United NationsConvention on Biological Diversity (UNCBD)

State of Play and Perspectives for West Africa

Ficus sp. In the Sahel (Source: SOS Sahel, 2013)

Summary

Synthesis

More than in other places, millions of people in West Africa depend in large part on natural resources which continue to deteriorate.

Each year more than 4 million ha of forest are lost in Africa and 80% of the forests in West Africa disappeared in the last century (FAO, 2010).

34 countries like Angola, Ethiopia, Gabon, and Mali continue to suffer a loss of biodiversity (UNEP, 2008).

Genetic erosion in sub-Saharan Africa is accelerating and local food-producing seeds are disappearing at an alarming rate (FAO, 2012).

Soil degradation affects almost 500 million people in Africa and two thirds of the arable land is exposed to degradation.

The situation concerning water resources is just as troubling.

Never before have the humid zones and the bodies of water in West Africa been under such a strain. The area covered by Lake Chad, for example, has fallen from 25,000 ha to only 2,500 in 40 years.

The direct pressures are aggravated by changes in the climate whose effects will be all the more damaging because West Africa is already so vulnerable.

The objective of UNCBD and its additional Protocols of Nagoya and Cartagena is to maintain biological diversity, stop genetic erosion and ensure a just and equitable sharing of the benefits from the use of genetic resources.

Nevertheless, while humanity is going through its 6th biodiversity crisis, the objective for 2010 – reduce the rate of biodiversity loss – has not been achieved and the national implementation of UNCBD's measures remains limited in West Africa.

Introduction

The first part of this report gives a brief overview of the principles and mandates of the UNCBD and its two Protocols, Cartagena and Nagoya, and then presents its main bodies.

The second section introduces how far the UNCBD has been implemented and discusses specific aspects of agrodiversity and bio-security in the African context, then at the sub-regional West African level, and finally at the level of the individual countries of West Africa.

The final section covers the principal challenges facing the UNCBD in West Africa, namely its struggle against the genetic erosion of animal and vegetable organisms, and the protection against biopiracy. West African countries' search for a way to reconcile new biotechnology with sustainable and robust agricultural development, as well as how to strengthen synergies between the protection of biodiversity and mitigation of/adaptation to climate change rounds off this last section.

Translation: Peter Gaechter, SOS Sahel

The 3 components of biodiversity

Diversity within species

The diversity which is observable between individuals of the same species, known as genetic variation (for example the diversity between different breeds of dog or that between the different individual plants in a field of daisies).

Diversity between species

The diversity expressed as the variety of species in a given habitat, for ex. there are two species of elephant and millions of insects.

Diversity of ecosystems or habitats

It is much more difficult to define and to quantify than the first two. An ecosystem is defined by the number of living organisms it contains as well as non-living characteristics – soil composition, topography, climate.

6th mass extinction of biodiversity

The extinction of species is a natural occurrence in the history of the Earth. But human activity has accelerated the rate of extinction a hundred times more than the natural rate.

This is comparable to a major biological crisis because it has been calculated that 25-50% of Earth's species will have disappeared by 2050, yet several million years are necessary to recover biological diversity after a massive extinction

Human societies which began this mass extinction will also seal humanity's fate: we will be both the cause and the victims of the 6th mass extinction.

1. Framework

1.1. UNCBD

The UNCBD, adopted May 22nd in Rio states as its objective: "*the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources*".

It took effect on December 29th 1993 and is today the world's principal instrument to frame issues of biological diversity.

The Convention calls on States to restore and preserve degraded ecosystems and develop guidelines to manage them or to take measures to promote the recovery of threatened species (art. 7 and 8).

Figure 1 – Dune ecosystem in Northern Niger (Source: SOS Sahel, 2013)

The Convention also stresses the importance of assessing and precluding the environmental impacts of proposed projects, information exchange and State cooperation, and joint contingency plans to reduce imminent environmental damage (art. 14).

1.2. Cartagena Protocol

This Addition to the Convention was adopted in Cartagena, Colombia on January 29th, 2000 and is supposed to govern the risks from living modified organisms.

It is an important step towards reconciling commercial needs with the protection of the environment within the context of the rapid developments in the biotechnology industry.

