (pollinizers), and herpetology. In addition to these studies carried out at the INECN, the CHM also receives scientific articles and forum discussion articles published in the scientific bulletin issued by the same information centre.
- *Management plans and identification studies on protected areas:* When a new protected area is identified, the INECN has to conduct an identification study. Each protected area must also have a management and development plan.
- *Policy papers, legal texts, and thematic studies:* This refers to national strategies and their action plans, national frameworks, laws concerning biodiversity, and thematic studies developed in the area of biodiversity.
- *Reports by Burundi to the COP:* These are documents which report on the implementation of the CBD and its protocols.
- *Scientific documents, thematic documents, newspapers, etc.:* These are documents commonly provided within the framework of biodiversity workshops organized by the CBD, UNEP, and partners; otherwise, they are documents sent to us within the framework of the Belgian Partnership. These documents are often provided in printed format; rarely are they provided in electronic format (CD-ROM).

All the documents produced at the INECN are provided to the CHM in printed format, and often in electronic format. These documents are easily posted on the CHM website. The INECN has provided the CHM with two representatives for inclusion in the Interinstitutional Focal Point Committee.

Scientific studies are often published in the scientific bulletin of the INECN. The printed documents are often sent to research institutes and national libraries.

III.3.1.2. Gathering and Dissemination of Information at Other Focal Point Institutions

Ministry of Water, the Environment, Land-Use Planning, and Urban Planning (MEEATU)

A variety of information is available at the Minister's Office, including:

- International and regional treaties and instruments for signature and ratification by Burundi;
- Laws and strategy papers;
- Sectoral programmes, plans, and policies;
- National speeches for environment-related world days.
- Documents related to regularly-organized events (workshops, seminars)

- Other

Directorate General of Forestry and the Environment (DGFE)

Three types of information are collected:

- *Policy papers, legal texts, and thematic studies:* These documents consist of national strategies and associated action plans, national frameworks, and thematic studies developed in the context of forest biodiversity.
- *Afforestation management and development plans:* For each afforestation area, the DGFE establishes a management and development plan.
- *Plain-language documents and community-based afforestation management documents:* These are guides and best-practices documents produced to assist communities with afforestation management.

Most of these documents were produced some time ago and are available only in printed format. There are other documents which are available in electronic format and which can be posted directly on the website or reproduced for broad distribution.

Directorate General of Livestock (DGE)

The DGE deals with information concerning:

- The populations of the various species of domesticated animals (inventory of number of heads by species, number of percentage animals in certain provinces)
- Animal diseases (zoonotic, epizootic, and parasitic diseases, and the like)
- Fishing statistics

The data is addressed in progress, background, monthly, quarterly, and annual reports. These reports contain a great deal of information which, upon its analysis, can be issued either in a publication or a summary document.

Directorate General of Agriculture (DGA)

The DGA can provide information on:

- Soil fertility, water management, and water efficiency plans for crop irrigation;
- Agricultural alternatives to deal with climatic disturbances;
- Agri-silvi-zootechnical production sectors;
- Certification of the quality of inputs and products in the agricultural sector;
- Agricultural statistics and data for realistic and feasible planning of agricultural development.

Burundian Institute of Agronomy (ISABU)

ISABU is a research and extension institution. It can provide a variety of information, including that which concerns:

- Biotechnology and biosafety in Burundi;
- Improvement of agricultural fertility and production (bio-fertilizer production);

- Crop protection using biocontrol as a low-cost means of defence which is non-toxic to the environment;
- Crop adaptation according to ecological zones, and the like.

National Agri-Food Technology Centre (CNTA)

The objective of the CNTA is to improve the population's food and health security and to help increase household income and the income of producer organizations. The CNTA can provide several types of information in the following areas:

- Technological procedures for agri-food processing;
- Best practices for the development of food products;
- Access to technological innovations in the production, processing, and conservation of agricultural, animal, and silvicultural products.

University of Burundi (UB) and Grande École Normal School (ENS)

These university institutions conduct research on biodiversity at various levels:

- Research on ecology and habitat and population dynamics;
- Research on microbiology;
- Research on biotechnology.

Various monographs and post-graduate (Diploma in Advanced Studies [DEA], Diploma in Advanced Specialized Studies [DESS]) theses on different subjects are produced.

III.3.1.3. Gathering and Dissemination of Information at Non-Governmental Organizations

Burundian Association for the Protection of Birds (ABO)

The ABO conducts research on birds and has a great deal of information on them, including:

- The updated list of the birds of Burundi and their distribution nationwide;
- The areas important to bird conservation;
- Action plans for bird conservation.

Association for the Protection of Natural Resources for the Well-Being of the Population of Burundi (APRN-BEPB)

The APRN-BEPB works to preserve the environment and to ensure sustainable development of the biological resources of protected areas. This association has the following information:

- Plans for sustainable use of natural resources;
- Best practices for conservation of biological resources;
- Alternatives to endangered biological resources.

