

# **“STATUS OF ENVIRONMENTAL EDUCATION AND AWARENESS IN THE. D R CONGO”**

## **COUNTRY REVIEW**

By Dieudonné MUSIBONO, Ph.D.  
(National Consultant for Environment)

### **I. Executive summary**

In this document, we report on the “Status of Environmental Education and Awareness in the D R Congo” according to the following Terms of Reference (TOR):

- To determine the state of both formal and informal EE and A activities within the country ; the policy and Institutional frameworks at national level and transboundary activities within the basin ;
- To determine the state of EE & A within all levels of learning institutions, especially secondary schools ;
- To assess the number of tertiary Institutions offering EE either as a course or a module ;
- To identify active practitioners and /or products (film, books, radios programs, campaigns, brochures, posters, etc. ) within the basin on public awareness and environmental education ; and based on collected information, project and other documents, personal experiences,
- To identify activity gaps and suggest opportunities and constraints for transboundary EE & A activities within the basin in the DR Congo, and finally suggest main SMART indicators for measuring progress.

So the main tasks to be carried out by the Consultant are to:

1. Conduct desk and website reviews starting with the Project (PIP, TEA, PAD) and Nile Basin documents and websites ;
2. Develop a short checklist of questions to be administered in each sample group ;
3. Gather information using participatory methodologies ;

4. To proceed information analysis and report writing.

The main questions to be addressed are :

1. Available policy and legislation on EE & A for the D R Congo.
2. The D R Congo strategy for EE & A.
3. The coordination of EE & A activities within the DR Congo.
4. Specific campaigns on EE & A (types, frequencies and by whom ?)
5. Formal EE & A (Schools and Academic Institutions Programs or mainstreamed to the existing curricula).
6. The role of the media in EE & A, and
7. Existing networks for EE & A practitioners.

This study allowed the following findings:

### **1. About the Environmental education and resources management.**

The Environmental education and awareness are very low, and due to that, weakness, there is a mismanagement of environmental resources.

The following environmental issues are common in the DR Congo:

- mismanagement and spoiling of natural resources (e.g. forests, mining, land, waters, etc);
- mismanagement of wastes and various pollutants;
- lack of environmental indicators and standards;
- lack of well-defined environmental policy;
- misuse of the national expertise;
- low environmental expertise at Ministry and decision-makers levels; etc.

Recent field data from the refugee hosting areas in the D R Congo as collected by ourselves (since august 2004) revealed the following main environmental issues faced. These are

1. Deforestation, land and habitat degradation.
2. Abusive bush fires.
3. Environmental destructive agricultural practices and monoculture.
4. Poor environmental awareness and increased environmentally-aggressive behaviour.
5. Use of energy-consuming cooking techniques and stoves.

6. Water resources mismanagement and use of illegal fishing techniques (example : use of fire and chemicals in fish reproduction areas) including chemicals such as pesticides.
7. Lack of well-pricing agricultural markets.
8. Malnutrition and related illnesses.
9. Lack of scientific data on the biodiversity, habitat quality and vulnerability, etc.
10. Lack of environmental monitoring programs.
11. Extinction of games and therefore lack of bushmeat due to inappropriated hunting practices.
12. Visible global poverty and poor sanitation.
13. Solid wastes and uncovered abandoned pit latrines/ wells and bad hygiene management.
14. Poor environmental expertise within NGOs, Governmental Ministries, local communities and refugees.
15. Lack of EE & A teaching materials such as clips, videos, posters, etc.

## **2. About formal education**

Some existing curricula in the DR Congo offer opportunities to promote EE & A. Sampling on 10 pre-schools, 15 primary schools, 15 secondary schools and 7 tertiary institutions.

- At pre-school level, despite the presence of posters, drawings, etc., related to natural resources such as forests, water, trees, animals, etc that permit to raise awareness and observation, there is no formal EE & A program. Teachers themselves do not know the EE & A concept that is new to them (100% of the sample interviewed).
- At the basic school or Primary school level, the curricula offer opportunity for EE & A in the official programme, especially through handbooks related to Natural sciences such as “ Ce monde merveilleux 5 and 6; Sciences d’observation, etc.”. Indeed, using the opportunity offered by the course named “Etude du milieu” (meaning the Study of the habitat)”, the EE & A might be promoted.
- At the secondary school level, lessons of General Biology, Microbiology, Zoology, Botany, Anatomy and Genetics which are part of the curricula can be used to promote EE & A.
- At tertiary education (High schools and Universities) offer various opportunities for EE & A. Indeed, the University of Kinshasa for example, with its Department of Environmental Science, is indirectly

promoting EE & A through student theses and other field works. Unfortunately, there is no formal module on the EE & A.

### **3. About the legislation**

Few Official regulations do exist such as “ Le Code Minier” and “ Le Code Forestier” related to Mining and Forestry, respectively. They are useful tools for mining activities and forests management in the D R Congo. Recommendations from these two legal documents might raise Environment awareness. The DR Congo has also ratified many Conventions on the Environment. Details can be read in the section III.3 of this report.

### **4. Traditional EE & A Raising**

Traditional authorities use proverbs, legends, myths, songs, etc. to raise the Environmental awareness. But this is also part of EE strategies. Few examples have been cited in the report (Section III.4).

### **5. EE & A through Medias**

Despite the fact that there is no Environmental journalists Association, newspapers, TV, Radios, etc. produce some environmental programs. For example, when there is epidemic, all medias report on it and advice people on how they should behave (Section III-5).

### **6. Existing opportunities**

There are many opportunities that should easily promote EE & A in the DR Congo (Section III.6).

All these EE & A issues are countrywide and our recent mission in Itury revealed the lack of EE & A incentives. The Environment is destroyed by mining, agricultural, bushfires, etc. activities. This is the general picture or the DR Congo. Despite the presence of the Ministry of Environment, there is very low environmental awareness among both the Government and people.

## **I. BACKGROUND INFORMATION**

### **I.1 Context**

The Nile Transboundary Environmental Action Project is one of the eight projects under the Nile Basin Initiative Shared Vision Programs (SVP). This project basically is the response to the shared view arisen in Cairo in 2002, prior to the World Summit for Sustainable Development. Indeed, during that workshop held at the Conrad International hotel, we all agreed that no sustainable water resources management was possible without integrating the environmental compound within transboundary countries. It was recommended that the environmental Education and awareness raising becomes one of the key activities within the Nile Basin Transboundary countries and focusing on Nile River environmental threats while promoting behavioural changes in the general public, at the secondary schools and at the tertiary education.

Two years later, these ideas have been transformed into the ongoing project that specifically will :

- improve the understanding of the relationship of water resources development and environment ;
- provide forum to discuss development paths for the Nile with a wide range of stakeholders ;
- enhance basin-wide cooperation and environmental awareness, and
- enhance environmental management capacities of the basin-wide institutions and the Nile Basin Initiative (NBI).

As stated by NTEAP, this project has six components which are :

- Institutional strengthening to facilitate Regional Cooperation ;
- Community-level land, forest and water conservation ;
- Environmental Education and awareness ;
- Wetlands and Biodiversity Conservation ;
- Water Quality Monitoring, and
- Monitoring and Evaluation.

