

The Integration of Biodiversity into National Environmental Assessment Procedures

National Case Studies

Niger

September 2001

**Produced
for the
Biodiversity Planning Support Programme**

UNDP/UNEP/GEF

9 NIGER

Prepared by Boukar Attari

CONTENTS

9	Niger	1
9.1	Introduction.....	2
9.2	National strategy and action plan for biodiversity (NBSAP).	3
9.2.1	Action plan	4
9.2.2	Progress in the implementation of the NBSAP	7
9.3	The environmental assessment system	7
9.4	Implementation of environmental assessment	13
9.5	Biodiversity and environmental assessment	14
9.6	Illustrative examples	16
9.6.1	Samira Gold Mining Project, Environmental Assessment.	16
9.7	Future actions to improve efficiency of biodiversity conservation and sustainable use	20
9.8	Conclusions.....	21
9.9	References.....	22
9.10	Acronyms.....	23

9.1 Introduction

The Niger covers a vast and fairly flat territory (1,267,000 km²) made up of low plateaux and plains, the highest plateaux in the North with an altitude of up to 2000m. In the South, the climate is sudan-sahelian and sahelian, while the North has a Sahara type of climate. The rainy pattern is characterised by wide variety and a tendency toward aridity glides across the land towards the south of the isohyets.

The water network flows into the River Niger, Komadougou Yobe and into the fairly fertile valleys of Dallols Bosso and Maouri, the Magia, the Goulbi de Maradi, and the Koromas. Aquatic measurements suggest that the volume of water flowing annually is 31 billion m³, of which 29 m³ flows into River Niger. Only 1% of this is used to satisfy the water needs of the people and the animals, for industrial purposes and for irrigation. With regard to underground water, it is estimated that there are 2.5 billion m³ of recyclable water and about 2 billion m³ of fossil water.

Niger's sub soil is rich in mineral resources, some of which (like uranium and coal) are being exploited and already contribute significantly to the national economy. Prospects at different levels exist for other mineral resources (eg gold, copper, and oil). Demographically, with a population of 9.2 million as at 1997, Niger is relatively under populated vis-à-vis its total geographical area. However, the fact that _ of this population is concentrated in the South, is engaged in agricultural and agri-pastoral activities and grows at a rate of 3.3% per year, makes the balance between natural resources and the population a cause for concern in the long term.

Previous records of biodiversity reveal a rich flora and fauna and a wide variety of ecosystems. However, prior to the development of a national biodiversity strategy and action plan (NBSAP) the available information was inadequate (due primarily to a lack of information and a lack of qualified personnel).

According to a biodiversity report on the Niger in 1998, the following were documented:

- 3,200 animal species with insects numbering the highest. There are 2021 species of insect species (63% of total animal species);with 1112 species of Coleopterans alone.
- 2124 plant species. The angiosperm group is the most researched and comprises 1460 species, of which 444 are monocotyledons and 1060 are dicotyledons. 536 species of Algae are also known; Cyanophocis, Diatomophysis and the Euchlorophysis dominate this group.

Numerous ecosystems exist on land as well as in aquatic and semi-aquatic situations, but no specific studies have been carried out on them, and as such their exact distributions and composition are unknown.

The Niger, therefore, has a relatively rich and varied biological potential, which ought to be preserved and managed in a sustainable manner. In the long run, this management is hindered by human, social, physical, economic and even institutional constraints. In fact, the high population growth rate of 3.3%, its uneven distribution and the weak evolution of social systems constitute a major constraint, which aggravates competition for occupation of space by wildlife.

The socio-cultural systems which greatly impact on the relationship with the environment change slowly, while the natural resources are still considered to be free and are therefore subject to abuse in their utilisation, thus compromising their preservation as well as their renewal.

CASE STUDY 9 NIGER

Merging the economy and the biodiversity management constitutes a complex problem in a country like Niger where a large portion of the population is a victim of poverty. In fact, it is noted, on the one hand, that traditional economic activities are still practised within agricultural systems that hardly evolve and that are least favourable to sustainable management of biological resources. On the other hand, state politics lacks the efficiency in the action plans. Furthermore, institutional instability, which characterises the administration, undoubtedly constitutes constraints to good biodiversity management.

In spite of this difficult situation, the Niger, driven by a desire towards sustainable development, solicited and received financial support from UNDP/FEM to develop its strategy and action plan in the area of Biodiversity.

9.2 National strategy and action plan for biodiversity (NBSAP).

The Niger signed and ratified the convention on Biodiversity on 11 June 1992 and 25 July 1995 respectively.

The NBSAP is the main factor in both national biodiversity planning and the convention implementing process. The NBSAP development process had the benefit of giving a wider and more integrated biodiversity management, taking into account all the affected areas as well as the people concerned.

The NBSAP planning framework is the technical committee for Biodiversity and it is backed by a secretariat. This commission is set up within the framework of the National Council on Environment for Sustainable Development (CNEDD). Its duties include development of the CNEDD, follow up of its implementation and assessment, among others.

The NBSAP development process began in October 1997 and ended in December 1998 after 15 months. It also enjoyed a high level political support since the institution was placed at the same level as the CNEDD which falls under the office of the Prime Minister.

Following the biodiversity example, two (2) strategies are in the process of development; a national action plan for the fight against desertification and natural resources management, and a strategy on the climatic changes. These two programmes are also similar to the biodiversity programme of the sub programmes of the PNEDD. A better integration of the implementation of these three programmes is envisaged.

CASE STUDY 9 NIGER

The process of SNPAB was marked by:

- ❑ The involvement of all eight (8) regions of the country in the process of SNPAB up to the point of ratification of the document;
- ❑ The multisectoral and interdisciplinary character of the technical commission, and its secretariat, which managed the process of the SNPAB;
- ❑ Support from regional and national authorities in the process.

The strategy is based on the regional diagnosis analysis carried out within the PNEDD framework and the assessment of Niger's biodiversity as observed through four major themes namely:

- ❑ The study of the environment.
- ❑ The biodiversity assessment inventory.
- ❑ Biodiversity and genetic resources management.
- ❑ The institutional and legal framework of biodiversity management.