Burundian Association for Environmental Impact Assessments (ABEIE)

The ABEIE conducts environmental impact assessments in Burundi. It has information on the status of biodiversity in several areas throughout the country.

III.3.2. Equipment and Tools Available

All the institutions of the CHM-NFP and CHM-IFPs have the basic equipment and essential tools. However, this equipment and these tools are not of good quality (Table 1). In order to work on the CHM website, a good Internet connection is essential. Most institutions have a bandwidth of less than 64 kbps, which does not facilitate real-time publication or downloading.

Some institutions have libraries which serve to disseminate the documents produced within the framework of the CHM or of the Convention on Biological Diversity. The INECN library was officially entrusted to the Burundian CHM, which aims to turn it into a reference library for biodiversity in Burundi.

Table 1: Equipment and Tools Available for the Operation of the Clearing-House Mechanism

Institutions	Equipment and Tools	Quality
State Institutions		
National Institute for the Environment and the Conservation of Nature	Three computers for the NFP and two IFPs	High
	CHM laptop computer	Medium
	Connection (supplied by CBINET), bandwidth of 64 kbps	Medium
	Biodiversity reference library	Medium
	Other tools (CD-ROM, flash disk, external hard disk)	-
	Scanner	Low
	INECN scientific bulletin	Medium
Ministry of Water, the Environment, Land-Use Planning, and Urban Planning (MEEATU)	IFP computer	High
	Connection	High
	Library of the Ministry of Water, the Environment, Land-Use Planning, and Urban Planning	Medium
	Other tools (CD-ROM, flash disk, external hard disk)	-
	Scanner	-
Directorate General of Forestry and the Environment	IFP computer	Low
	Connection	High
	Other tools (CD-ROM, flash disk, external hard disk)	-
	Scanner	-
Directorate General of Agriculture	IFP computer	High
	Connection	Weak
	Other tools (CD-ROM, flash disk, external hard disk)	-
	Scanner	-
Directorate General of Livestock	IFP computer	High
	Connection	-
	Other tools (CD-ROM, flash disk, external hard disk)	-
	Scanner	-
Burundian Institute of Agronomy	Connection	High
	IFP computer	Medium
	Other tools (CD-ROM, flash disk, external hard disk)	Medium
	Scanner	Low

Institutions	Equipment and Tools	Quality
National Agri-Food Technology Centre	Connection	-
	IFP computer	-
	Other tools (CD-ROM, flash disk, external hard disk)	-
	Scanner	-
University of Burundi	Connection	High
	IFP computer	High
	University of Burundi central library	High
	ENS library	Medium
	Scanner	Low
Grande École Normal School	Connection	High
	IFP computer	High
	ENS library	Medium
	Scanner	Low
Non-Governmental Organizations		
Burundian Association for the Protection of Birds	IFP computer	High
	Connection	High
	Other tools (CD-ROM, flash disk, external hard disk)	
	Scanner	Medium
Association for the Protection of Natural Resources for the Well-Being of the Population of Burundi	IFP computer	High
	Connection	High
	Other tools (CD-ROM, flash disk, external hard disk)	High
	Scanner	Medium
Burundian Association for Environmental Impact Assessments	IFP computer	High
	Connection	High
	Other tools (CD-ROM, flash disk, external hard disk)	High
	Scanner	High

III.3.3. Human Resources

The Burundian CHM has human resources trained to gather and disseminate information on biodiversity. Said human resources are biology specialists, agronomy engineers, and university professors working in biodiversity, both in laboratories and in the field. Most of these skilled employees received training in website management with PTK. However, out of 12 such employees who received training, half no longer work for the CHM (Table 2).

Table 2: Human Resources Available for Operation of the CHM

Institutions	Human Resources	Web Management Training	Observations
State Institutions			
National Institute for the Environment and the Conservation of Nature	Biologist CHM-NFP	4 times	Active
	Biologist CHM-IFP	2 times	Active
	Agronomy engineer CHM-IFP	2 times	Active
	Agronomy engineer CHM-IFP	2 times	Not active
Directorate General of Forestry and the Environment	Agronomy engineer CHM-IFP	4 times	Active
	Agronomy engineer CHM-IFP	1 time	Not active

Directorate General of Livestock	Agronomy engineer CHM-IFP	3 times	Not active
	Agronomy engineer CHM-IFP	0 times	Active
Directorate General of Agriculture	Agronomy engineer CHM-IFP	3 times	Not active
	Agronomy engineer CHM-IFP	0 times	Active
Burundian Institute of Agronomy	Doctor CHM-IFP	2 times	Not active
	Agronomy engineer CHM-IFP	1 time	Not active
National Agri-Food Technology Centre	Biologist CHM-IFP	3 times	Active
University of Burundi	Biologist professor CHM-IFP	1 time	Not active
	Biologist assistant CHM-IFP	1 time	Not active
Grande École Normal School	Agronomy engineer CHM-IFP	1 time	
Non-Governmental Associations			
Burundian Association for the Protection of Birds	Biologist CHM-IFP	1 time	Active
Association for the Protection of Natural Resources for the Well-Being of the Population of Burundi	Biologist CHM-IFP	1 time	Active
Burundian Association for Environmental Impact Assessments	Biologist CHM-IFP	1 time	Active

III.3.4. Existing Networks for the Exchange of Information on Biological Diversity

III.3.4.1. National Networks

In Burundi, there is no known network for the exchange of information in the field of biodiversity. Although two or three researchers from different institutions can be working on the same subject, there is no official framework for collaboration among the institutions. This is the reason for the lack of synergy in biodiversity research. In addition, Burundi also lacks frameworks for discussion between researchers.

