



## **LOKOLAMA PEATLAND PROTECTION INITIATIVE**

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# BUSINESS PLAN PROJECT PEATLAND

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# Tourbières

Un héritage à transmettre

The Peatlands

An Heritage to be tranferred



## Summary

The planetary world is going through a recurrent crisis of air pollution and which is getting worse with regard to the precariousness of the strategies of protection and conservation of the surrounding nature. Pollution control programs remain insignificant and faced with this situation, the main victim remains nature and, by extension, living things including mainly humans. The deterioration of nature by the effects of carbon dioxide or desert effects gives no chance for survival on earth. Consequently, the world is gradually witnessing its disappearance, accentuated by brief global warming, the destruction of the environment.

This is why the Democratic Republic of Congo has just witnessed a discovery in 2017 of peat deposits buried deep near the LOKOLAMA sector (Oshwe Territory in the province of Maï-Ndombe) by researchers from the University of Leeds in the UK.

Indeed, this village shelters forest Peatlands of the Congo Basin, very important for the fight against global warming and beneficial for diversified and natural organic uses. They are estimated to be roughly the size of England, or 30 trillion metritones (33 trillion tones) of carbon. This discovery provides a sustainable solution for the entire planet without exception and reinforces the urgency of implementing an environmental development model for social well-being while protecting ecosystems.

From the above, the peat Peatland s in the Democratic Republic of Congo are of very great importance on the one hand to fight against global warming of the whole earth and on the other hand, to protect and conserve nature by organizing in LOKOLAMA , environmental tourism and thalassotherapy. Thus, the project is structured as follows:

- Part I : Conceptualities of the project ;
- Part II : Feasibility study of the Peatland Protection and Conservation Program
- Part III: Need for financing the Program.

# PART I: CONCEPTUALITES OF P ROJECT

- **Description**

## I.1 Conceptual basis



The project aims to protect and conserve ***the nature of Peatlands*** discovered in the LOKOLAMA sector in the DRC. Indeed, the peat Peatland is a wetland, colonized by vegetation, whose particular ecological conditions have allowed the formation of a soil consisting of a peat deposit; that is to say a real fossil vegetable rock, therefore an organic soil resulting from the incomplete degradation of plant debris in an environment saturated with water; It absorbs the effects of carbon dioxide against global warming and produces high-efficiency oxygen for global well-being. The peat or vegetable sludge which constitute the substances of the peat Peatlands will be used for ***the organization of environmental tourism and thalassotherapy***. That is to say the combined use, under medical supervision, for a preventive or curative purpose, of the benefits of Peatlands for mud baths for therapeutic purposes.

## **I.2 Background**





The world is witnessing global warming and everything seems to be gradually destroying and despite alert numbers and international, institutional or private events. However, if the DRC and the world do not pay attention, the discovery of more than 30 billion tons of Peatland carbon in the village of LOKOLAMA would risk being a fiasco for the planet. Since it has been discovered that these Peatlands allow climate regulation thanks to their large storage capacity of carbon dioxide. Thus, this Peatland area would constitute the world tourist stronghold reserving by its nature, better substances for thalassotherapy.

Consequently, how then to preserve and protect this zone against poachers, farmers, hunters, breeders, in short the peasant and forest population ? How to compensate for this strategy of protecting the global carbon reserve in relation to the forestry and socio-cultural activities of local communities? How to persuade or convince this indigenous population to abstain from their traditional activities and providers of their survival without destroying the nature of their forest? What will be the consequence of this imported environmental initiative? If their village would automatically become a World Heritage site, how would this population be concerned?

The relevance to these questions unfortunately demonstrates that our country alone does not have sufficient financial, material and socio-psychological and scientific means to fight against deforestation and air pollution despite the forest code and numerous memoranda of understanding. Ratified on the environment. If nothing is done, this difficulty would compound the problem of climate change. This is why and given that this project will be sustainable, its current financing

is necessary in the dynamics of projecting a protective future of the environment in LOKOLAMA in order to compensate for the abstinence from the abusive exploitation of the forest by the population. It is in this socio-cultural, financial, material, environmental and human context that it will be possible for everyone to align themselves with the sustainable conservation of nature and to guarantee social well-being.