The strategy has the following objectives:

- ❑ To ensure conservation of biodiversity;
- ❑ To utilise in a sustainable way, the elements that form the biodiversity;
- ❑ To ensure the necessary conditions for a just and equitable distribution of the benefits accruing from the exploitation of genetic resources.

The strategy defines among others, the national vision on the subject of biodiversity, as well as the general strategic objectives and also covers areas that have a direct impact on biodiversity.

The following areas are covered:

- ❑ Energy resources;
- ❑ Conservation (protected areas, endangered species and conservation ex-situ);
- ❑ Wild fauna;
- ❑ Forest resources;
- ❑ Agriculture;
- ❑ Cattle-rearing;
- ❑ Mineral resources;
- ❑ National and regional development;
- ❑ Biotechnology and biosecurity;
- ❑ Water and aquatic resources management;
- ❑ Environmental issues;
- ❑ Involvement of the community, the civil society, and the private sector;
- ❑ Environmental assessment;
- ❑ Sensitisation, education, research;
- ❑ Legal and institutional framework.
- ❑ Knowledge of the traditional and spiritual values;

For each of the areas mentioned above, the problems facing them as well as the thematic orientation were looked into and the measures and actions to take were prioritised.

9.2.1 Action plan

The biodiversity action plan ensuing from the strategy will run for 5 years and is made up of a number of projects and programmes emanating from the important issues raised in the strategy.

The following are the projects and the programmes:

- ❑ Development and promotion of alternative sources of energy;

CASE STUDY 9 NIGER

- ❑ Conservation of genetic resources;
- ❑ Development and sustainable utilisation of ecosystems;
- ❑ Surveillance of the elements that make up the biodiversity;
- ❑ Capacity building and institutional support;
- ❑ Biotechnology and biosecurity;
- ❑ Information, education, communication on biodiversity;

The strategy document is a dynamic tool and calls for improvements in the course of its implementation.

Constraints in the development of the SNPAB are linked to:

- ❑ The short duration of the project (despite the three months' extension), taking into consideration the approach taken (participatory approach);
- ❑ The logistics; (eg the project's means of transport was not so good, and at times this hindered the execution of the activities);
- ❑ The staff: The project's personnel was inadequate as it was only made up of a national co-ordinator and an accounts secretary;
- ❑ UNDP procedures: The project members were not initially selected according to UNDP procedures on national project execution. It was also difficult at times to follow these procedures (a lot of documents to fill in) given the limited number of personnel;
- ❑ Lack of means for the commission's technical secretariat, made up of the project's planning team (government counterparts), to fulfil its mandate in conformity with its allocation as defined in its decree of formation.

The SNPAB Process was developed in three stages, following the methodology below:

Stage 1: Organisation

Establishment of an operational framework notably the technical commission on biodiversity equipped with a technical secretariat.

Stage 2: Assessment of Niger's biodiversity

This was carried out in the following manner:

- ❑ Assessment of the biodiversity going by about ten themes, with the help of fifteen (15) national consultants.
- ❑ Validation by the planning team supported by resource persons, of some thematic documents following four(4) mini-workshops;
- ❑ Organisation of a mini workshop for the local users of biodiversity with a view of taking into account their opinion on the assessment;
- ❑ Development of the final assessment document and its approval by the planning team;

Stage 3: Definition of the Strategy and Development of the Action plan.

Stage 3 included:

- ❑ The analysis of the assessment document and the regional diagnosis carried out in the PNEDD framework in order to define the areas to be covered by the strategy and the objectives to be met;
- ❑ The temporary definition of the national vision on the subject of biodiversity;
- ❑ Formation of the planning team by an international expert on strategy formulation;
- ❑ The formulation of a preliminary draft of the strategy document/action plan by the planning team supported by the national consultants;
- ❑ The amendment and enrichment of the preliminary draft of the strategy document/action plan by the country's eight (8) regions through regional workshops bringing together the main stakeholders (the state, civil society and local communities);
- ❑ The development of a second draft of the strategy document/action plan, including the amendments and the enrichment brought about at the regional level;
- ❑ The approval of the second draft (strategy project/action plan) by the planning team supported by the resource persons;

CASE STUDY 9 NIGER

- ❑ The validation of the strategy project/action plan during a national workshop that had brought together members of the technical commission and all the stakeholders (the state, civil society and local communities);
- ❑ Finalising of the document taking into account the observations made by the planning team and the national consultants during the workshop;
- ❑ The organisation of a technical workshop, bringing together the planning team and resource persons for the adoption of the projects'/programmes' identification sheets (following the logical framework method) so as to finalise the action plan;
- ❑ Finalisation of the national strategy and action plan document on the subject of biodiversity by the planning team;
- ❑ The validation of the final document by the technical commission on biodiversity;
- ❑ The validation of the national strategy and action plan document on the subject of biodiversity by the national council on environment for sustainable development (CNEDD).

The national strategy and action plan document was developed and tabled in December 1998. Its adoption by the government of Niger took place on 5 May 2000.

CASE STUDY 9 NIGER

9.2.2 Progress in the implementation of the NBSAP

The biodiversity planners who will direct the biodiversity activities will carry out the implementation. They are ministers, NGOs, the community, the population and the private sector.

One of the problems that arise after the development of the strategies is that of the acquisition of the means to implement them. In the framework of this implementation, Niger is at the point of establishing a national environment fund with the technical and financial assistance from UNDP and UNSO. This fund which will derive from the states contribution, communities, private sector and NGOs as well as partners in development, will be an agency with multiple departments, one of which will be a biodiversity department. It will also call upon the contributions from bilateral and multilateral co-operation and by so doing, the authorities will put up efforts in the search for finances for the seven (7) projects and programmes registered in the five-year action plan. Already, project documents resulting from the NBSAP have been developed and are waiting to be financed. These documents are on:

- ❑ Needs assessment in capacity building in the area of biodiversity;
- ❑ The development of a PDFB for the formulation of a project on biodiversity conservation in the bordering zones of W, d'Arly and Penjari parks;
- ❑ Conservation of the Sahara biodiversity.