So, based on that needs, the NTEAP has decided to recruit a national consultant to obtain a rapid assessment of the DR Congo Environmental Education and Awareness quick, clear snapshot of the existing state of

environmental education and awareness. As for the all other Nile riparian country national consultants, the DR Congo's consultant has to :

- determine the state of both formal and informal EE and A activities within the country ; the policy and Institutional frameworks at national level and transboundary activities within the basin ;
- determine the state of EE & A within all levels of learning institutions, especially secondary schools ;
- assess the number of tertiary Institutions offering EE either as a course or a module ;
- identify active practitioners and /or products (film, books, radios programs, campaigns, brochures, posters, etc. ) within the basin on public awareness and environmental education ; and based on collected information, project and other documents, personal experiences,
- identify activity gaps and suggest opportunities and constraints for transboundary EE & A activities within the basin in the DR Congo, and finally suggest main SMART indicators for measuring progress.

The main tasks to be carried out by the Consultant are :

7. Conduct desk and website reviews starting with the Project (PIP, TEA, PAD) and Nile Basin documents and websites ;
8. Develop a short checklist of questions to be administered in each sample group ;
9. Information gathering using participatory methodologies ;
10. Information analysis and report writing.

Being entitled by the contract SC No. 04-28744, I am now qualified to achieve above tasks before the 27<sup>th</sup> December 2004, starting the 1/12/2004.

The main questions to be answered are :

8. Available policy and legislation on EE & A for the D R Congo.
9. The D R Congo strategy for EE & A.
10. The coordination of EE & A activities within the DR Congo.
11. Specific campaigns on EE & A (types, frequencies and by whom ?)
12. Formal EE & A (Schools and Academic Institutions Programs or mainstreamed to the existing curricula).
13. The role of the media in EE & A, and
14. Existing networks for EE & A practitioners.

Sample of interviewed people can be read in Appendix 0.

Finally, we might suggest useful strategies to enhance EE & A activities in the DR Congo.

## **I.2 The DR CONGO AND THE NILE BASIN INITIATIVE**

As a Nile Basin transboundary country, the DR Congo provides 25% of Nile waters, especially from the Nord-Kivu province (Beni-Butembo) and also from the north-eastern part of the Province Orientale around Bunia (Ituri) area. This means that watersheds of the Albert and Edwards lakes belong to the Nile Basin, and any mismanagement of the environment should affect the Nile water both in quantity and in quality. Indeed, for example, when there is abusive deforestation, the groundwater table will decrease and subsequently, the Nile discharge as well; the pollution upstream will also affect the Nile water quality. From this evidence, no sustainable management/use of Nile water resources and related ecosystem will not be possible if there is no common integrated management policy, especially for the transboundary environment, starting with the EE & A raising within individual country: just thinking globally and working locally. Unfortunately, this Nile sub-basin is constantly aggressed by abusive deforestation for timber logging, by inappropriate agricultural practices, mining and wars generating massive displacements of populations.

Now the main question to be addressed at this stage is to know whether or not DR Congo is aware of environmental threats of Nile-shared waters through environmental-sound behaviour and educational programs. At Goma, Butembo, Bukavu, Aru, Aba, Biringi, Dunga and Doruma, people are aware of the environmental damages by various human activities, including wars. Unfortunately, EE & A programs do not support this. People are mainly interested in solving daily existing problems, being very poor.

To answer this question, let us first define few key concepts to be used in this document for a better understanding of its content.

### **I.3 Definition of concepts**

- (1) Environment refers to all elements, natural and cultural, living and non living, surrounding individuals or population. So, water, soil, forest, savannah, animals, plants, micro-organisms, air, light, etc are all the elements of the environment.
- (2) Environmental science is the study of the surrounding air, water and land in relation to an individual organism or a community of organisms, ranging from a small area to the Earth's entire biosphere; it also includes the study of impact of humans on the environment and cultural element.
- (3) Education is the process of sensitising, informing, initiating and training towards expected well-defined goals.
- (4) Awareness refers to providing to people useful information about a given concern so that they produce behavioural changes to avoid, mitigate or rehabilitate.
- (5) Environmental education and awareness is the process that leads to human community behavioural changes in environmental management strategies. Three types of EE & A are possible: non formal, formal inside a curriculum and integrated in existing program. In this document, we will report on all these three aspects of EE & A.
- (6) Resource is the element of the environment that can be converted into goods or services. This transformation of course requires appropriated technologies.

## **II. Site, material and methods**

### **II.1 Site description**

DR Congo has a surface area of 2,345,509 km<sup>2</sup> with about 60 million inhabitants and more than 400 tribes. Formal education in the D R Congo comprises pre-schools (for children under 6- year old), basic or primary schools, secondary schools and finally tertiary education leading to academic degrees such as High (technical) Institutes and universities. Non formal education starts from the family with traditional initiation through proverbs, songs, talks, legends, myths, customs, etc. to public awareness rising (sensitisation) through posters, films, drama, community centres, etc. Pre-schools, press programs, posters, etc. can also be considered as non formal education somehow. The educational institutions at all levels might offer a good opportunity for the EE & A, as we will describe further.



## **II.2 Materials and methods**

Documents used in this study are especially books, reports such as *Nile River Basin Transboundary Environmental Analysis*(2001), *Transboundary Environmental Action Plan-Project implementation Plan or PIP* (December 2002), *Project Appraisal Document on a Proposed Grant from the Global Environment Facility* (March 2003) and *Transboundary Environmental Action Project Annual Workplan or NTEAP Workplan* (May 2004); scientific papers, posters, films, newsletters, official journal, news papers/magazine, documentary videos and official education programs for the D R Congo. Indeed, from institutional / private libraries, Ministries of Education and Environment, we checked whether or not EE & A was mentioned. We also used a questionnaire to determine the level of EE & A in the DR Congo within secondary schools pupils and common public. Finally, we visited the NBI website to complete our research work. Apart from Kinshasa, we went to six other provinces to collect basic information related to EE & A. These are Bandundu, Bas-Congo, Equateur, Kasai Occidental, Kasai Oriental and Katanga. For the remaining provinces Nord-Kivu, Sud-Kivu, Maniema and Orientale, we referred to previous field works in the 1990s up to 1994 before the ongoing cycle of wars.

Participatory methodology was based on a questionnaire in the Appendix. When people were not able to read, we use oral dialog.

## **III. Field data and findings**

### **III.1 Main environmental issues encountered in the D R Congo**

The following environmental issues are common in the DR Congo:

- mismanagement and spoiling of natural resources (e.g. forests, mining, land, waters, etc);
- mismanagement of wastes and various pollutants;
- lack of environmental indicators and standards;
- lack of well-defined environmental policy;
- misuse of the national expertise;
- low environmental expertise at Ministry and decision-makers levels; etc.