In the field of the environment as a whole, there is a network of environmental clubs which brings together the secondary-school environmental clubs led by the biology teachers. Within the framework of the Burundian CHM, the IFPs which should make up an interinstitutional framework for the CHM do not work together in an actual network. Although said IFPs do come together on the occasion of training activities, they should be organizing periodic meetings to share experiences.

In the context of non-governmental organizations, the known networks are the Civil Society Forum for the Nile Basin (FCBN) and the Forum for the Protection of the Rusizi Nature Reserve (FORENAR). FORENAR is a federation of all the stakeholders concerned, including NGOs, local communities, and co-management committees. Currently, it comprises the following national associations: ABO, APRN-BEPB, ABEIE, and ACVE. The objective of FORENAR is to contribute to responsible and sustainable management of the Rusizi Nature Reserve in order to ensure the well-being of the riparian and Burundian population by promoting the integrity of this area; this undertaking relies on the support of all those invited to participate in the protection of this ecosystem.

The specific objectives of the Forum are as follows:

- To establish a framework for the exchange of information on the Rusizi Nature Reserve;
- To promote lobbying for the protection of the Rusizi Nature Reserve by means of broadcasts, newspaper articles, pamphlets, conferences, and other forums;
- To raise funds for the protection of the Rusizi Nature Reserve;
- To support the development of the riparian zone of the Rusizi Nature Reserve.

III.3.4.2. Regional and Global Networks

The CDB CHM is considered a network; this includes its Information Centre, the national clearing-house mechanisms (including that of Burundi), and those of various partner institutions. In addition, the clearing-house mechanisms established under the Belgian Partnership constitute a network of centres of partner countries of which the Burundian CHM is part.

In the agricultural sector, ISABU is the focal point of the FARA-RAILS (Regional Agricultural Information and Learning Systems), which is a network managed within the framework of the Forum for Agricultural Research in Africa (FARA). This network was established to bridge the gaps in the rural community/national level/regional level/continental level/global level information chain. It provides added value to existing systems and makes it possible to avoid overlapping of efforts. It is based on an assessment of the agricultural information systems in Africa and on consultation with stakeholders. The objectives of the RAILS are the following:

- To lobby African institutions and governments to increase their investments in the Agricultural Information Systems (SIAs);
- To improve access to information and increase the capacity of African actors to contribute to global agricultural knowledge;
- To facilitate synergy by linking African information channels with the world suppliers of agricultural information;
- To develop an African platform for agricultural information and learning systems.

PAGES 49-51 III.4. ANALYSIS OF TARGET GROUPS

III.4. ANALYSIS OF CHM TARGET GROUPS

III.4.1. Possible Target Groups to Which Information Exchange Is Relevant

Possible target groups are identified based on problems with degradation of the wild biodiversity and agro-biodiversity in Burundi.

Target Groups Specific to Agro-Biodiversity

Table 3 shows that information exchange concerns the decision-makers, the various planners in the agricultural sector (Ministry of Agriculture and Livestock [MINAGRIE], Provincial Directorates of Agriculture and Livestock [DPAEs]), and local communities (farmers and livestock producers). The CHM must play the leading role in awareness-raising, provision of information, and also in technology transfer. Without a doubt, this will require frameworks for cooperation and for the establishment of information-exchange networks.

Table 3: CHM Target Groups Concerned with Degradation of Agro-Biodiversity

Causes of Degradation of Agro-Biodiversity	Specific Target Groups	Approach with the CHM
Non-integration of biodiversity issues in agricultural policy	Decision-makers, MINAGRIE, MEEATU, MININTER, universities, MINIFINANCE	Awareness-raising
Lack of a national policy for protection of domesticated genetic resources	Decision-makers, MINAGRIE	Information on the loss of genetic resources, awareness-raising
Ignorance of wild genetic resources related to domesticated genetic resources	MINAGRIE, local communities	Research on domesticated genetic resources which exist in the wild
Persistence of inappropriate pastoral practices	DPAE, farmers, and livestock producers	Information on and awareness-raising about the effects of overgrazing, modern livestock production techniques
Limited agri-silvi-zootechnical integration	Decision-makers, MINAGRIE, Farmers, and livestock producers	
Inappropriate crop practices	Farmers, DPAEs	Information on and awareness-raising about the effects of non-sustainable agriculture, modern farming techniques
Climate disturbances	Decision-makers, MINAGRIE, farmers, and livestock producers	Information on and awareness-raising about the harmful effects of climate change, technologies for adaptation and prevention