On the institutional plan, the NBSAP was established through the biodiversity national environment plan for sustainable development (PNEDD). PNEDD is the driving force behind all issues on the subject of environment and sustainable development, which is one of the programme's priorities.

9.3 The environmental assessment system

Environmental assessments as a helping tool in decision-making and as prevention against certain actions that impact on the global environment and on the biodiversity are very recent in Niger. The process of establishing an assessment system has just been set up with the adoption of the application texts of the blueprint law that instituted environment impact studies.

For decades environmental assessments have remained one of the major priorities of politics and the national legislations that have followed. The constitution of 18 July 1999 of the Republic of Niger, in its article 27 (title II) stipulates that "everyone has a right to a healthy environment and that the state has a duty to protect the environment. Everyone is called upon to contribute to the protection and to the betterment of the environment in which he/she lives."

In addition, Niger is a signatory to several **international conventions** that have adopted the principle of environmental assessment.

- ❑ Such is the case with the biodiversity convention which makes provision for the adoption of impact study measures at the level of projects, programmes and politics.
- ❑ The convention on climatic changes in its article 4.1.f that envisages the use of the impact studies to reduce to the maximum the prejudicial effects on health, economy, etc. linked to climatic changes.
- ❑ The convention on the fight against desertification in its article 10.4 opts for the promotion of new means of existence and improvement of the national economic environment, institutional and judicial framework.

CASE STUDY 9 NIGER

The actual process of establishing an environmental assessment system in Niger was officially started in 1997. Indeed, by signing the 97-001 order of 10 January 1997 on institutionalisation of impact studies on the environment, the government of Niger officially involved itself in the process of environmental assessment.

In the same way, article 1 of the order stipulates that, “According to the terms of the present order, the term “environment” will mean the group of physical, chemical and **biological** aspects, and the social factors and the dynamic relations among the different components.”

Article 2 states that the term “impact on the environment” means the negative or positive changes that the accomplishment of a project, and activity or a development programme may cause to the environment.

Lastly, article 4 emphasises that: “activities, development projects or programmes, which by their magnitude or by their occurrences on the natural and human environment, can harm the latter, should be given prior permission by the Ministry of Environment.” This permission is given based on the appreciation of the consequences of the projects’ or programmes’ activities, as revealed by an environment impact study carried out by the promoter.

Immediately after signing the 97-001 order, an interministerial committee was formed with a view to develop the application texts. After several work sessions, two (2) blue prints were developed. They deal with decree projects containing attributions, **organisation** and functions of the Environmental Assessment and Impact Studies Bureau (BEEEI) and the decree project on administrative assessment and examinations procedures on environment impact. The proposals were made during a national validation workshop in July 1998 and given to the government for adoption.

<p>Due to various reasons linked to political instability, structures and framework instability, this order was not effectively implemented.</p>

In 1998, Niger was financed by UNEP to enact a law on environment. The process of the enactment of this law was under the auspices of an interministerial committee co-ordinated by a group of consultants. The approved text, emanating from several meetings of the members of the committee was sanctioned by a national workshop and was given to the government for adoption.

This law was passed in 1998. It is the **blueprint law no. 98-56 of 29 December 1998 related to environment management.** (Environment code).

CASE STUDY 9 NIGER

The blueprint law defined among others, in its article 2, the following terms:

Biodiversity: Variety of living organisms of all origins including, among others, the ecosystems, marine and other aquatic ecosystems, and the ecological complexes, of which it forms part; that comprises the diversity within the species as well as those of the ecosystems.

Environment impact study: The report of the assessment on the negative or positive changes that the accomplishment of an activity, a project, a programme or a development plan may cause to the environment.

Regarding biodiversity, the law in its article 82, states that, “in order to encourage biodiversity conservation and sustainable utilisation of its elements, the Minister of Environment prepares an inventory of the species threatened with extinction and establishes a plan on their management.”

Article 83 of this same law clarifies: “When the conservation of a natural environment creates a special interest and it is necessary to protect it from all human intervention capable of altering it, degrading it or modifying it, the part of the national territory affected may be set aside as an ecologically protected zone.”

Regarding the EIE, the blueprint law in its article 31 reiterates the terms of article 4 of the 97-001 order on the environmental impact studies.

The code on the environment is therefore a federate text on the subject of environment management and must serve all environmental issues in a unique way. It integrates the main text layouts adopted for the management of the different sectors of environment. In this way it links the general legal framework with the fundamental principles of environment management in Niger. The environment code is based on the following fundamental principles as decreed in title I chapter 2 of the law:

- ❑ Rational environment and natural resources management includes the principles of pollution prevention, precautions of *polluer-payeur*, individual responsibility, public participation and *subidiarite* (3a-f);
- ❑ Each person has a right to a healthy environment (article 4);
- ❑ Each person has a right to be informed on the state of his/her environment and to participate in the decision making process on environmental issues (article 5);
- ❑ The natural resources, comprising of water, forests, fauna, fisheries and the environment in general, form part of the common natural heritage (article 6);
- ❑ The protection and validation of the environment is an integral part of national strategy on development (article 8);
- ❑ Public and private institutions should inform the general public of environmental problems (article 9);
- ❑ Organisations engaged in environmental issues can be recognised as public utilities and benefit from the advantages associated with such a status (article 10).

The environment code considers the national plan on environmental and sustainable development (PNEDD), and the environmental assessments as environment management tools.

CASE STUDY 9 NIGER

It also cites the following protection measures for the management of the environment (title III).

- Protection of the atmosphere;
- Protection of water resources;
- Protection of soils and under soils;
- Protection of human settlements;
- Waste management;
- Management of harmful and dangerous chemical substances;
- Management of industrial and natural risks;
- Management of natural resources;
- Fight against desertification and the alleviation of the effects of drought.

In addition to the environment code, **the mining code, forest code, water code and the rural code** cover the areas of:

- Environmental protection;
- Environmental assessment;
- Land use and building construction;
- Water use;
- Use of forest resources and protected areas;
- Mineral exploitation;
- Disposal of solid and liquid waste;
- Importation of harmful substances.