These ought to be taken advantage of while at the same time reducing potential risks to health and the environment.

1.3. Nagoya Protocol

On October 29th, 2010 the COP adopted this Addition in Nagoya, Japan. It aims at providing a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilisation of genetic resources.

1.4. Bodies of the CBD

COP: The Conference of Parties is the governing body of the Convention, and advances implementation of the Convention through the decisions it takes at its periodic meetings. (cbd.int)

SBSTTA: This Subsidiary Body on Scientific, Technical and Technological Advice reports to the COP or other subsidiary bodies. It is open to all Parties and was established by Art. 25 of the Convention.

WGRI: The Ad Hoc Open-ended Working Group on the Review of Implementation of the Convention was created in 2004 by a decision of the COP.

Analogous to the UNCCD's Committee for the Review of the Implementation of the Convention (CRIC), the WGRI reviews implementation of the Strategic Plan adopted by the COP in 2002 with a view to achieve a significant reduction in the rate of loss of biodiversity by 2010.

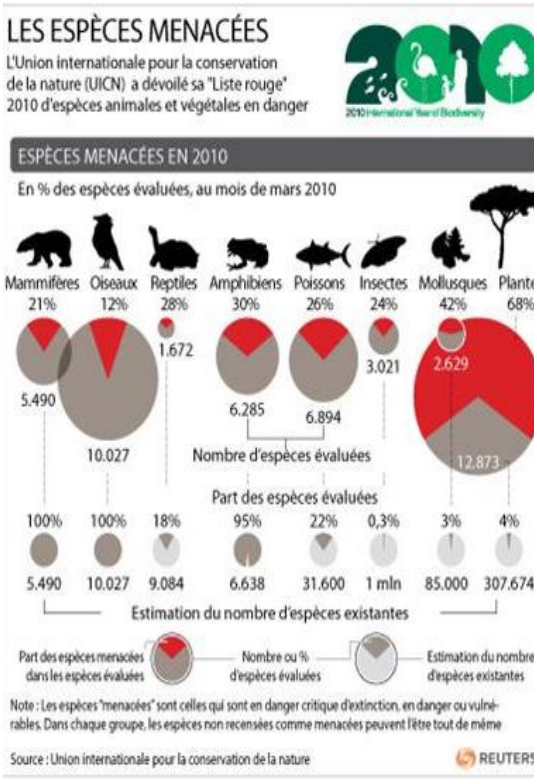

Figure 2 – Percentage of species under threat in 2010 (Source: IUCN, 2010)

2. Implementation in West Africa

Two specific aspects of the CBD will be examined here: agrodiversity and bio-security and the implementation of measures contributing to them in Africa as a whole, in West Africa as a sub-region and in the individual West African countries.

2.1. In Africa

The African Union developed two draft laws in 2001 that it hoped would be used as models for national legislation : (i) on the protection of the rights of local communities, farmers and plant breeders, and on the rights of access to biological resources ; and (ii) on safety in biotechnology.

These drafts take into consideration the specific conditions of the continent: food security, sovereign and inalienable rights, community rights, community knowledge and technology, participatory decision-making and informed consent, regulation of access to genetic resources, a just and equitable sharing of the benefits, opposition to patents on life forms, the role of women in the conservation of biological resources.

Figure 3 – Cattle resting under a Ficus sp. (Source: SOS Sahel, 2013)

2.2. In West Africa

Regional initiatives are also underway with the Economic Community of West Africa (ECOWAS), the West African Economic and Monetary Union (UEMOA), and the Permanent Interstates Committee to Combat Drought in the Sahel (CILSS).

In 2006, the CILSS Member States adopted a framework convention on bio-security and in 2007, the UEMOA adopted the Regional Bio-security Programme (RBP).

In 2010, the RBP was amended to strengthen countries' capacities to implement the Cartagena Protocol, with an Environmental and Social Management Framework (ESMF):

- Identify environmental, socio-economic, and health impacts;
- Evaluate and manage these impacts;
- Evaluate and follow-up on measures;
- Inform and involve the public in decisions concerning Genetically Modified Organisms (GMOs).