Causes of Degradation of Agro-Biodiversity	Specific Target Groups	Approach with the CHM
Insufficiency of technologies for processing and conservation of agricultural, silvicultural, and livestock products	MINAGRIE, farmers	Technology transfer

Degradation of Biodiversity

Table 4 shows that information exchange concerns decision-makers and various planners (particularly in the environment sector), local communities, NGOs, and the various partners. The CHM will have to raise awareness among them as to the various issues associated with biodiversity. The CHM also has to be involved in the transfer of technology and in conducting studies. This entails improved cooperation in order to sustain national efforts to manage biodiversity.

Table 4: Target Groups Concerned with Degradation of Biodiversity

Causes of Degradation of Wild Biodiversity	Specific Target Groups	Approach with the CHM
Clearing of forests for agricultural purposes	INECN, MINAGRIE, DPAE, riverside farmers in protected and afforested areas	Information on and awareness-raising about agricultural and pastoral best practices
Inappropriate crop methods	MINAGRIE, DPAE, farmers	
Overgrazing in natural ecosystems	Riverside livestock producers in protected and afforested areas	
Introduction of invasive alien species	Political decision-makers, INECN, fishermen, farmers, flower growers, customs personnel, and airport personnel	Information on and awareness-raising about methods of prevention against invasive species and the need for monitoring
Illicit fishing and hunting	Hunters, riverside populations in protected areas, fishermen	Information on and awareness-raising about the harmful effects of poaching, sustainable fishing techniques
Brush fires	Livestock producers, farmers, pyromaniacs, beekeepers, charcoal burners, hunters	Information on and awareness-raising about the fight against brush fires
River and lake pollution	Manufacturers, farmers, livestock producers, MEEATU, urban population, palm oil producers, soap producers	Information on and awareness-raising about the fight against pollution, modern waste-processing technologies

Causes of Degradation of Wild Biodiversity	Specific Target Groups	Approach with the CHM
Quarrying and mining	MINEM, MEEATU, NGOs, private sector	Information on and awareness-raising about sustainable mining, need for environmental impact assessments
Ignorance of the value of biodiversity	Political decision-makers, local communities	Economic assessment of biodiversity
Persistent climate disturbances	Political decision-makers, IGEBU, MEEATU, local communities, NGOs	Information on and awareness-raising about the harmful effects of climate change, technologies for adaptation and prevention
Lack of coordination structure for all action in support of conservation and sustainable management of biodiversity	Political decision-makers, MEEATU, MINAGRIE, NGOs	Awareness-raising about establishment of coordination structures
Lack of consideration of biological aspects of biodiversity in sectoral policy	Political decision-makers, MEEATU, NGOs	Awareness-raising on integration of biodiversity

III.4.2. Systems and Tools with Which to Reach Target Groups through the CHM

Table 5 shows systems, tools, and technologies which the CHM can use to convey information to the various target groups.

Table 5: Tools and Technologies with Which to Reach Target Groups through the CHM

Target Groups	Tools
Scientists working in research	Internet, panel discussions, online forums, radio broadcasts on key topics, publicizing of CHM for general public, online publication of information
NGOs, local associations, civil society	Workshops, conferences, framework for dialogue, webpage for each NGO
Political decision-makers (government and parliament)	Pamphlets, radio and TV broadcasts, group lobbying, facilitation of ministerial forum, day of information, page in newspaper
Local communities (farmers, livestock producers, fishermen, traditional practitioners, collectors of biological resources, charcoal burners, brick makers, beekeepers, and craftspeople)	Information and awareness-raising workshops, booklets and posters in Kirundi and Kiswahili, workplace visits
Media	Use of all spaces reserved for the environment
Manufacturers	Radio broadcasts, pamphlets, awareness-raising, workshops
Persons responsible for small processing units	Radio broadcasts, pamphlets, awareness-raising, workshops

Target Groups	Tools
Religious groups and political parties	Information and awareness-raising workshops on environmental problems, modules on the subject for inclusion in their teachings
Importers and exporters of biological resource products	Pamphlets, shipping permits, status of environmental requirements.
Customs officers, police force (PAFE)	Training, guides for identification of commercial plants and animals, particularly invasive species and those addressed by CITES
Ministry representatives with environmental issues as part of their duties	Training on use of judicial police officer cards, importance of information exchange and network creation
Local administration at all levels, local elected officers	Awareness-raising workshops, pamphlets, posters
Special groups (women, youth, Batwa)	Local workshops, broadcasts, awareness-raising
Public	Calendars and agendas with awareness-raising slogans, workshops for awareness-raising and training on various legal texts related to the environment