Regulations on other sectors were also adopted:

- Fishing regulations; The law 98-042 of 7 December 1998 sets fishing regulations and the conditions to enjoy the right to fish as well as the protection of *halieutiques* resources, while taking into account the benefits accruing from this innovation whereby taxes were paid for the fishing permit. For the first time, this law created funds for fishing management;
- Order 92-45 of 16 September 1992 (title 3), on oil regulations: On administration surveillance and environment protection, it forces holders of the research and exploitation licence to make sure that their work and their installations do not damage the environment and the natural and cultural heritage;
- The 96-008 order of 21 March 1996 on the protection of vegetation aims at ensuring among others:
 - Control of movement of the vegetation, plant products and other products capable of acting as carriers of harmful organisms;
 - Control of the importation, exportation and the transit of plants, plant products and other items capable of carrying substances harmful to vegetation;
 - Organisation of the fight against plant and agricultural product enemies;
 - Control and use of *phytosanitary* products in the fight against plant enemies;

CASE STUDY 9 NIGER

The adoption of the applications texts related to impact studies was carried out in the year 2000. These texts were finally adopted. They are:

- ❑ Decree no. 2000-369/PRN/ME/LCD of 12 October 2000 containing attributions, organisation and functioning of the environmental assessment and impact studies bureau;
- ❑ Decree no. 2000-397/PRN/ME/LCD of 20 October 2000 containing administrative procedure on assessment and examination of the impact on the environment;
- ❑ Decree no. 2000-398/PRN/ME/LCD of 20 October 2000 determining the list of activities, works and planning documents under the environment impact studies.

Other initiatives at the national level must be added to these texts, notably those of the civil society, which, supported by the World Bank, started an association – Association of Environment Impact Studies Professionals of Niger (ANPEIE).

The different actions taken to implement EIE in Niger are summarised in Table 1.

Table 1 Summary of actions taken in implementing EIE systems in Niger

Dates	Activities	Abilities
16 September 1992	Order 92-45 (title 111) on petroleum code.	ME
21 March 1996	Order 96-008 on plant protection.	MAG/EL
10/01/97	Order on institutionalisation of impact studies in Niger	Ministry of Environment
05/05/97	Implementation of the environment framework within DTP/MEI	MEI
05/97	Setting up of the environmental assessment and impact studies bureau (BEEEI)	Ministry of Environment
06/97	Nomination of the director of BEEI within ME	ME
7 December 1998	The 98-042 Law imposes fishing laws	MHE
97 to 98	Development of application texts of the 97-001 order	MHE, CNEDD
1998	Implementation of a training programme on EIE, information and sensitisation of different stakeholders (civil society technical cadre, community)	ME
1998	Blueprint law on the environment	ME
1999	Formation of ANPEIE	World Bank/IUCN
1999-2000	Training of stakeholders on impact studies during three sessions	SE/CNEDD/BM
2000	Decree no.2000-369/PRN/ME/LCD of 12 October 2000 containing attributions, organisation and functioning of the environment assessment impact studies.	ME
2000	Decree no. 2000-397 PRN/ME/LCD containing administrative procedure on assessment and examination of the impact on the environment.	ME
2000	Decree no. 2000-398/PRN/ME/LCD of 20 October 2000 determining the list of activities, works and planning documents under the environment impact studies.	ME
2000-2001	Development of the application texts of the blueprint law on environment.	CNEDD.

CASE STUDY 9 NIGER

The major national institutions responsible for the administration of environmental issues are:

- ❑ Ministry of Water and Environment having as its main allocations, the conception, development and the implementation of issues related to water, rural equipment, preservation and development of *halieutiques* and fauna resources, prevention and control of pollution and harmful substances;
- ❑ The national council on environment for sustainable development (CNEDD) is attached to the Prime Minister's office and is a deliberative organ with a mission to develop, follow up and assess the implementation of the national plan on the environment;
- ❑ Several ministries with technical departments charged with specific aspects of the environment;

The development and implementation process of the legal framework of EIE was simultaneously conducted with the development of certain plans and programmes. From these plans and programmes, those that are directed towards the biodiversity management were retained:

- ❑ The National plan on environment on sustainable development (PNEDD); This plan provides for the integration of environmental preoccupations in the decision making process and is supported by a number of practical tools among them, the environment assessment (EE) and the environment impact studies (EIE);
- ❑ Programme on natural resources management(PGRN);
- ❑ Programme on infrastructure reinforcement (PRI);
- ❑ Programme on the fight against poverty; envisages the implementation of a strategy which integrates the environmental preoccupations in construction sites especially those in urban areas faced with health and sanitary problems.

The sphere of activity of EIE, in conformity with article 31 of the of the blueprint law on environment expounds on, "The activities, development projects or programmes, which by their magnitude or by their occurrences on the natural and human environment, can harm the latter, are subjected to prior permission granted by the Ministry of Environment. This permission is granted based on the appreciation of the consequences of the projects' or programmes' activities, as revealed by an environment impact study developed by the promoter and accepted by the Minister of Environment."

As it may be noted, environmental preoccupations have been taken into consideration in the development of plans and programmes. What therefore remains is to harmonise these considerations through the clear implementation of the steps provided for. Centralisation is therefore necessary.

Regarding the EIE procedures, decree no. 2003-397 PRN/ME/LCD provides in its article 4, the steps of the procedure comprise:

- ❑ Project opinion preliminary examinations;
- ❑ Terms of reference of the impact study;
- ❑ The EIE per se;
- ❑ Impact study analysis;
- ❑ Recommendations and surveillance and follow up conditions.

CASE STUDY 9 NIGER

Article 5 of decree no. 2000-397/PRN/ME/LCD of 20 October based on the administrative procedure on assessment and examination of impact on the environment states: “Those considered as major players of EIE according to the present decree are the sponsors of the project, competent authority (the Ministry of Environment), the Minister supervising the project, the community.”

Finally, the article states that the players, other than those in the article 5 above are: the National council on environment for sustainable development, relevant authorities whose opinion is necessary in this project domain; financial institutions, local authorities and the public through environment protection organisations. These ones do not systematically take part at the EIE but their ideas may be necessary during the different stages of the EIE or during the implementation of the project.

For reference text on environmental assessment see annex.