## **I.3 Objectives**

### **I.3.1 General Objective**

- Find ways and means to promote the Peatland area in the village of LOKOLAMA in the province of Maï-Ndombe to meet the imperatives of global warming and its harmful hazards
- Reinforce the urgency of setting up a development model for local communities in order to improve their livelihoods and well-being while protecting ecosystems.
- Demonstrate to the world that the importance of Peatlands is not only limited to the fight against climate change, but also, they play a role in CO2 storage and contribute enormously to the stability of forests.
- Inform and produce broadcasts on Peatlands in order to trace the role of the Congo Basin forests in regulating the global climate and that of the Congolese forests to contain climate change. In addition to its ability to fight against CO2 emissions, the project wishes to demonstrate that Peatlands contain a biodiversity not yet discovered. Hence, the interest of pursuing studies in the different territories and sectors of the province of Maï-Ndombe to understand the links between Peatlands and biodiversity.

### **I.3.2 Specific objective**

- Create a park of bungalows for the reception of tourists, visitors, both national and international researchers with numerous entertainment in cultures and arts, sports and leisure;
- • Organize a Higher Institute for Scientific Research in the Peatlands Zone (ISRSZT );
- Create an ultra-modern thalassotherapy center equipped with body treatment booths and numerous peat bath pools;
- Promote the system of protection and conservation of nature by a forestry brigade of security and rapid intervention, a hygiene service, forestry and a tourist guide service;

- Create an international travel agency for tourism to the Peatland area;
- Promote employment for young people and encourage community and local development initiatives favoring the ecosystem and reforestation;
- Conduct regular propaganda on the disengagement of peasants from deforestation, deforestation and pollution activities throughout the national territory;

## **I.4 Supporting Documents**

### **I.4.1 Deficit of the Congolese State with regard to the environment**

The management of forest Peatlands is a new challenge for the Congolese State. The latter is suffering painfully from putting a realistic and coherent program to protect its environment for several decades. In fact, most of the financial and material resources allocated to it in the form of grants or credit are directly transformed or allocated to other projects which have nothing to do with the main objective. Consequently, the State repeatedly accumulates deficits in strategies to combat global warming and its supporting documents tend to discourage them.

### **I.4.2 Current challenges for the protection of the Congo Basin forests**

Furthermore, the current challenges should not push the DRC naively to witness the progress made by other countries in the sub-regions which have understood the importance of this struggle for the conservation of nature. The opportunity making the thief, the discovery of the Peatland area in the equatorial forest falls this time to change the methods and the vision of the management of the Congo basin. Thus, the operationalization of the governance framework for Peatlands in the Congo and the development of this capacity-building project are proving to be a necessity.

### **I.4.3 Motivation of the Congolese people for ecosystem management**

It is the duty of the Congolese public authority, both international and national partners to motivate themselves through this project justifying:

- The organization of technical, environmental, scientific and sociological infrastructures to increase the protective opportunities of our own national environment through consultation and awareness raising of the local population
- The mobilization of financial, material and human resources to restore the new image of the DRC in the management of the ecosystem based on the Peatland area of LOKOLAMA ;



- The organization of environmental tourism, thalassotherapy, scientific research, forest ranger and ecosystem support activities.

## Part II: FEASIBILITY STUDY Peatlands Program

### II.1 Organizational structure of the program

<b>Program</b>	Protection and conservation of nature in the areas of Peatland village LOKOLAMA territory of Oshwe (province of Mai-Ndombe)
<b>Duration of the program</b>	Unlimited duration with an initial departure of 10 years
<b>Area of intervention</b>	Sector of LOKOLAMA
<b>Intervention mobility</b>	Protection and conservation of the peat area against global warming and excessive exploitation of the forest
<b>Beneficiaries</b>	All the national, local and international community
<b>Partnership</b>	Public-Private where everyone is win-win
<b>Partnership mode</b>	Associative : Foreign donors, Global Resources Juventus (GRV) and Congolese State
<b>Leader of work</b>	Congolese government
<b>Master of Work</b>	Donors through Global Resources Juventus
<b>National technical support bodies</b>	Ministry of Environment and Nature Conservation, Ministry of Tourism and Ministry of Health, Ministry of Scientific Research, Ministry of the Interior and Security
<b>International technical support bodies</b>	World Health Organization, United Nations Environment and the fight against global warming, International Tourism Organization