PAGES 52-53 III.5. SUMMARY OF LIMITATIONS

III.5. SUMMARY OF LIMITATIONS FOR THE CHM

III.5.1. Deficiencies in the Gathering and Dissemination of Information

The objective of the CHM is to provide the necessary information for conservation of biological diversity, sustainable use of biological resources, and the sharing of benefits arising from such use. In general, the gathering and dissemination of information has proven to be ineffective and inefficient. Moreover, most of the available information published does not aim to contribute directly the implementation of this objective. The deficiencies in gathering and dissemination of information are as follows:

- Limited access to information produced in other institutions;
- Little reproduction of printed documents for their wide distribution in libraries;
- Limited scanning of printed documents for their dissemination on the website;
- Lack of information on best practices and the experience of actors operating in the field;
- The current format of consultation papers (papers, doctorate dissertations, master's theses), which makes them difficult to use.

III.5.2. Limitations as Regards Capacities

Limitations in Terms of Equipment and Tools

The deficiencies found as regards tools and equipment are the following:

- Insufficiency of computer-based tools for information exchange;
- Limited connectivity which hampers publication and downloading of documents;
- Data banks which are not regularly replenished.

Deficiencies in Terms of Human Capacities

The Burundian CHM provides little information on very limited sectors. This is related to the fact that, because the IFPs trained often change position, there is new personnel needing to be trained. Moreover, the agents assigned to the Burundian CHM library do not have the technical skills for its management.

Financing Limitations

Although considered strategic to the protection of biodiversity, the exchange of information has not yet received particular government attention as regards funding. Moreover, Burundi has not yet established financing mechanisms for biodiversity information-exchange projects.

III.5.3. Limitations in Reaching All Target Groups

The exchange of information lacks a framework for the sharing of experiences between technicians in the field; such a framework would serve in the application of learning, the provision of

information on difficulties faced by communities, and the targeting of priority topics based on the current circumstances and the will of the rural population.

The political decision-makers have always been considered favourable for biodiversity protection. However, it is not unusual to see that certain decisions may run contrary to the conservation of biological resources. Moreover, environmental planners are key deciders on different levels. Their decisions often have direct effects which are negative and which do not take into account social groups such as women, young people, and craftspeople. The following limitations have been identified:

- A lack of information-exchange channels through which to reach the grassroots population;
- The absence of a framework which supports awareness-raising among decision-makers;
- The absence of a framework for discussion between planners and beneficiaries;
- The predominance of illiteracy among rural beneficiaries; and
- A lack of transfer of knowledge as regards research concerning the environment and development in rural areas.

III.5.4. Limitations in Scientific and Technical Cooperation

Since the establishment of the CHM, the mechanisms for cooperation and technology transfer have been limited to those initiated under the Belgian Partnership. Moreover, the Burundian CHM has not yet created national networks and has not yet associated itself with existing regional and global networks. The following deficiencies have thus been identified:

- Ignorance of existing networks and their level of acceptability vis-à-vis association with other information-exchange mechanisms;
- Limited willingness shown in respect of African CHMs regarding the establishment of an operational network;
- A lack of tools for networking in the country;
- Little cooperation with member countries as regards information exchange; and
- Insufficiency of South-South cooperation initiatives launched by Parties to the CBD.

PAGES 54-60 **IV.1 STRATEGY COMPONENTS**

IV. STRATEGY AND ACTION PLAN

IV.1. COMPONENTS OF THE STRATEGY

IV.1.1. Factors of Change Related to the Burundian CHM

The factors of change which could affect the Burundian CHM in 20 years fall into the four following categories:

- **Evolution of the CBD and Its Relationship to the Other Rio Conventions**

The Convention on Biological Diversity will remain at the centre of the debate and all member countries will be asked to implement its three objectives. The effective implementation of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization remains on the discussion table. The central topics will include traditional knowledge, technology transfer, biosafety, soil deterioration and the restoration of degraded environments, sustainable use, climate change, taxonomic knowledge, biodiversity indicators and monitoring, environmental and social impact assessments, invasive species, and the repatriation of information.

The existing links among the other Rio conventions will be made clear, particularly as regards the harmful effects of climate change on biodiversity. This situation will require solid information-exchange mechanisms. To adopt a common approach, African countries will have to develop a framework for cooperation through a system of exchange and communication.

- **Evolution of the National Biodiversity Strategy and Action Plan**

The Fourth National Report to the Conference of the Parties to the CBD shows that the current National Biodiversity Strategy and Action Plan is not adequate for addressing current issues regarding biodiversity. In fact, the strategy, established in 2000, was developed long before the adoption of several programmes and decisions by the Conference of the Parties. This is the case as regards climate change and biodiversity, biodiversity and tourism, the ecosystem approach, the programme for protected areas, biosafety, and other matters. Likewise, this biodiversity strategy does not examine in detail the concepts of access and sharing. As well, information exchange is not understood to have its current meaning, one which entails the CHM playing a key role in NBSAP implementation.