Using recent field data from the refugee hosting areas in the D R Congo as performed by ourselves (since august 2004), the main environmental issues faced are the following:

16. Deforestation, land and habitat degradation.
17. Abusive bush fires.
18. Environmental destructive agricultural practices and monoculture.
19. Poor environmental awareness and increased environmentally-aggressive behaviour.
20. Use of energy-consuming cooking techniques and stoves.
21. Water resources mismanagement and use of illegal fishing techniques (example : use of fire and chemicals in fish reproduction areas) including chemicals such as pesticides.
22. Lack of well-pricing agricultural markets.
23. Malnutrition and related illnesses.
24. Lack of scientific data on the biodiversity, habitat quality and vulnerability, etc.
25. Lack of environmental monitoring programs.
26. Extinction of games and therefore lack of bushmeat due to inappropriated hunting practices.
27. Visible global poverty and poor sanitation.
28. Solid wastes and uncovered abandoned pit latrines/ wells and bad hygiene management.
29. Poor environmental expertise within NGOs, Governmental Ministries, local communities and refugees.
30. Lack of EE & A teaching materials such as clips, videos, posters, etc.

All these problems easily show the level of EE & A and the UNHCR – Kinshasa has initiated sensitisation programs with UNESCO PEER experts.

### III.2 About formal education

Here, we focused on 10 pre-schools, 15 primary schools, 15 secondary schools and 7 tertiary institutions at Kinshasa.

At the pre-school level, some songs, drawings, posters and talks are related to environmental resources such as trees, animals, water, forests, houses, cars, etc. This is just to raise the observation skills from children. But, we did not see any environmental education program. Teachers themselves do not know the EE & A concepts. It is quite new to them (100% of them do not know about EE & A).

At the basic school level, few handbooks related to natural sciences are used. These are “Ce monde merveilleux 5 & 6, Sciences d’observation, etc.”, but there is no formal environmental education available at this stage, despite the opportunity offered in program about the course named “Etude du milieu, Hygiène & observation”. Teachers are not trained about the EE & A (100%).

At the secondary school level, the program offers the opportunity for EE & A through the subjects such as Botany, Zoology, Microbiology, chemistry, physics and general Biology taught at school. As for the previous educational levels, no EE & A is taught. Teachers are themselves environmentally ignorant and do not talk about the EE & A activities, despite the opportunity offered by the program through above natural sciences subjects in which EE & A activities can be integrated.

Finally, at the tertiary education level, the DR Congo has initiated since 1975 a multidisciplinary program on the environmental management at the University of Kinshasa. Since 2001, this program is now functioning in the Department of Environmental science at the Science faculty (University of Kinshasa). So, bachelors (“licencié”, a 5-year training program after the secondary school) of environmental science are graduated, but also masters and Ph.D in both environmental science and environmental management. There is also, since 2001, the UNESCO CHAIR program for Human Rights and Environmental Management at the University of Kinshasa chaired by the Department of Environmental Science of the Science Faculty. Unfortunately, no environmental education and awareness raising module is taught despite the opportunity offered by this curriculum leading to masters (DEA/DES) and doctoral degrees.

At the High Institute for applied techniques (ISTA), High Institute for Education (ISP/Gombe) and at the University Cardinal Malula (Kinshasa), environmental science is taught, but no EE & A module available.

Finally, the regional school for integrated planning of tropical forests (ERAIPT) at the University of Kinshasa offers degrees for masters (DES/DESS) and Ph.D in multidisciplinary program. As for previous levels, no formal EE & A is taught. But also, most of academic staffs involving in these curricula are not themselves trained in Environmental sciences or Management. There is a strong need in training teachers for EE &A so that they become themselves trainers for EE & A.

The Education system has no regulations and strategies promoting the EE & A. in the DR Congo. There is no EE & A module. It should be worthy that the NBI project promotes the EE & A module using existing facilities. This also requires environmental teaching or learning materials (posters, video, clips, etc.) for a better illustration of environmental concerns. This is very important and should be promoted.

### III.3 About the legislation

Official documents read and analysed did not show any EE & A policy. However, two specific legislations for Mining and forestry have been recently promulgated by the President of the DR Congo. These are:

1. *Le Code minier*, by the Ministry of Mining, and
2. *Le Code forestier*, the Ministry of Environment.

These two codes are respectively focusing on mining activities, from the prospection (investigation phase) to the exploitation. A large part of it is related to the environmental management, defining indicators and monitoring procedures. It is a useful tool for mining activities.

While the Forestry Code dealing with all aspects of the management of forests promote the wise management of the biodiversity and community development.

*There are many other isolated texts, but nothing really refers to the EE & A in the DR Congo. These can be found in the publications by the french environmental Firm named SOFRECO(2004).*

At the International level, the DR Congo has ratified many conventions/ protocols on the Environment. Some of them are reported in the Table 1.

Table 1-Main environmental conventions as ratified by the DR Congo.

<b>Name</b>	<b>City where ratified</b>	<b>Date of ratification</b>
Phytosanitary convention for sub-Saharan countries	England, London, 29.07.1954	21.09.1962

African convention on Natural resources and nature conservation	Alger (Algeria), 15.09.1968	13.11.1976
Convention on wetlands (Ramsar)	Ramsar (Iran), 2.02.1971	15.09.1994
World heritage (natural & cultural)	Paris (France) 23.06.1979	17.09.1975
Migratory species of wild fauna	Bonn (Germany), 23.06.1979	5.09.1994
Ozone depletion (protocols of London & Montreal)	Montreal (Canada), 22.03.1985	15.09.1994
Global warming (Greenhouse effect)	Rio de Janeiro (Brazil), 4.06.1994	8.12.1994
Biodiversity	Rio de Janeiro (Brazil), 4.06.1994	15.09.1994
Transboundary hazardous wastes transportation (Bamako)	Bamako (Mali)	15.09.1994
Tropical timber	Geneva (Switzerland)	20.09.1990
Sea, coasts and estuaries	Montego Bay (Jamaica)	17.02.1989
Basel on hazardous wastes transport and treatment	Basel (Switzerland)	15.09.1994
CITES	Washington (USA)	18.10.1976

These different conventions might be considered as the beginning of the EE & A through the sensitisation and the 30-day technical training we offered to the mining administration staff and decision-makers (5/4 – 8/5/2004) on the environmental management of mining activities; but also, the last workshop on forestry in November 2004. Unfortunately, there is no environmental code (well-coordinated legislation) in the DR Congo and there are no national environmental standards/ indicators as well. However, the Direction of Human settlements is promoting the embryo of EE & A through the magazine named Environment-Info, a private initiative of Mr. Matanda.

This institutional weakness is also observed by the international environmental firm named SOFRECO and its national (congolese) partner Environmental Resources management and Global Security or ERGS-SOS Environment, Inc. (2004) through the World Bank ongoing project of Emergency Multisectoral Programme for Reconstruction and Rehabilitation or PMURR on Environmental impact assessment (EIA) in the DR Congo. Indeed, there is no real environmental structure dealing with EIA and EE & A. The Ministry of Environment is still too weak and badly coordinated. It needs to be restructured for a better adaptation to local, national, regional and international environmental priorities and requirements.

It is why, as the emergency response, the international consulting firm SOFRECO has proposed and obtained the creation of the Environmental Cell (= *Cellule environnementale*) that coordinates all Environmental Impact Assessment (EIA) in Public Enterprises such as Electricity Supply National Society or SNEL; National Office for Transport or ONATRA; National Water Supply or REGIDESO; Office for Roads or OR; Office for Urban Drainage; Society for Waterways or RVF, etc. and Ministries (e.g. Ministry of Education, Agriculture, Rural and Community Development, etc.). This technical structure might be considered as the watch dog for Environment in the DR Congo. At this stage, it is just an embryo and we keep hope for its development and strengthening. Unfortunately, there is no room for direct EE & A raising.