9.4 Implementation of environmental assessment

In Niger, as in the majority of developing countries, the judicial and legal environmental assessment framework is a recent development. It is through the pressure applied by the sponsors that this framework was gradually established.

This is the case, for example, of the operational directives of the World Bank (OD.04) which constituted a reference base for impact studies for the implementation of certain projects financed by it.

Analysis of the historical evolution of the global framework leads to the following observations:

- For several years, Niger has had texts related to the protection and the conservation of biodiversity resources and environmental assessment. This framework led to the adoption of several laws, decrees and the signing of international conventions. However, all these were not operational because of the lack of application texts on the procedures, contents, etc, and the weaknesses of the institutions to layout the necessary means to hasten the process;
- Article 82 of the blueprint law states: “In order to encourage biodiversity conservation and sustainable utilisation of its elements, the Minister of Environment prepares an inventory on the species threatened with extinction and establishes a plan for their management.” This inventory had not yet been prepared. Similarly lack of knowledge on biodiversity was noted during the development of the biodiversity strategy and a programme was envisaged to fill this gap. Unfortunately this programme has never materialised.
- Several plans and programmes have integrated aspects related to environmental assessment, but in practice, there is still need to harmonise environmental aspects with biodiversity.
- From the institutional point of view, the structures that are charged with the implementation, follow up and assessment of the steps was only set up recently and still suffer from insufficient qualified personnel and work methods.
- The first initiatives in the EIE domain were supported by certain partners such as the World Bank and UNDP that made the execution of the EIE one of the main conditions for financing of certain projects.

That is why it is necessary to distinguish two periods concerning environmental assessment matters in Niger: a transitory period before the adoption of the actual national legal framework, and a period when this framework is established.

CASE STUDY 9 NIGER

Before the institutionalisation of the EIE and their application texts in Niger, environmental assessments were made possible through the instigation of the financial sponsors or promoters themselves. Such is the case with the environmental assessment of the dam projects (Kandadji and Gambou) along the River Niger, the mining projects and road construction projects.

Currently, Niger has the essential legal arsenal permitting her to implement the environmental assessment system. These texts are very recent.

However, several questions arise regarding the real capacities, materials, techniques and human resources of the mentioned institutions to manage the mechanism well. There are also other difficulties, that are not less important and that relate to the balance of power between the necessity to preserve the environment and the urgency to conduct and implement projects and development programs, as the case may be, for a very poor, under developed country.

Analyses from certain studies note that:

- ❑ Despite the fact that promoters or financial sponsors initiated them, the EIE contributed to the dismissal of the Bamboo dam project, along the river Tapoa, in the northern border of the W National Park.
- ❑ Had the project been realised, it would have endangered the habitats and *ripicole* ecosystems of the W. National Park;
- ❑ The Environmental assessment of the national route n°1, largely took into account the presence of the last population of giraffes in Niger and West Africa, in the sense that it avoided too much modification of their habitat;
- ❑ Among the other studies carried out, no project was rejected for reasons of environmental impact or conservation of a particular species or ecosystem;
- ❑ In rare cases, corrections were made and alleviation measures were implemented to take into account environmental impact.

9.5 Biodiversity and environmental assessment

As we indicated above, the SNPAB development process was conducted at the same time as the one on the EIE. One of objectives pursued in the development of the SNPAB is to accelerate the legal framework implementation of the EIE and the application areas.

The biodiversity strategy includes as an objective, strategy N° 3, takes into account the improvement of knowledge on biodiversity resources and the regular follow-up of their evolution. The strategy also dedicates a chapter (theme n°13) to environmental assessment. In this way the creation of a favourable institutional and legal framework and its operations, for the accomplishment of environmental impact studies is also one of the strategic orientations in this area.

The Action Plan on Biodiversity Strategy, states that the aspects linked to impact studies are taken into account at the level of surveillance program of the elements that constitute biodiversity and that the specific actions retained are relative to: the creation of an observatory on biodiversity, the accomplishment of an impact study of career exploitation as well as the training of staff on follow-up and environmental assessment techniques.

However, there is good reason (cause) to reveal the main gap as the lack of a perfect harmonisation of the SNPAB and the EE system because there was never a real integration of one in relation to the other. Moreover, the SNPAB did not allow for the

CASE STUDY 9 NIGER

definition of species and their status, notably, endangered species, threatened species, species threatened with extinction etc.

Let us now, by reading through the control list see how this integration is envisaged.

In Niger, the national strategy development was an occasion to take stock of the animal and plant biodiversity, ecosystems and the different uses. These works brought to light a lot of gaps as concerns the knowledge of their precise situation. The SNPAB therefore carried out the studies with a view to fill certain gaps.

At the moment in Niger, there exists no government list of threatened species, rare species, those that are threatened with extinction, etc.

The potential impacts taken into account at the time of environmental assessment are quite general (impact on fauna, on flora or on vegetation, degradation of the habitat and very rarely on the specific and genetic biodiversity).

9.5.1 Limitations

The article 7, *aliens* 4 decree no. 2000-397/PRN/ME/LCD on administrative procedure on assessment and examination of the impact on the environment provides that “an analysis of the initial state of the site and its environment: collections of base data on water, soil, flora, fauna, air, the physico-chemical, biologic, socio-economic and cultural conditions.”

Aliens 6 of the same article provides that an assessment of likely changes (positive or negative, direct, indirect or cumulative, short, medium and long term) that the project is bound to generate in the course of and at the end of the operations, on the different elements quoted in *aliens* 4.

Unfortunately, it came out in the biodiversity inventory of fixtures that the knowledge on species, ecosystems, genes and micro-organisms are not given much importance.

9.5.2 Impact Forecasting

With regard to study areas, decree n° 2000 -39/PRN/ME/LCD of October 20, 2000 determines the list of activities, of works and scheduling documents under Environmental Impact Studies (EIE).

The system allows for identification of impacts on biodiversity but as stated above, the global aspects linked to fauna, flora and the habitats are given more consideration.

9.5.3 Mitigation

Article 7, *aliens* 8 of decree n°2000 - 397/PRN/ME/LCD on administrative procedure on assessment and examination of the environment impact provides that: «an identification and a description of the preventive measures for control, suppression, alleviation and compensation of negative impact.