## II.2 Organization of financing means and technical provisions

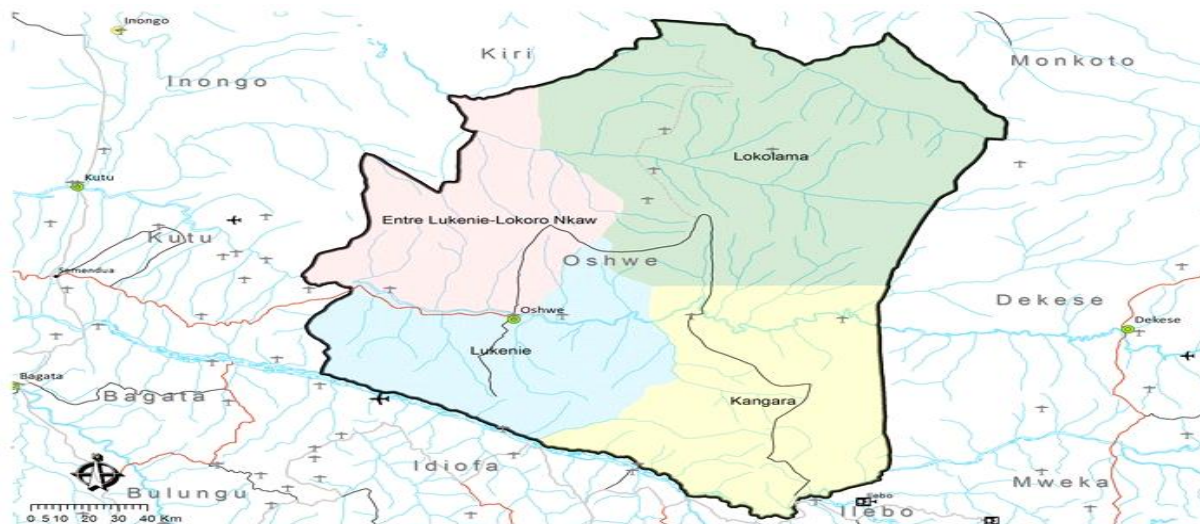
<b>Market</b>	OTC market Without profit
<b>Basic investment cost</b>	97,030,771 Usd dollars
<b>Duration of construction of reception sites and installation of sets</b>	More or less 24 months
<b>Donor share</b>	100% in materials and equipment and scientific and intellectual contributions
<b>Share of the Congolese State</b>	Administrative and technical facilitation, land titles, exemptions and exemptions
<b>Nature of investment funds</b>	Refundable credit
<b>Duration of initial credit and grace period</b>	10 years and the grace period 3 years
<b>Interest rate and annuity</b>	6% per year and annuity \$ 9,703,077
<b>Guarantee of credit</b>	Land and forest heritage to be assessed
<b>Sources of Materials, Equipment and Materials</b>	supply abroad at 60% and 40% local market
<b>Main contractor</b>	30% foreign and 70% national and local
<b>sub- contracting</b>	30% of the workforce, both national and international
<b>Sources of equipment and materials</b>	60% (China, USA or Europe), 40% (Kinshasa and Oshwe )
<b>Sources of supply in materials</b>	70% in Kinshasa and Kongo Central and 30% in Oshwe
<b>Material and equipment deployment circuit</b>	Foreign (China or USA ° Matadi port), Local (Matadi to LOKOLAMA Via Kinshasa and Inongo )
<b>Logistics and transport system operations</b>	Operation Logistics ( Matadi Kinshasa LOKOLAMA via Inongo ) transport system (Transloading ; vehicle, barge, whale, fast channel outboard engine) ;
<b>Distance Matadi LOKOLAMA via Kinshasa and Inongo</b>	More at least 1.960Km
<b>State of evacuation and supply routes</b>	More or less passable at 70%
<b>Logistics and transport time</b>	More at least 100 days

### II.3 Investment costs

<b>Table n ° 1 Total investment cost in US dollars</b>						
	<b>Headings</b>	<b>Measures</b>	<b>Number</b>	<b>Construction</b>	<b>COULD</b>	<b>PT</b>
<b>I</b>	<b>Investments</b>					
1	Thalasso and Spa centers (2000m <sup>2</sup> )	Cabins	40	90 days	52,830	2,113,200
2	Bungalots (16000 m <sup>2</sup> )	Units	320	12 months	9,800	3,138,724
3	State-of-the- art sports complex	m <sup>2</sup>	2,000	24 months	780	1,560,000
4	Amusement park in the Peatland area	m <sup>2</sup>	30,000	12 months	118	3,540,630
5	Main work	Units	2,500	26 months	1,560	2,070,511
	<b>Sub Total 1</b>					<b>12,139,354</b>
	<b>Facilitations</b>					
6	Transport equipment	Charrois	1	80 days	41 864 449	38 172 005
7	Institute of Research Scientists	Units	1	12 months	2,511,867	2,511,867
8	Water drilling	Units	20	6 months	57,258	1,145,160
9	Office furniture and equipment	Lots	1	80 days	965,582	965,582
10	Site materials and equipment	Lots	1	90 days	3,473,852	3,473,852
11	Logistics & Transport	Units	5	90 days	2,531,457	12,657,285
12	Website hosting Internet	Unit	1	20 days	15,800	15,800
13	Main contractor	Units	60	90 days	196 590	11,795,394
14	Costs of operation	Unit	1	30 months	471,816	14,154,472
						<b>84 891 417</b>
	<b>Total</b>					<b>97,030,771</b>