#### **III.4 Traditional environmental education and awareness raising**

In the DR Congo, natural resources belong to traditional authority (so called customary chiefs) at local level, and to the State when they get national or international importance. At this stage, customs, myths, legends, proverbs, practices, songs story, etc. were or are used to regulate the community behaviour vis-à-vis the natural resources management and conservation. For example, in *Mbun tribe*, there are sacred forests based on legends such as “*udzim, ikwin*”, meaning that when you enter into these forests you will disappear. This kind of story allows forest conservation and the biodiversity as well. Hunting and agriculture are practised around these protected areas, but not in the sacred forests. The following proverbs are also used in traditional EE & A raising:

- (1) *labur'adia, labur'alon*, meaning that do not consume all the seeds you have harvested, or do not use all resources once, tomorrow is also another day. This proverb invites communities to well manage the resources, including forest, land and water.
- (2) *Practices of "akung", simply meaning natural regeneration of forests ("jachère")*. Indeed, these practices allow to sustainably preserve forest ecosystems. The exploitation of that resource was allowed only when "the regenerating ecosystem was considered matured by the chief of owner clan. Unfortunately, the economic pressure due to increasing poverty does not promote this natural regeneration or "*akung management system*".
- (3) *When the traditional chief dies, hunting and fishing in his forest or water were forbidden for at least one year*. This allows ecosystem renewal/ regeneration, and when these activities were again allowed, they were fruitful and the chief was then honoured.
- (4) *Traditional working days calendar only comprises three days and the fourth being the resting day or traditional Sunday*. These are *dzan, udzu, utsil* (for working days) and *ngwun* (traditional Sunday). This simply means that the actual working calendar has doubled the pressure on natural resources.

For environmental hygiene and quality, there are also proverbs, customs, etc. For example, to avoid indoor pollution, *mbun* proverb says "*kabu akudia, kabakunen*", meaning *do not release feces (excreta) where you live*. But this proverb might cover various aspects of live (e.g. social relationships and community environment), etc.

These few examples show that traditionally, the EE & A did exist.

But, as we have abandoned our culture for "unknown" reasons, we are now without reference for sustainable management of the environment. It is why resources are spoiled instead of wise management. We have therefore to re-think about our behaviour in our environment.

### **III.5 EE & A through the media**

In the DR Congo, some initiatives for EE & A are being taken through sensitisation programs such as *Karibu Environnement, Environnement et Santé, Univers de la Science, Sauvons l'Environnement par les media*

(SEM), News Papers/ Magazines such as *Le POTENTIEL*, *La REFERENCE PLUS*, *AVENIR*, *PALMARES*, *ENVIRONNEMENT INFOs*, etc. Unfortunately, these initiatives are not well co-ordinated because there is no Organisation dealing with such EE & A programs.

### III.6 Existing opportunities

In general, potential opportunities exist, but not well exploited. This runs from families, pre-schools to universities, press and communities initiatives such as theatres, music bands, etc. In the 1970s, the Band named Bella-Bella produced a very famous song called “*Zamba*”, meaning “*Forest*”. They presented all ecological and economic benefits from forests. It was an important step for environmental awareness rising within the population.

For formal education, there are opportunities for EE & A, especially in the basic (primary)/ secondary schools, and university curricula. Indeed, the Department of Environmental Science and the UNESCO Chair at the university of Kinshasa are good opportunities that should be used in promoting EE & A in the DR Congo. It is unbelievable that despite the fact that the Ministry of Environment exists since 1975, there is no EE & A program, and that environmental activities are still too weak. This is one of the main concerns regarding environmental policy in the DR Congo.

For non formal EE & A, there is number of NGOs dealing with the Environment, but unfortunately, they do not have appropriated expertise for environmental issues. However, those with some environmental expertise have no financial resources that could allow them to do something.

Potential partners for EE & A in the DR C are reported from the following Table2.

Name of the NGO or Institution	Environmental Strength	Location
All Primary and secondary schools	Official program for Natural sciences and hygiene	Countrywide



University of Kinshasa	Department of Environmental Science	Faculty of Science, Kinshasa XI
	UNESCO Chair	Faculty of Law
ISP/ Gombe	Department of Geography and Environment	Gombe, Kinshasa.
University Cardinal Malula	Department of Environmental Science	Kingabwa/ Kinshasa.
ISTA	Department of Meteorology	Ndolo/ Kinshasa.
University of Butembo	Faculty of Agronomy	Butembo, Nord -Kivu
University of Graben	Faculty of Agricultural Sciences	Goma, Nord -Kivu
University of Bakavu	Faculty of Sciences	Bukavu, Sud-Kivu
ISP/ Bukavu	Dept of Biology	Bukavu, Sud-Kivu
ISDR/ Bukavu	Community Sensitization and animation	Bukavu, Sud-Kivu
University of Kisangani	Faculty of Sciences	Kisangani, Orientale
University of Lubumbashi	- Faculty of Sciences - Faculty of MedVet	Lubumbashi, Katanga
IDEE (NGO)	Environmental awareness raising	Kinshasa
Educom	As above	Kinshasa
JPSC/CBFC	As above	Kinshasa
Ami de la craie		
Environmental Resources and Global Security (ERGS) as a private Consulting firm	Environmental expertise for wise management of resources and sustainable development; EIA, EE&AR, environmental projects analysis...	Room C33, Fac. Sciences Building, University of Kinshasa, DR Congo.
CNIE	Environmental information	Kinshasa
Paillasse	Reforestation	Kinshasa
SCEPT	Centre congolais pour l'Education pour tous	Kinshasa
MET	Media for the environment and tourism	Kinshasa
Info-Environnement	Environmental newsletter	Kinshasa

SEM	Sauver l'environnement par les medias	Kinshasa
Ministries of Environment, Agriculture, Education (pre-, basic and secondary schools and professional training centers), Health and Ministry of Universities and higher education.	For political support	Kinshasa and all provinces
LPE	Production of the TV program named "Karibu Environnement"	Kinshasa
CNAEA	Water and sanitation	Kinshasa
GRUDHAL	Reforestation	Katanga
Debout Secteur Imbongo (DSI)	Environmental resources management and integrated development	Bandundu
UNHCR- DR Congo	EIA, Environmental management and EE & A	D R Congo
IRM	Sustainable natural resources management and community participation & education	Kinshasa, Kikwit, Mbandaka.

All these cases show that there are inside isolated potentials for EE & A, but without any coordination. This was also noticed by the NBI workshop held at Goma (20-30 September 2004).

### **III.7 Indicators**

Main indicators to be used in promoting EE & A in the DR Congo, a Nile transboundary country, are reported in the following Table 3.