Figure 4 – NERICA rice (Source: ADRAO, 2003)

2.3. West African Countries

Most of the member states of UEMOA have ratified the Cartagena Protocol. From 2002 to 2004, they developed their National Bio-security Frameworks (NBF) with technical assistance from the UN Environment Program (UNEP) and funding from the Global Environment Facility (GEF).

Apart from a few national laws (forestry and environmental codes, laws on GMOs, etc.), it is difficult to see an effective implementation of the CBD.

There is hardly any explicit reference to it in any policy documents, although some provisions contributing to its implementation may be observed.

West African countries have notably not yet incorporated into their legal systems and regulatory frameworks the access to and sharing of benefits resulting from the exploitation of genetic resources. This would permit them to put an end to biopiracy.

Compared to the UNCCD and the UNFCC, it would be safe to say that the UNCBD has not yet inspired West African actors very much.

AfricaRice (ex ADRAO): *The Africa Rice Center is a leading pan-African rice research organization. It is committed to improving livelihoods by means of strong science and effective partnerships. Eleven West African countries founded the organisation in 1971 and it has since been extended to 14 others throughout Eastern and Central Africa. AfricaRice supports, among others, the inventorying of local rice varieties, in order to protect them.*

NERICA: *the New Rice for Africa is a remarkable example of scientific research in West Africa. A new variety that crosses African and Asian strains, NERICA has a higher protein content and is pest and drought-resistant as well as yielding more in a shorter growing cycle than traditional African strains (90 d. vs 140 d.)*

Bt cotton *is genetically modified to produce a toxin naturally prevalent in the soil bacterium Bacillus thuringiensis (Bt). The toxin is deadly to the larvae of butterflies. According to its producer, Monsanto, Bt cotton saves money and the environment because fewer pesticides are needed. Since 2010, however, the use of the seed has been questioned because of the rise of resistance in target pests and a proliferation of new pests. The environmental and especially social consequences have been bad, especially in India.*

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3. Perspectives for West African Countries

3.1. Combating Genetic Erosion and Biopiracy

Free access to genetic resources has for centuries allowed for varietal selection so farmers have been able to choose the plants and animal breeds they wish, breed them and exchange them.

These practices have contributed to genetic intermingling.

Figure 5 - Djallonke ram in Ivory Coast (Source: CIRAD, undated)

This free access has thus been an important factor in the preservation of genetic variety in food crops, a primary input for agriculture which is fundamental for food security (FAO, 2001).

So implementation of the Convention on biological diversity and the Nagoya Protocol is an opportunity for West African countries to ensure the livelihoods of their populations.

3.2. Regulatory Frameworks for Biotechnologies

Africa is rich in biodiversity which is a solid base for the development of biotechnologies.

Africa also has a market potential out of proportion to its current level. The markets for seeds, vaccines, pharmaceutical products and others are open, if only the continent took advantage of its huge potential in biodiversity.

On the other hand, the boom in biotechnologies should contribute to a rethinking of this free access to genetic resources.

Certain obligations of the Cartagena Protocol may constitute the basis for the legal regime governing bio-security in the West African States Parties. They would concern the implementation of a framework for the management of bio-security.

3.3. Linking Biodiversity and Climate Change

First of all, climate change may become the primary contributing factor in the loss of biodiversity in West Africa in the medium and long term.

Climate change mitigation in the agricultural sector could be facilitated by exploiting local biodiversity.

This is the case for example in the agroforestry parks in Niger where the *Faidherbia albida* tree has been planted on 250'000ha per year for the past 20 years where it sequesters important quantities of carbon (BOTONI et REIJ, 2009).

Figure 6 - Park with *Faidherbia albida* in Niger (Source: Agrhymet, 2013)

Finally, in order for agriculture to adapt to changes in the climate, seeds and animal breeds that are robust enough for local conditions may be required. It is notably the case for new short-cycle seeds, such as selected rice seeds, better able to take advantage of the new rain cycle compared to traditional long-cycle seeds.

Biodiversity has a part to play in the promotion of climate smart agriculture practices, which aim at adapting agriculture to climate changes, mitigating these effects, and increasing production and revenues for the populations.

← Figure 7 – Concept of "Climate smart agriculture", and links to the MDGs and the Rio Conventions (Source: FAO, 2013)