At present, Burundi is preparing to begin a review of this national strategy based on new national challenges and the various global guidelines, including the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets. The coming changes to the NBSAP should thus influence the exchange of information; the Burundian CHM should also be involved as of its revision and implementation.

- **Evolution of Information-Exchange and Communication Technologies**

At present, information technology is evolving at an exponential rate and the need for connectivity is continuously growing. The resulting variety of computing equipment is becoming increasingly more affordable and will be even more so by 2020. Increasingly exhaustive biodiversity information will be available on the Internet.

- **Evolution of Socio-Economic and Technological Conditions in Burundi**

It is understood that Burundi must improve its socio-economic condition. Schools, universities, and other institutions will have Internet access. At present, the country is preparing to introduce fibre optics, which will mark a step forward in the area of information exchange. This will allow the CHM to use all the available channels in order to disseminate information on biological diversity.

IV.1.2. Burundian CHM Expected in 2020

Given the aforementioned changes concerning the CHM, the Burundian CHM must be:

- ***A tool for stronger implementation of the Convention*** – The CHM will thus not only be a system for dissemination of information; it will also serve to facilitate and bring about concrete action. It will make the associated information available worldwide.
- ***A decision-making tool*** – Thanks to the increased recognition of the CHM as a tool for exchange, sharing, and awareness-raising, the CHM will contribute to the establishment of priority areas for action on a national level, such as sustainable use of biological resources, access to these resources and sharing of the benefits arising from their use, knowledge of biodiversity, and technology transfer.
- ***A tool for communication, education, and awareness-raising*** – The CHM will be not only a system for scientific and technical information, but also a national showcase which will enable public awareness-raising and the spread of traditional knowledge. The need for information will be felt at all political, technical, and community levels. The CHM must encourage changes in political vision and it must encourage the public to adopt responsible measures for the preservation of biological diversity.

To achieve the foregoing, the CHM must be organized so that its website is properly functional, is well known and accessible to everyone, and provides reliable and high-quality information. The CHM must be more dynamic and interactive, containing new information technology, such as databases, maps, and exchanges automated through interoperability mechanisms. This will require the strengthening of focal points and the establishment of networks which are highly organized, well managed, and dynamic.

IV.1.3. National Vision

"By 2020, all actors will be provided with information on scientific and traditional knowledge, tools, methods, innovations, technologies, and best practices for the review and implementation of the National Biodiversity Strategy and Action Plan."

IV.1.4. Strategic Approaches

In order to make this national vision operational, the following strategic approaches have been established for the CHM:

- The effective and efficient dissemination of information, knowledge, data, tools, technologies, practices, and awareness-raising for the implementation of the CBD;
- Capacity-building within the biodiversity clearing house;
- Facilitation and strengthening of scientific and technical cooperation;
- The establishment of a financing mechanism for the Burundian CHM.

IV.1.5. Objectives and Orientations

To make the aforementioned four strategic approaches operational, 13 objectives have been established. Each objective comprises strategic orientations on which actions are based.

Strategic Approach 1: Effective and efficient dissemination of information, knowledge, data, tools, technologies, practices, and awareness-raising for the implementation of the CBD

The CHM must be a precursor to and a catalyst for actions for the implementation of the CBD on a national, regional, and global level. At present, the main mission of all the Parties to the CBD is to implement the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets. The Burundian CHM must thus take centre stage in the implementation of this plan. Thus, the effectiveness and efficiency of the dissemination of information, knowledge, data, tools, technologies, and practices must be reflected in the implementation of the CBD Strategic Plan and the Aichi Targets. For this reason, the objectives and orientations herein make frequent reference to them.

Objective 1: *To ensure that, by 2014, institutions, organizations, local communities, the private sector, and partners have access to information so that biodiversity and ecosystem services are integrated into policies, sectoral programmes and plans, and the population's way of life.*

Strategic Orientations:

- Increased awareness of the value of biological diversity and of the measures to take for its conservation and sustainable use;
- Awareness-raising among all the stakeholders regarding the importance of integrating biodiversity and ecosystem services;
- Facilitation of the adoption of positive incentive measures and the elimination of harmful subsidies with a view to the conservation and sustainable use of biodiversity;
- Facilitation of the development of plans for the management and sustainable use of natural resources and for access to best practices for the conservation of biodiversity.

Objective 2: *To ensure that, by 2016, institutions, organizations, local communities, the private sector, and partners have access to information so that direct pressure on biodiversity is reduced and sustainable use of genetic resources is encouraged*.

Strategic Orientations:

- Participation in reduction of the degradation and fragmentation of natural habitats;
- Facilitation of the management and sustainable use of fish and aquatic plants and invertebrates;
- Facilitation of management of agricultural, silvicultural, and aquacultural systems which is compatible with the conservation of biodiversity;
- Participation in the reduction of pollution, particularly that which is caused by an excess of nutrient matter harmful to ecosystem function;
- Participation in the fight against invasive alien species.