<b>Activity</b>	<b>Impact</b>	<b>Indicator</b>
<b>Agriculture</b>	<b>Deforestation, pollution</b>	<b>% or rate of deforestation per year; use of pesticides, use of fertilizers</b>
<b>Bush fires</b>	<b>Land and habitat degradation</b>	<b>Rate of bush fires; % percentage of land under natural regeneration.</b>
<b>Water resources management and fisheries</b>	<b>Pollution/ eutrophication, biodiversity conservation</b>	<b>- use of chemicals, illegal fishing nets/techniques, rate of fishing and seasonal fishing activities, fish biological status.</b>
<b>Sanitation</b>	<b>Pollution, Environmental diseases</b>	<b>- Wastes management systems, occurrence of environmental diseases, etc.</b>
<b>EE &amp; A</b>	<b>Sustainable conservation of the environmental resources and wise use</b>	<b>-Availability of EE &amp; A local and national programs; posters and learning materials visible, presence of Ecoclubs, life skills, EE &amp; A coordination, Trained teachers, personnel and decision-makers, etc.</b>
<b>Use of Energy-improved stoves and cooking techniques</b>	<b>Reduction of deforestation and protection of forests</b>	<b>% of people using the energy-saving cooking techniques and materials; other energy sources.</b>
<b>Biodiversity management</b>	<b>Better conservation</b>	<b>% of endangered species; habitat integrity; % of protected areas in the region; animal and plant trade regulations.</b>
<b>Alleviation of poverty</b>	<b>Better protection</b>	<b>- Sustainable and equitable trade opportunities.</b>

### **III-8 Constraints**

Due to the lack of peace in the eastern part of the country, we did not go there to update our data. However, due to the fact that since 1994, the region has been constantly aggressed by various refugees and natural resources

spoiled even in protected areas, the picture is the same as from the other part of the country and may be worse.

### **III.9 Summary of lessons learned**

This study has allowed us to realize that:

- the DR Congo strongly needs the EE & A program to better manage watersheds, especially Nile River Basin.
- Opportunities of environmental matrix informally and formally exist, but still need to be promoted. Indeed, pre-schools, basic schools, secondary schools and tertiary education institutions offer large opportunities that might easily promote EE & A. Unfortunately, these opportunities are not seized yet.
- The DR Congo environment is widely aggressed by various human activities and the poverty seems to be the main cause.
  
- The lack of the coordination of individual initiatives dilutes all EE & A efforts from international NGOs such as IUCN, WWF, IRM, WCS, CI, AWF, etc., but also from local initiatives and NGOs. We cannot move further when everybody is working as an isolated entity. There is no synergy.

### **IV- CONCLUSION AND RECOMMENDATIONS**

EE & A in the DR Congo is quite absent. Environmental problems described above are the proof of this lack. Indeed, both natural resources and wastes are not properly managed. There is, however, hope due to existing potentials and also the actual commitment of the UNHCR for environmental education and awareness raising (e.g. UNESCO PEER has started together with the UNHCR to promote the EE & A and recent missions to Kahemba and Kimpese are an additional proof of this commitment) should be encouraged. Schools and universities, especially the primary/ secondary schools and the university of Kinshasa should promote the EE & A using official curricula.

We strongly recommend the creation of environmental tasks groups both at national and at local levels for non formal EE & A. Local artists and art teaching institutions (e.g. Académie des Beaux Arts, Institut National des Arts), including traditional knowledges should be associated in this EE & A

network build up through participatory approaches. There is a strong need for training of trainers in EE & A.

The medias have to play a key role in the EE & A in the D R Congo. They offer a great potential and we need to seize this opportunity to develop modules, documentaries and movies related to the wise management of natural resources and environmental quality. This might show how the mismanagement of forests and soils does negatively impact water resources both in quantity and in quality and how life is itself threatened.

The Legislation should be updated and the EE & A promoted through a country-wide network. This will obviously allow exchange of experiences within and outside the country. The Environmental National Policy should include the EE & A as they have done for Water, Forest management or for Sustainable Development, etc. Indeed, sensitized people promote the wise management and use of resources...

## **V. ACKNOWLEDGEMENTS**

We are thankful to NBI-NTEAP and the UNDP for initiating this study. We hope that they will use this opportunity to assist the DR Congo to promote EE & A programs, both for formal and non formal activities.

### **APPENDIX 0.**

#### **Interview sample group**

Interview was conducted either by the following questionnaire or by dialogue.

In both cases, the core questions were:

- (1) What do you think about our environment and natural resources?
- (2) Do you have any concerns about our environment?
- (3) Did you ever hear about EE & A? If yes, what does it mean?
- (4) Do you know any program on EE & A in the DR Congo?
- (5) What is it about?
- (6) How did our ancestors manage their environment/resources?
- (7) Do you any suggestion about EE & A?

#	Sample group	No. and names of people interviewed	Comments
	Government desk officers assigned to environmental education, participation or outreach programs specifically the Ministries of Environment, Education and Water Resources (at national, regional, or community -level	<p><u>16 persons</u> :</p> <p>1.K. Mwanambuyu, Director, Cellule Environnement, Ministry of Environment, Kinshasa ;</p> <p>2. Lungili, Director, Environmental Conservation, Ministry of Environment ;</p> <p>3. Mabilia, Director of forests, Ministry of Environment.</p> <p>11. Kayembe, Director, Water Resources, Ministry of Environment.</p> <p>12. Pr. Paulus, Head of Environmental Science Dept, Faculty of Science, University of Kinshasa.</p> <p>13. Pr Kasende, Dean, Science Faculty, University of Kinshasa.</p> <p>(UNIKIN)</p> <p>14. Pr Mungala, Director, UNESCO Chair for Human Rights and Environmental Management, University of Kinshasa.</p> <p>15. Mrs Mukwasa, Director of the</p>	<p>Nobody is really appointed for EE &amp; A in DR Congo, even the Ministry of Environment does not have a section related to EE &amp; AR.</p> <p>All interviewed people acknowledged this lack and suggested to have such programme on EE &amp; A.</p> <p>However, the University of Kinshasa is leading with its programme on Environmental Science and Environmental Management. It is a great opportunity to be seized while building the EE &amp; A policy.</p>

		<p>NGO « Femmes pour l'Environnement et Développement » , or FED, Kinshasa.</p> <p>16. Kakumbi, President of the NGO IDEE, Kinshasa.</p> <p>17. Mazina, Expert from the Environmental Consulting Firm ERGS, Kinshasa.</p> <p>18. Pr Ifuta, Head of Biology Dept, ISP/Gombe, Kinshasa.</p> <p>19. Mputu Biduaya, Head of the NGO SEM (Sauver l'Environnement par les Medias), Kinshasa.</p> <p>20. Mungubetshi, NGO 'Agir Alternatives » or AGA, Kinshasa Limete.</p> <p>21. Bontamba, NGO GACC, Kinshasa, Gombe</p> <p>22. Masua, OCC, Head of Environment Service, Kinshasa.</p> <p>23. ERGS Group, Consulting firm (Pr Punga, UNIKIN)</p>	
	Institutional/project managers, supervisors and administrators of	M. Kayembe, Director of Water	Embryos of EE & A works might exist,