In practice and in a general way, it is the big bodies (water, soil, fauna, flora, etc.) that are concerned with the steps stated above and not specifically biodiversity that has been given much importance.

9.5.4 Impact assessment

In practice and from the examples taken from the studies carried out in Niger, the values of biodiversity are taken into account while making decisions, but in a rather diluted

CASE STUDY 9 NIGER

manner. Above all, it is the values of the biological resources that are given more consideration.

9.5.5 Environmental impact findings

The impacts on biodiversity are not explained clearly in the SEI. The texts make (especially) minor or major, positive or negative impact cases, but there still exist no established norms that would facilitate decision making.

9.5.6 Review

There exists neither reference nor review on biodiversity. The impact study system has also not been reviewed to evaluate the biodiversity coverage.

9.5.7 Decision-making

In certain cases, the biodiversity issues have played an important role in decision making. This is the case with the Gambou dam project that was blocked because of the negative impact that it would have caused on the *ripicole* habitats and ecosystems of W. National Park.

9.5.8 Control and post audit project

Some examples exist where the control of biodiversity has been recommended. This is the case with the SAMIRA project case study below. Up to now, the EIE practitioners refer to general reports and existing codes, and to international convention texts concerning wildlife management. The national reports only consist of lists of protected species, of classified and protected ecosystems. The reports are not always updated. Furthermore, they do not specify the status of the species. However, the practitioners do refer to the list established by IUCN.

9.6 Illustrative examples

9.6.1 Samira Gold Mining Project, Environmental Assessment.

Location

The project zone is in the heart of Liptaco-Gouma region in the western lowlands of Niger about 100km to the west of Niamey, the capital, alongside the border of Burkina Faso to the west.

Proponent

African Geomin Mining Development Corporation.

Proposal

Exploitation of a gold mine in Niger, in West Africa. It is a *lixiviation* treatment factory capable of treating up to 6000 tonnes of mineral per day from the Samira and Libiri gold mines, using coal.

Alternatives

The project did not come up with alternatives, but rather the analysis process concentrated the EE on environmental components (biophysical, socio-cultural and economic) which the society values. These components are called Environment Valorised Components (CVE).

Six CVE were retained and used in the environmental impact study. They are:

- Atmospheric environment;
- Surface water resources;

CASE STUDY 9 NIGER

- Under water resources;
- Sud-sahelian ecosystem;
- Species with special conservation status;
- Archaeological resources.

Characteristics of the Proposed Development Zone in Terms of Biodiversity

The project zone is situated in the heart of Liptako-Gourma in the western lowlands of Niger. The underlying geology of the project zone is varied. It is composed of *rocky dolerique gabbro, sedimentary graphite belts, felsique intrusions* and *porphyry quartz*. These elements are found in the heart of a big zone of *mafique volcanites with minor intrusions, bordered on the north by volcanic sediment, pyroclastics, argilites, clayey schists*, and to the south by *volcanic sediments with a strong sequence of resistance*. The resulting landscape is varied with heights of between 200 and 500 metres, plains, hills, mounds and trays, erosion cones, small gullies and a zone of relatively dense vegetation called thalwegs. The Liptako-Gourma region known for its mineral reserves such as gold has about 15 gold research permits and covers a wide range of mining activities.

The climate at the project site is the sahelian type, characterised by two well designed alternating seasons that are well defined through out the year: one rainy season from June to September and a dry season from October to May. These climatic variations are caused and characterised by the Monsoon (cold and humid air coming from the Southwest) and the Harmattan (hot and dry wind which blows from the Southeast/Northeast respectively).

The temperature in West Africa at Niamey falls between a minimum of 18°C in December and January and a maximum of 40°C in April and May. The extremes at Niamey reach 6°C and 49°C. The annual average is 29°C. The annual rainfall is about 400mm. The evaporation potential is very high during the dry season when the Harmattan carries large quantities of dust in the Sud-sahelian region. This dust is made up of small particles suspended in the air coming from the Sahara.

The Taiwa zone has 10 sloping basins which emanate from two major tributaries of R. Niger: R. Sirba and R. Dargol situated about 10 km and 40 km respectively from the mining site. The main tributaries of R. Sirba are Katkoulo, Tiawa, Badie and Tiegol; similarly, the main tributaries of R. Dargol are Louggue, Guigel, Bega and You-Kouara. The open mines of Libri positioned on both sides of the dividing line of the waters between Badie and the tributaries do not take the name of R. Sirba. R. Sirba flows for approximately six months in a year, with a yearly volume of surface water of about 643 million m³.

During the rainy season, one finds surface water in the thalwegs, gullies and in other areas that are usually dry. The surface water is also found in small temporary ponds which form on the breast plate depressions. All these sources of water normally disappear before the end of November.

The Samira zone was subdivided into 7 habitats or ecotypes according to the vegetation and the topography. A habitat comprising *ripicole* forests near the R. Sirba also exists but it is situated beyond the covered zone. The eight (8) habitats are:

- Ripicole bushes above the toposequence;
- Ripicole bushes below the toposequence;
- Plateau bushes;
- Bushes on the slopes;
- The *Sclerocarya birrea* park;
- Gradation glacis;

CASE STUDY 9 NIGER

- Fallow land;
- Ripicole forest (along R. Sirba).

The habitats, of which the vegetation is most abundant and most varied, are the *ripicole bushes* of the low plateaux, and the *ripicole forests* of R. Sirba. The latter is the home of big trees, and often has a low level of scattered vegetation. The *Sclerocarya birrea* Park is an open habitat where pluvial cultures are mainly practised. The cereal plants characteristic of the zone are millet, sorghum, *niebe* and maize. The degraded glacias constitute habitats that have poor soils and are generally situated along the slightly inclined slopes. These habitats were degraded by a long period of erosion and perhaps by intensive cultivation of the land in the past. The fallow lands represent the old cultivation zones that were abandoned and left to regenerate naturally.

The scattered shrubs are characterised by vegetation features separated by great zones of sparsely vegetated lands. The resulting pattern reminds one of the stripes of a tiger. Much as one does not find this type of vegetation on the Samira site, except along a portion on the route leading to the site, these shrubs are important and are largely spread beyond the site, to the north, near R. Taiwa.