Objective 3: *To ensure that, by 2015, institutions, organizations, local communities, the private sector, and partners have access to information for the preservation of ecosystems, species, and genes.*

Strategic Orientations:

- Contribution to the identification of natural ecosystems requiring strict protection measures;
- Contribution to the identification and conservation of threatened species;
- Contribution to the identification and conservation of crop plants and domestic animals, including that of other species having socio-economic or cultural value.

Objective 4: *To ensure that, by 2015, institutions, organizations, local communities, the private sector, and partners have access to information in order to strengthen the fair and equitable sharing of benefits arising from the use of genetic resources and to integrate ecosystem services.*

Strategic Orientations:

- Contribution to the restoration and preservation of ecosystems which provide services essential to human survival, particularly to that of women, aboriginal and local communities, and other vulnerable groups;
- Contribution to the improvement of ecosystem resilience, to the strengthening of ecosystem adaptation to the harmful effects of climate change, and to the establishment of carbon sinks and barriers to desertification;
- Facilitation of the implementation of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization.

Objective 5: *To facilitate and contribute, by 2020, to the review and implementation of the National Biodiversity Strategy and Action Plan (NBSAP), to capacity-building, and to the improvement of knowledge within institutions, organizations, the private sector, and local communities.*

Strategic Orientations:

- Facilitation and contribution to the review, adoption, and implementation of the National Strategy and a biodiversity action plan;
- Contribution to respect for and the valuing of the knowledge, innovations and traditional practices of aboriginal and local communities which could benefit the conservation and sustainable use of biodiversity;
- Participation in the improvement and dissemination of knowledge, scientific bases, and technologies associated with biodiversity, its values, its functioning, its condition and trends, and the consequences of its depletion;
- Contribution to the raising of financial resources necessary to the effective implementation of the NBSAP until the year 2020.

Strategic Approach 2: Capacity-building within the biodiversity clearing house

The main tool affecting the operation of the CHM is the website. The website must be of good quality and it must provide information which is necessary and sufficient. This requires the continuous establishment of complementary tools and appropriate technology, in addition to the continuous training of CHM FPs. There is also a need to strengthen the biodiversity information-gathering system, which will, without a doubt, require the involvement of several stakeholders and a sound organizational system. Traditional tools for the dissemination of information still play an important role in reaching the various target groups. The Burundian CHM remains convinced that the promotion of the library is a strategy which will produce extensive and varied documentation on biodiversity. Since the Burundian

CHM library does not have enough such documentation, there is an increased need to make available the documents found in other libraries or specialized centres dealing with biodiversity. The personnel working in the library has neither knowledge nor experience regarding the management and maintenance of the library. This personnel needs to undergo adequate training.

Objective 1: *To strengthen the Burundian CHM website by 2014*

Strategic Orientations:

- Improvement of website connectivity;
- Development and use of new and effective tools and technologies for the exchange of information.

Objective 2: *To strengthen the biodiversity information-gathering system by 2014*

Strategic Orientations:

- Creation of synergy in biodiversity research;
- Use of data not yet published or little known in Burundi.

Objective 3: *To establish traditional tools for dissemination of information in order to ensure equitable access to information by 2015*

Strategic Orientations:

- Production and distribution of documents accessible to everyone;
- Cooperation with mass media to disseminate information;
- Organization of awareness-raising workshops for target groups.

Objective 4: *To build a national reference library for biodiversity by 2020*

Strategic Orientations:

- Development of the Burundian CHM library through the accumulation of extensive and varied biodiversity documentation;
- Establishment of a modern system of library management;
- Establishment of a framework for collaboration with specialized libraries.

Strategic Approach 3: Facilitation and strengthening of scientific and technical cooperation

In Burundi, there are no operational networks for the exchange of biodiversity information. The creation of networks in the country would constitute a framework for the exchange of information and experiences. The first network should be established within the IFPs. The Burundian CHM should organize periodic meetings for the sharing of experiences of IFPs. NGO forums (frameworks for discussion) already exist in the field of environmental protection. The Burundian CHM should join them and introduce biodiversity to them. The Burundian CHM should also play the leading role in creating the national network of researchers. It should encourage the creation of a network of protected-area managers and participate in the strengthening of the network of environmental clubs. Internationally, African CHMs should operate as a properly functioning network from now on.

Technology transfer and technological cooperation are also part of the CHM's mission. The CHM must be a catalyst for partnership between national and foreign institutions. The three Rio conventions and other environmental treaties operate in the same territory and protect natural resources. Cooperation among them is crucial and will make it possible to enhance the knowledge acquired and avoid overlapping and wasted efforts.

Objective 1: *To create and maintain biodiversity information-exchange networks by 2016*

Strategic Orientations:

- Establishment of national networks for information exchange through the CHM;
- Facilitation of the participation of Burundian experts in biodiversity information-exchange networks;
- Establishment of a partnership with existing networks.