	<p>projects that are working or intending to work on environmental outreach , school modules within the basin</p>	<p>Resources Management, Ministry of Environment.  M. Mwamba, Secretary-General of Environment, Ministry of Environment.  M. Kazadi, Head of CNAEA, Regideso, Global Water Partnership Project (SADC).  Pr D.E. Musibon, Environmental Resources and Global Security (ERGS) Consulting Group, Faculty of Science, University of Kinshasa.  Pr Labana, UNESCO Chair, University of Kinshasa.</p>	<p>but the information is not well spread yet. It is why despite the presence of some educating posters on wastes management and sanitation, people do not care about environment (urban rivers are used as dustbins or open sewage, thus destroying the aquatic biodiversity, etc.).</p>
	<p>Influential leaders or opinion makers from the private sector, NGO community, CBOs, and religious organizations</p>	<ol style="list-style-type: none"> <li>1. Mputu, Journalist working on Environmental awareness raising through his NGO SEM (Saving Environment by Medias), Raga TV.</li> <li>2. Lutu, Director of TV Programmes, RTNC, he produces an environmental awareness programme named « Karibu Environnement ».</li> <li>3. Celine, Scientist and Journalist, Antenne A.</li> <li>4. Dieudonne Ilunga,</li> </ol>	<p>SOFRECO is a private International Environmental Firm dealing with Environmental Impact Assessment, Training and Institutional Capacity Building. It works in Partnership with the Environmental National Firm (private) named ERGS-SOS Environment, Inc. Sofreco is promoting the Environmental awareness and</p>

		MD, Journalist, RAGA TV. 5. Munzundu Bijou, Journalist, Tropicana TV. She advises audience on environmental issues. 6. SOFRECO (M. Bernard Prieur)	Management in the DRC during this post-war reconstruction phase.
	School instructors, teachers, extensionists working with school clubs; Farmers and low-skilled workers	Midi, Kiaya, Mukwasa, Sadi, Nsimanda, Paulus, Mutuba, Kabeya, Baya (teachers) and Kayamba, Taba, Mutuba, Nkakala (farmers).	
	Representatives of environmental journalist at the national, regional, or local mass media (print, radio, and TV as appropriate);	Kabeya Pindi Pasi (Tropicana TV), Chantal Kanyimbo (RTNC), Mputu Bidwaya (Raga TV), Mutombo (Raga Plus), Kiaya Noel (Radio Fm), Matanda (Environnement Info, Ministry of Environment).	Despite the fact that there is no formal environmental association for journalists in DR Congo, timid initiatives exist.
	Community members, students, or well defined groups like women groups, youth groups, scout movements, etc	Femmes pour l'Environnement et Développement or FED (Mrs Mukwasa), CESEN (Club d'Etudiants en Sciences de l'Environnement), VLICO, Scouts NODASA, Small Christian Communities (CEVB).	They offer opportunities for wise management of the environment.
	Institutional /project beneficiaries, recipients, or constituents;	Women, Children, local communities, etc.	Not really aware of environmental treats due to extreme poverty and cycle of

			conflicts (wars) which are the priority now in the DR Congo. Indeed, as people have to struggle for survival and for sustainable peace ; they do not pay attention to the EE & A.
	Environmental, humanitarian and development NGOs within the basin	Oxfam-Quebec, Oxfam-GB, IRC, CRS Representatives in Kinshasa	These NGOs are Present in the area at field level. But the poor environmental expertise does not allowed them to promote EE & A, as appropriate. This was recently noticed during our mission in Ituri area where Nile waters flow from.
	Bilateral and Multilateral donors working or planning EE&A activities including UNDP, WFP, CIDA, GTZ, SIDA	CARITAS-Developpement/ CENCO, RDC ; UNHCR Branch Office (mr. SAKOR, focal Point for Environment and Musibono, National Coordinator for Environment/ Consultant) ; UNDP (M. Kalombo), FAO (mr. Vangu), GTZ (Dr Danny).	Actually, donors are not formally promoting EE & A. But, fortunately their informal actions indirectly contribute in promoting EE & A in the DR Congo.
	International NGOs agencies like IUCN, WWF, AWF, etc	IUCN,WWF, CARE, AWF are USAID-financed NGOs coordinated by CARPE(CARPO) in Kinshasa, IRM (Mergo Mbeya and Marc Rodriguez),	Actually, CARPO-related NGOs are actively working on Congo Basin and Nile Subbasin. The USAID is the main financial donor. Innovative Resources Management (IRM)

			is actually developing the System of Information and Management (SIG) for fisheries and water plans management. It is a response to detected mismanagement of aquatic ecosystems during 5- year research works. For sustainable use of fish resources, EE & A is promoted through workshops, training , posters, videos and thematic mapping.
	Others	Mbun Traditional authorities : Ayor, Okumar, Idzumbwir, Father Ikwa, Mumpeya, Sinkun and Kipar	They provided information on traditional resources management history/background.

**APPENDIX-1 EE &A ISSUES REPORTED FROM THE WORKSHOP HELD AT GOMA BY THE DRC NATIONAL CO-ORDINATOR (29-30 SEPTEMBER 2004)**

## Section II : Specific issues rose on country papers

EE&A policies	Institutional framework	Current and planned activities	Main challenges	Way forward
Lack of a specific and clear policy framework on environmental education	Public institutions (Ministry of Environment, Schools, Universities, etc.) as well as Private institutions (NGOs, Media, etc.) involved in EE&A activities.	<ul style="list-style-type: none"> <li>• Campaigns through the media</li> <li>• Magazines, newspaper, information brochures published by the Ministry of Environment (ICCN) and NGOs</li> </ul>	-Insufficient human resources well trained in EE -The need to reach various social groups	- Training of trainers - Production and distribution of appropriate educational material -EE integrated into the national educational curricula in primary and secondary schools
Public and private institutions working as partners on environmental education	Public and private institutions	Public awareness activities : news broadcasting, meetings with community leaders	-To set up a public-private coordinating mechanism -Ignorance of the negative impact of human activities on environmental resources -Insecurity in some areas within the Nile Basin	<ul style="list-style-type: none"> <li>• Intensify public awareness programs</li> <li>• Reinforce public-private partnership</li> </ul>
Environmental education messages and material addressed to target groups	Public and private institutions  ----- ----- ----- -Public institutions	<ul style="list-style-type: none"> <li>• Production of audio-visual documents</li> <li>• Participation to the World environmental campaigns</li> </ul>	To insure the coordination of EE & A activities at the national level  ----- To insure country wide implementation of EE program in primary and secondary schools	-Translation of educational documents into Swahili language  -Use of electronic media  -Networking  ----- ---- -Training of trainers

<p>Environmental education to be integrated into the formal education curricula to boost national efforts for sustainable development</p>	<p>(Ministry of Education, Schools)</p> <p>-Private institutions working with schools (NGOs, Projects, etc.)</p>	<p>-----</p> <ul style="list-style-type: none"> <li>• Teaching EE in schools (from pre-schools to University)</li> <li>• Documentary movies</li> <li>• Conferences</li> <li>• Field visits in the protected areas</li> <li>• Competition among students</li> <li>• School ecological club (Study case : Institut Maendeleo /Goma)</li> <li>• Production of didactic educational material</li> <li>• Musical spots on EE</li> <li>• Sport competition while celebrating environmental day</li> </ul>		<p>-Improve production of EE training material</p>
---	--	---	--	--