Fish is found in R. Sirba and in R. Taiwa to the north as well as in the seasonal ponds following the rainy season. Diverse species of fish can be found including *Tilapia nilotica*, *Siluranodon auritus* and *Protopterus annectans* (dipneustes of Africa found in the seasonal ponds) as well as *Clarius largera* (a catfish, also found in the seasonal ponds).

The mammalian fauna is quite rare in the Samira zone due to desertification and increased human activity leading to reduced plant coverage and loss of habitat. The reduced plant coverage and the pressure caused by hunting led to elimination of the big mammals in the region, although a lion was seen in the area in 1999. The remaining mammal species are few and scattered. The distribution of most of the fauna species depends on the vegetation. Certain species have specific preferences for their habitat such as the forest and bushes (e.g. warthog) others on the contrary, can be found in diverse habitats (e.g. common jackal).

The birds represent the largest number and variety compared to the other animals of the macro-fauna. Nevertheless, this diversity is seasonal because numerous species migrate during the rainy season.

Data Available on Biodiversity

In Niger there exists no government list on threatened species or those threatened with extinction. In this environmental assessment, the fauna species with special status are represented as being seriously threatened with extinction or as vulnerable according to the list of threatened animals established by IUCN in 1996. Within the project zone, there is no knowledge of the existence of fauna species that are under the category of seriously threatened with extinction, threatened with extinction or vulnerable. Likewise, no species of fauna is considered as having a special conservation status in the framework of this environmental assessment.

It is known that two species listed as less threatened, featuring on the IUCN list live in the assessment zone. They are the *Gazella dorcas* and the porcupine (*Hystrix cristata*). According to the locals, two birds' species *Balearica pavonia pavonia* and *Alopochen aegytiaca* were seen near the project site. None of these birds feature in the IUCN's current list of threatened animals, although they should have been included.

CASE STUDY 9 NIGER

Also, no government list exists, other than the forest code of the Republic of Niger, for threatened plants or those threatened with extinction. None of the plants featured on the list of threatened plants established by IUCN in 1997 were registered in the assessment zone during the research on plants. Seven tree species found in the assessment zone are protected by the forest code of the Republic of Niger and consequently are considered as having a special status. They are: *Acacia nilotica*, *Acacia senegal*, *Adansonia digitata*, *Balanites aegyptiaca*, *Khaya senegalensis*, *Pterocarpus erinaceus*, *Sclerocarya birrea*..

Adansonia digitata has a cultural value in the project zone. *Khaya senegalensis* features on the world list of threatened tree species as a vulnerable species. This species was observed in only one quadrant. It is a mahogany species that is widely spread in the forest parks of the rainy savannah. The Samira/Libri site is situated to the extreme north.

Prosopis africana does not feature in the forest code as a protected species but it is hoped that it will be included. The *Prosopis africana* is also considered as a species that has a special conservation status for the purposes of this environmental assessment just like the other seven species protected by virtue of the forest code.

Account of Potential Impact on Biodiversity

At the level of the sud-sahelian ecosystems, the main environmental action plans (PAE) used to ascertain the alleviation measures are the intervention plan and environmental contingency (PICE), the plan of hydraulic management (PGH) and the rehabilitation plan and the closure of the mine (PRFM). The main alleviation measures comprise:

Reduction of the disrupted zones, establishment of a program for removal of debris outside the periods of reproduction, saving the productive habitats, suppression of the dust and restriction on road traffic, appropriate garbage disposal, education and training, centralisation of stations and restocking fuel ramps, dissuasion from hunting and zero-grazing, limitation of night movement, installation of speed limit panels, planting of trees to serve as dust barriers, reduction of noise, measurement of fauna exclusion, treatments of used water and of kitchen waste, alternative sources of energy, dissuasion from cutting trees, transport for people to go to the site, restriction of grazing on sensitive areas, re-sowing of the appropriate species, dissuasion from settling, control of emissions, reforestation and afforestation, removal of barriers to allow for a normal water flow, restrictions on fire, utilisation of the water filtered from the Sirba, restrictions on pumping water at 1800m³/h, that is 35% of the total flow.

At the level of the species with a special conservation status, the main environmental action plans (PAE) used to check the alleviation measures are the intervention and environmental contingency plan (PICE) and the rehabilitation and closure of the mine plan (PRFM).

The main alleviation measures comprise

Reduction of the disrupted zones, establishment of a programme for removal of debris outside of periods of reproduction, saving the productive habitats, suppression of the dust and, restriction on traffic, appropriate garbage disposal, education and training of employees, centralisation of stations and restocking fuel ramps, dissuasion from hunting and zero-grazing, restriction of night movement, installation of speed limit panels, planting of trees to serve as dust barriers, dissuasion from cutting trees, transport for people to go to the site, restriction on grazing on sensitive areas, re-sowing of the appropriate species, dissuasion from settling, control of emissions, removal of barriers to allow for a normal water flow, restrictions on fire and irrigation.

Consideration of the values of Biodiversity

The project analysis bases the environmental assessment on the components of the environment (biophysical, sociocultural and economic) to which society accords value. These components are called valuable environment components (CVE). The study group revealed seven (7) CVE, of which the first six are handled in the environmental impact study as indicated above.

The CVE were chosen by the study group on the basis of professional judgement by its members, while taking into account the nature of the questions, the project concerns and the receiving environment.

An appropriate framework for the analysis of environmental effects was also created. The potential environmental effects associated with works and activities were evaluated, including the cumulative environmental effects associated with all the phases of the proposed project and with regard to each biophysical and archaeological CVE. Social order questions were also evaluated in the environmental impact study (EIE) and in the social impact study (EIS). Ultimately the objective is to determine the importance of the negative, residual environmental effects or the potential positive effects. The term residual signifies the environmental effects that persist after the application of specific alleviation measures.

Acceptability of the study

The techniques of the biodiversity study are acceptable, in terms of rate, duration and qualified personnel.

Evident omissions in terms of impact on biodiversity

RAS

Actual or probable result is positive in terms of impact on biodiversity.