Objective 2: *To facilitate technology transfer and technological cooperation by 2020*

Strategic Orientations:

- Facilitation of the establishment of a framework for partnership between national and foreign institutions operating in the field of biodiversity;
- Facilitation of cooperation between the three Rio conventions and other environmental treaties;
- Establishment of a framework for collaboration with regional and global initiatives, organizations, and partners to facilitate access to biodiversity information and its repatriation.

Strategic Approach 4: Establishment of a financing mechanism for the Burundian CHM

Both the Burundian CHM and the institutional focal points need financial resources. Financing mechanisms must be identified in order to avoid limitations. The government must make significant efforts to raise the funds necessary for all biodiversity-related actions. The Burundian CHM must also establish contact with financing mechanisms elsewhere in the world; the strengthening of cooperation with Belgium is a priority.

Objective 1: *To establish a national fund for the CHM by 2014*

Strategic Orientations:

- Establishment of a national policy for raising of funds for biodiversity;
- Awareness-raising among decision-makers as to the role and importance of the CHM.

Objective 2: *To establish a financing mechanism for the CHM by 2014*

Strategic Orientations:

- The strengthening and creation of a framework for collaboration with countries, organizations, and institutions in support of the exchange of biodiversity information;
- Evaluation of the financing mechanisms of the GEF in the field of biodiversity and the CHM.

IV.2. ACTION PLAN

The action plan laid out in the following tables contains actions identified in accordance with the strategic approaches, objectives, and orientations formulated. The main entities responsible are the national focal points and interinstitutional focal points of the CHM. A maximum of actions should be executed by the deadlines specified in the objectives. Performance indicators are also provided.

PAGE 61 **IV2. OBJECTIVE 1 OF THE ACTION PLAN**

Approach 1: Effective and efficient dissemination of information, knowledge, data, tools, technologies, practices, and awareness-raising for the implementation of the CBD

Objective 1: To ensure that, by 2014, institutions, organizations, local communities, the private sector, and partners have access to information so that biodiversity and ecosystem services are integrated into policies, sectoral programmes and plans, and the population's way of life				
Strategic Orientations	**Actions to Take**	**Indicators**	**Entities Responsible**	**Cost (FBu) (x1000)**
Increased awareness among individuals of the value of biological diversity and of the measures to take for its conservation and sustainable use	Produce tools which demonstrate the value of biodiversity by highlighting certain local practices; distribute said tools to all stakeholders, including local communities	Number of tools produced and distributed	CHM FP, NGOs, institutions	30,000
	Participate in the conducting of economic assessments of ecosystems and distribute assessments extensively	Number of economic assessments conducted and distributed	CHM FP, NGOs, institutions	30,000
	Organize local and national workshops on the value of biodiversity and the measures to take for sustainable conservation of biodiversity	Number of workshops carried out and number of social groups which participated therein	CHM FP, NGOs, institutions	50,000
	Establish a framework for partnership with international institutions specializing in the economic assessment of ecosystems	Number of memoranda of understanding signed with specialized institutions	CHM FP, NGOs, institutions, local communities	300
Awareness-raising among all stakeholders as to the importance of integrating biodiversity and ecosystem services	Collect, compile, and distribute information showing each sector's role in biodiversity-related issues	Publication of document on the impact of sectors' activities on biodiversity	CHM FP	300
	Raise awareness among the various actors to bring about the integration of biodiversity and ecosystem services	Number of workshops organized for decision-makers and number of sectors which have integrated biodiversity	CHM FP, NGOs, institutions, local communities	3000

Objective 1: To ensure that, by 2014, institutions, organizations, local communities, the private sector, and partners have access to information so that biodiversity and ecosystem services are integrated into policies, sectoral programmes and plans, and the population's way of life				
Facilitation of the adoption of positive incentive measures and the elimination of harmful subsidies with a view to the conservation and sustainable use of biodiversity	Document and disseminate all incentive measures and development activities with harmful effects	Document on incentive measures published	CHM FP	500
	Raise awareness among decision-makers for the adoption of the law on incentive measures for the preservation of protected areas in Burundi	Number of awareness-raising workshops for decision-makers and law enacted	CHM FP, NGOs, institutions	1000
	Disseminate incentive measures and the associated law extensively	Number of documents distributed and published on the web	CHM FP	1000
Facilitation of the development of plans for the management and non-consumptive use of natural resources and for access to best practices for the conservation of biodiversity	Encourage and facilitate the development of management plans for protected areas and for the use of biological resources	Number of management plans developed and disseminated	CHM FP, NGOs, institutions	50,000
	Collect and disseminate all plans for management and sustainable use of natural resources and best practices for conservation of biodiversity	Number of plans and best practices published	CHM FP, NGOs, communities	500
	Raise awareness among all stakeholders for the adoption of best practices in the conservation of biodiversity	Number of workshops organized and social groups targeted	CHM FP, NGOs, institutions, communities	15,000