## Section III. Compilation of the presentations and discussions from the workshop sub-groups

### 1. Renforcement des mécanismes d'information du public (Campagnes, Information, Formation)

Problème	Groupe cible	Activités spécifiques	Partenaires clés	Suivi et évaluation	Stratégie	Durabilité
1. Insuffisance des formateurs qualifiés	<ul style="list-style-type: none"> <li>- O.N.G.D</li> <li>- Institutions publiques en charge de l'environnement</li> <li>- Institutions d'enseignement</li> <li>- Communautés religieuses</li> <li>- Associations (jeunesse, artistes, etc...)</li> </ul>	Formation des forma-teurs	<ul style="list-style-type: none"> <li>• ONGD ayant une expertise</li> <li>• Personnes ressources</li> <li>• Organismes internationaux</li> </ul>		<ul style="list-style-type: none"> <li>• Séminaires</li> <li>• Ateliers</li> </ul>	<ul style="list-style-type: none"> <li>• Avoir plusieurs formateurs locaux</li> <li>• Avoir un support de matériels didacti-ques permanents</li> <li>• Création centres de production de matériels et de formation</li> </ul>
2. Ignorance	<ul style="list-style-type: none"> <li>- Groupes sociaux</li> <li>- Leaders d'opinion</li> </ul>	<ul style="list-style-type: none"> <li>- Emission radio-télévision, film</li> <li>- Séminaires</li> <li>- Débats</li> <li>- Journaux</li> </ul>	<ul style="list-style-type: none"> <li>- ONGs</li> <li>- Médias</li> <li>- Journaux</li> </ul>		<ul style="list-style-type: none"> <li>- Alphabétisation et conscien-tisation</li> <li>- Séminaires et ateliers</li> </ul>	<ul style="list-style-type: none"> <li>- Création radio environnementale pour Bassin du Nil</li> </ul>
3. Intoxication et désintéresse-ment	<ul style="list-style-type: none"> <li>- Instituts d'enseigne-ment</li> <li>- Autorités politico-administratives et coutumières</li> </ul>	<ul style="list-style-type: none"> <li>- Dépliants</li> <li>- Affiches</li> <li>- Ateliers</li> <li>- Visites éducati-ves</li> <li>- Expositions périodiques</li> </ul>	<ul style="list-style-type: none"> <li>- Institutions spécialisées (Conservation d'enseignement)</li> <li>- Autorités politico-administratives et coutumières</li> </ul>		<ul style="list-style-type: none"> <li>- Voyages d'échange et d'étude</li> <li>- Application des lois</li> </ul>	<ul style="list-style-type: none"> <li>- Permanence de mécanismes de formation</li> </ul>
4. Pauvreté	<ul style="list-style-type: none"> <li>- Masses paysannes</li> <li>- Chômeurs</li> <li>- Déplacés de guerre</li> <li>- Pygmées</li> <li>- Victimes de calamités naturelles</li> </ul>	<ul style="list-style-type: none"> <li>- Réhabilitation routes de desserte agricole</li> <li>- Renforcement capacités des activités génératrices de revenus</li> <li>- Réforme agraire</li> <li>- infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>- ONGs</li> <li>- Structures d'accompagne-ment</li> </ul>		<ul style="list-style-type: none"> <li>- Micro-crédit</li> <li>- Plaidoyer pour les réformes agraires</li> <li>- Aménagement routes et stru-ctures sociales de base</li> </ul>	<ul style="list-style-type: none"> <li>- Péage route</li> <li>- Créer ou renforcer coopératives de micro-crédit</li> <li>- Cantonnage système de frais d'ammortissement</li> </ul>
5. Déboisement	<ul style="list-style-type: none"> <li>• Ménages de <ul style="list-style-type: none"> <li>- Milieu rural</li> <li>- Milieu urbain</li> <li>- Exploitants forestiers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Reboisement</li> <li>• Amélioration des techniques d'économie du bois de chauffe</li> <li>• Sensibilisation des</li> </ul>	<ul style="list-style-type: none"> <li>• ONGD – Internationale ou locale</li> <li>• FAO</li> <li>• Associations</li> </ul>	<ul style="list-style-type: none"> <li>• Nombre d'hectar es reboisés</li> <li>• Rapport</li> </ul>	<ul style="list-style-type: none"> <li>• Promotion foyer amélioré</li> <li>• Promotion reboisement parcellaire en</li> </ul>	<ul style="list-style-type: none"> <li>• Création centres semenciers</li> <li>• Former des animateurs locaux et corps de surveillance volontaire</li> </ul>

	<ul style="list-style-type: none"> <li>• Exploitants forestiers</li> <li>• Certaines industries (briqueterie, boulangerie)</li> <li>• Scieries</li> <li>• EPF Environnement et conservation de la nature (A tous)</li> <li>• Creuseurs</li> <li>• Artisanat</li> </ul>	<p>autorités sur mise sur pied et application de la législation</p> <ul style="list-style-type: none"> <li>• Sensibiliser les forestiers sur la mise sur pied des techniques</li> <li>• Vulgarisation du Code Forestier et du Code Minier</li> <li>• Finaliser le Code Environnemental</li> </ul>	<p>paysannes</p> <ul style="list-style-type: none"> <li>• Confessions religieuses</li> <li>• Education sensibilisateurs</li> <li>• Autorités politico-administratives et coutumières</li> <li>• SNEL</li> </ul>	<p>sur le reboisement</p> <ul style="list-style-type: none"> <li>• Nombre de vulgarisateurs du code en activité</li> </ul>	<p>ville (plaidoyer pour aménagement des grandes agglomérations)</p> <ul style="list-style-type: none"> <li>• Aménagement voiries et différentes pistes</li> <li>• Plaidoyer pour distribution du courant électrique</li> </ul>	<p>pour environnement</p>
6. Erosions et dégradation des terres cultivables	<ul style="list-style-type: none"> <li>- Agriculteurs</li> <li>- Responsables d'aménagement du territoire (cadastre et urbanisme)</li> <li>- Exploitants forestiers</li> </ul>	<ul style="list-style-type: none"> <li>- Lutte anti-érosive</li> <li>- Reboisement</li> <li>- Sensibilisation des agriculteurs</li> </ul>	<ul style="list-style-type: none"> <li>- Ministère de l'agriculture</li> <li>- Titre foncier</li> <li>- Urbanisme</li> <li>- ONGDs</li> <li>- Conservation de la nature</li> </ul>	<ul style="list-style-type: none"> <li>- Rapport illustré</li> <li>- Nombre d'agglomérations réaménagés</li> <li>- Nombre de visites réalisées</li> </ul>	<ul style="list-style-type: none"> <li>- Séminaires et ateliers de formation</li> <li>- Visites éducatives d'échange</li> </ul>	<ul style="list-style-type: none"> <li>- Plusieurs moniteurs agricoles disponibles</li> </ul>
7. Insuffisance d'eau potable	<ul style="list-style-type: none"> <li>• Ménages urbains et ruraux</li> <li>• Ménages collectifs et temporaires</li> </ul>	<ul style="list-style-type: none"> <li>• Aménager des sources d'eau potable</li> <li>• Sensibiliser les ménages à bien aménager l'eau</li> </ul>	<ul style="list-style-type: none"> <li>• ONGDs impliquées dans la gestion d'eau</li> <li>• REGIDESO</li> <li>• Entreprises qui commercialisent l'eau (RUWENZORI)</li> <li>• BRALIMA (Brasserie)</li> </ul>	<ul style="list-style-type: none"> <li>• Rapport des ménages sensibilisés</li> </ul>	<ul style="list-style-type: none"> <li>• Séminaire</li> <li>• Atelier</li> </ul>	<ul style="list-style-type: none"> <li>• Comité de surveillance et protection des eaux de boisson</li> </ul>