9.7 Future actions to improve efficiency of biodiversity conservation and sustainable use

The improvements that should be included so as to give more consideration to biodiversity in the environmental assessments should be directed towards the following points:

- ❑ At the level of the texts and the SNPAB, enrich and deepen the aspects linked to environmental assessments and make them operational;
- ❑ See to it that all the biodiversity features (species; ecosystems and genes) are taken into account at the time of revision of the strategy and the texts related to impact studies;
- ❑ To improve knowledge on the state of the biodiversity;
- ❑ Carry out the work with a view to better understand the uses and usefulness of biodiversity elements as well as their potentialities;
- ❑ Educate and inform the citizens on the benefits of biodiversity conservation;
- ❑ Establish a list and the actual status of the different biodiversity species (endangered species, threatened species, species threatened with extinction);
- ❑ Develop the texts relative to the use and exploitation of the biodiversity elements;
- ❑ Deepen the knowledge on ecosystems with a view to determine their actual status (rich ecosystems; threatened, etc);
- ❑ Develop a list of biodiversity coverage in the environmental assessment;

CASE STUDY 9 NIGER

- ❑ Give a specific content and impact studies indicator on biodiversity based on the terms of reference of the environmental impact studies;
- ❑ Develop and implement the layout and management plans of the different ecosystems;
- ❑ Harmonise the contents of programs and plans with conservation needs;
- ❑ Develop structures for implementation of the directives and the practical guides set forth;
- ❑ Continue the information and sensitisation by the promoters of the projects (state institutions and civil society) as well as the decision-makers (political authorities; people's representatives, administrative and customary authorities) so that they accord importance to the fulfilment of the impact studies.

9.8 Conclusions

With regard to the diagnostic established on Niger's environmental assessment system, it is noted that, although in the political discourse, environmental assessments are presented as priority actions, in practice they are rather neglected. Indeed the aspects linked to impact studies are considered in different law texts and other complementary and relative texts. However, the analysis of these texts show that the content reserved for impact studies, especially on biodiversity, has gaps and insufficiencies that should be filled.

Besides, in many cases, it is noted that the plans and programmes are executed without really taking into account the short and long term impacts on biodiversity.

However, with the setting up of the legal texts, this is only a start. The system being very new in Niger, it requires time to be internalised by all parties concerned. The impact studies on biodiversity are a shield against the loss of some of the elements that make up the biodiversity. A need for training and education is felt at all levels so that the environment assessment system that has just started in Niger can be developed without any major obstacle.

Concerning biodiversity, it is necessary to set up programmes with a view to develop actions that fill up the gaps and insufficiencies, and with a view to obtain the indicators for the constitution of an adequate cover list which will allow for a legal impact study on biodiversity.

9.9 References

Africain Geomin, juillet 2000: Projet Aurifère de Samira Evaluation Environnementale 45pp;

(Africain Geomin, July 2000: Samira Environmental Assessment Gold Mining Project, pp 45);

Boukar Attari 2000:Développement et mise en œuvre des stratégies nationales et plan d'action, leçons du Niger, 10pp;

(Boukar Attari 2000: Development and implementation of national strategies and action plan, lessons from Niger, pp10);

CNEDD projet diversité biologique 1998: Evaluation de la diversité biologique du Niger, document de synthèse ; 79pp ;

(CNEDD Biodiversity project 1998: Evaluation of Niger's biodiversity, synthesis document; 79pp);

CNEDD, 1998: Plan National de l'Environnement pour un Développement Durable (PNEDD), 120pp;

(CNEDD, 1998: National Plan on the Environment for Sustainable Development (PNEDD), 120pp);

CNEDD, projet diversité biologique 1999: rapport final projet NER/97 /G31, 23pp;

(CNEDD, Biodiversity Project 1999: Final Project Report NER/97/G31, pp 23);

Jacques Prescott, Benoît Gauthier, Jonas Nagahuedi Mbongu Sodi 2000: guide de planification stratégique de la biodiversité dans une perspective de développement durable, 71pp;

(Jacques Prescott, Benoît Gauthier, Jonas Nagahuedi Mbongu Sodi 2000: Strategic planning guide for Biodiversity with a sustainable development perspective, pp 71);

SNPAB, 1998: Stratégie Nationale et Plan d'Action en matière de Diversité Biologique CNEDD, 116pp ;

(SNPAB, 1998: National Strategy and Action Plan on Biodiversity CNEDD, pp 116);

Textes nationaux référencés en annexes du présent document.

(National texts referenced in annexes of the present document).

9.10 Acronyms

ANPEIE: Association Nigérienne des professionnels des Etudes d'Impact Environnemental - (*Association of Environment Impact Studies Professionals of Niger*)

BEEEI: Bureau d'Evaluation Environnementale et des Etudes d'Impacts (*Environmental Assessment and Impact Studies Bureau*)

CVE: Composantes valorisées de l'Environnement (*Valuable Environment Components*)

EE: Evaluation Environnementale (*Environmental Assessment*)

EIE: Etude d'impact sur l'Environnement (*Environmental Impact Study*)

FEM: Fonds pour l'Environnement Mondial (*Global Environment Facility*)

MAG/EL: Ministère de l'Agriculture et de l'Elevage (*Ministry of Agriculture and Livestock*)

ME: Ministère chargé de l'environnement (*Ministry of Environment*)

MEI: Ministère de l'Equipeement et des Infrastructures (*Ministry of Infrastructure*)

MHE: Ministère de l'hydraulique et de l'environnement (*Ministry of Water and Environment*)

ONG: Organisation Non Gouvernementale (*Non Governmental Organisations*)

PDFB: Fonds de Préparation de Projets Dans les Ressources du Bloc B

PNEDD: Plan National de l'Environnement pour un Développement Durable (*National Environment Plan for Sustainable Development*)

PRN: Présidence de la république du Niger (*Presidency of the Republic of Niger*)

SE/CNEDD: Secrétariat Exécutif du Conseil National de l'Environnement pour un Développement Durable (*Executive Secretariat of the National Council on Environment for Sustainable Development*)

SNPAB: Stratégie Nationale et Plan d'Action de la Biodiversité (*National Strategy and Action Plan for Biodiversity*)