## 2. Education et Information Environnementales dans les Institutions de Formation

Problème	Groupe cible	Activité spécifique	Partenaires clés	Suivi et Evaluation	Stratégie	Durabilité
<p><b>I. Primaire</b></p> <p>- Programme d'éducation environnementale existe mais sans supports ni enseignants formés</p>	Enseignants et écoliers	<ol style="list-style-type: none"> <li>1. Elaboration d'un module des formateurs en éducation environnementale</li> <li>2. Formation des formateurs</li> <li>3. Formation des enseignants</li> <li>4. Production des supports pédagogiques adaptés à chaque degré</li> </ol>	<p>- Gouvernement Congolais (Ministères concernés)</p> <p>- NTEAP, UNESCO</p> <p>- UNICEF, WWF</p> <p>- PNUD, IUCN</p> <p>- Ecoles</p> <p>- Confessions religieuses</p> <p>- Club des écoliers</p> <p>- ONGs locales</p>	<p>• <u>Intervenants</u></p> <p>- Réseau EIE</p> <p>- NTEAP</p> <p>• <u>1<sup>ère</sup> année</u></p> <p>- Saisir le gouvernement et former les formateurs</p> <p>- Produire les supports pédagogiques</p> <p>• <u>2e année</u></p> <p>- Mise en exécution du programme et évaluation à mi-parcours</p> <p>• <u>4<sup>e</sup> et 5<sup>e</sup> années</u></p> <p>- Suivi et évaluation finale</p>	<ol style="list-style-type: none"> <li>1. Intéresser l'autorité compétente</li> <li>2. Identifier les formateurs</li> <li>3. Définir les objectifs et termes de référence</li> <li>4. Réunir les moyens financiers et matériels</li> <li>5. Elaborer le calendrier</li> <li>6. Exécuter la formation</li> </ol>	Continuité dans les enseignements classiques

<p><b>II. Secondaire</b></p> <ul style="list-style-type: none"> <li>- Manque de programme d'éducation environnementale</li> <li>- Insuffisance d'enseignants formés</li> <li>- Manque de supports pédagogiques</li> </ul>	<p>Enseignants et élèves</p>	<ol style="list-style-type: none"> <li>1. Elaboration du programme d'éducation environnementale</li> <li>2. Elaboration d'un module de formation et production des supports pédagogiques</li> <li>3. Formation des enseignants</li> </ol>	<ul style="list-style-type: none"> <li>- Gouvernement Congolais (Ministères concernés)</li> <li>- NTEAP, UNESCO</li> <li>- UNICEF, WWF</li> <li>- PNUD, IUCN</li> <li>- Ecoles</li> <li>- Confessions religieuses</li> <li>- Club des élèves</li> <li>- ONGS locales</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Intervenants</u></li> <li>- Réseau EIE</li> <li>- NTEAP</li> <li>• <u>1<sup>ère</sup> année</u></li> <li>- Saisir le gouvernement et former les formateurs</li> <li>- Produire les supports pédagogiques</li> <li>• <u>2<sup>ème</sup> année</u></li> <li>- Mise en exécution du programme et évaluation à mi-parcours</li> <li>• <u>4<sup>è</sup> et 5<sup>è</sup> années</u></li> <li>- Suivi et évaluation finale</li> </ul>	<ol style="list-style-type: none"> <li>1. Intéresser l'autorité compétente</li> <li>2. Identifier les formateurs</li> <li>3. Définir les objectifs et termes de référence</li> <li>4. Réunir les moyens financiers et matériels</li> <li>5. Elaboration du calendrier et exécution de la formation</li> <li>6. Définir l'approche pédagogique de l'EIE</li> <li>7. Echanges inter-écoles et concours</li> <li>8. Harmonisation transfrontalière des programmes</li> </ol>	<ul style="list-style-type: none"> <li>- Adoption</li> <li>- Continuité dans l'enseignement classique</li> <li>- Formateurs formés</li> <li>- Continuité du programme dans les enseignements classiques</li> </ul>
<p><b>III. Enseignement Supérieur</b></p> <ul style="list-style-type: none"> <li>- Absence des matières intitulées éducation environnementale</li> <li>- Insuffisance d'enseignants qualifiés en éducation environnementale</li> </ul>	<p>Professeurs et étudiants</p>	<ul style="list-style-type: none"> <li>- Formation des formateurs</li> <li>- Appui aux clubs des étudiants (amis de la nature)</li> </ul>	<ul style="list-style-type: none"> <li>- Gouvernement Congolais (Ministères concernés)</li> <li>- NTEAP, UNESCO</li> <li>- UNICEF, WWF</li> <li>- PNUD, IUCN</li> <li>- Instituts supérieurs et universitaires</li> <li>- Confessions religieuses</li> <li>- Club des étudiants</li> <li>- ONGS locales</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Intervenants</u></li> <li>- Réseau EIE</li> <li>- NTEAP</li> <li>• <u>1<sup>ère</sup> année</u></li> <li>- Saisir le gouvernement et former les formateurs</li> <li>• <u>2<sup>ème</sup> année</u></li> <li>- Mise en exécution du programme et évaluation à mi-parcours</li> <li>• <u>4<sup>è</sup> et 5<sup>è</sup> années</u></li> <li>Suivi et évaluation finale</li> </ul>	<ol style="list-style-type: none"> <li>1. Identifier les formateurs</li> <li>2. Organiser des séminaires de pédagogie universitaire en éducation environnementale</li> <li>3. Conférences débats sur l'EIE</li> <li>4. Echanges inter-universitaires</li> <li>5. Harmonisation transfrontalière des programmes</li> </ol>	<p>Formation continue</p>

**NOTE :** In short, the DR Congo has all potentials for EE & A raising. But, due to limitations related to institutional weakness and human resources, the NTEAP should assist the DR Congo in this regard. The misuse of watershed environment in eastern part of the DR Congo might be critical to Nile water balance. It is why the EE &A should be promoted.

### Selected Readings

1. NBI Shared Vision Program, (2001). Transboundary Environmental Analysis.
2. NTEAP, (2002). Project Implementation- Working Document. NBI 2002.
3. NTEAP, (2003). Project Appraisal Document.
4. NBI, 2004. Transboundary Environmental Action Project, PMU-Khartoum.
5. SOFRECO (2004). Evaluation de l'impact environnemental et social du PMURR- Vol. 1 Conditions initiales de l'Environnement du Programme et Diagnostic Institutionnel. C-851, Juin 2004, Kinshasa.
6. NBI-NTEAP (2004). Rapport d'Atelier de GOMA. Sept. 29-30, Goma (DRC).
7. MINSTERE DES MINES (2003). Le Code minier. Kinshasa.
8. MINISTERE DE L'ENVIRONNEMENT (2002). Code forestier- Kinshasa.
9. MUSIBONO D.E. (2004). Problématique de la gestion de l'Environnement en R.D. Congo- Gaspillage des ressources, pauvreté durable, conflits et illusions. Draft (livre) en préparation.