## II.4 Host Sites

### II.4.1 Sector LOKOLAMA



- **Geographic data**
- **LOKOLAMA:** It is one of the 4 sectors of the Oshwe territory; this territory was created by decree n ° 035 / AIMO of September 31, 1932. Due to its size, it is the second territory with an area of 43,000km<sup>2</sup> after that of Bafwasende in the province of Tshopo
- **Geographical coordinates** : longitude: 19 ° 30 ' 58 " E, latitude: 3 ° 22 ' 58'8 " Set altitude: 447m
- **Climate:** LOKOLAMA is located in a tropical area. The temperature varies from 20 ° to 30 ° C.
- **Hydrography** : This sector is washed by the Sankuru and Kasai rivers
- **Vegetation:** With a dense and evergreen forest, it is the equatorial forest with large trees which covers 3/4 of the extent of the territory. The passage of this forest is intersected by vast grassy savannas and shrubs with a heavenly panorama.
- **Soil** : The LOKOLAMA sector distinguishes two types of soil, clay-sandy

- **Particularity and richness of the LOKOLAMA sector**

LOKOLAMA is a very rich sector, especially with remarkable raw materials that have not yet been exploited: such as Gilson. There is only one “Nkundo” tribe. There are pygmies (indigenous people) called BATWA, but a minority. This is one of the areas where logging activities take place.

- **Cultural data**

The Nkundo live from agriculture, hunting, animal husbandry and fishing. The Bashieléle live from small businesses, agriculture and fishing. The Batwa are found in the forest and practice hunting and gathering. Few of them have successfully integrated into the community. The Lonkundo is a language spoken throughout the territory of the entire population. Lingala remains the lingua franca in the territory. Kikongo is spoken by the populations living in the territory and coming from neighboring territories.

- **Main activities**

The cultivation of agricultural products and logging are main activities within the framework of the LOKOLAMA economy. Hunting is practiced so the population only feeds on bush meat. The breeding of goats, sheep and chickens is done somewhat but only for self-consumption needs. The most widely consumed non-agricultural products in LOKOLAMA are non-wood forest products (caterpillars, mushrooms and fumbwa).

- **Main sources of energy and health**

- **Main sources of energy**

Firewood, torches, solar panels, fuel oil and generator.

- **Health**

These reference health centers are made of durable but dilapidated materials of their condition, and those of the air of health are semi-hard or clay. There is a problem of availability of medicines in the sector. Main diseases: Malaria (65%), Acute respiratory infections (ARI 15%), Diarrhea (10%), Anemia (6%) and sexually transmitted infections (4%).

## II.4.2 Peatland area



- **Peat Peatland** : is a wetland, colonized by vegetation, whose particular ecological conditions have allowed the formation of a soil consisting of a peat deposit ;
- **Peat** : Real vegetable fossil rock, peat is an organic soil from degradation not complete plant debris in a water-saturated environment;

- **Discovery** : Saturday October 27, 2017 by English and Congolese explorers
- **Management of Peatlands** : also depends on the safeguarding and protection of forests by local communities
- **Depth** : 3.37 to 3.50m
- **Area of Peatlands** : 145,500 Km<sup>2</sup> larger than England
- **Reserve in substances** : the reserve in tropical Peatlands would contain organic substances up to 350 billion tons of carbon in the world and the DRC and Congo-Brazza have 30 billion tones, the equivalent of 3 years of emissions of fossil fuels from all over the planet ;
- **Challenges and opportunities**: climate regulation thanks to their large storage capacity for carbon dioxide. The achessement of wood aggravate the problem of the changing climate.
- **Threat from Peatlands**: the wood industry. Of the 57 forest concessions representing approximately 5 million hectares of forest, 29 are illegal. These hectares overlap on 650 miles approximately meter of the peat swamp forests which contain in them the hard wood.

#### II.4. 3 Thalassotherapy center





- **Descriptive the center**

Thalassotherapy is the combined use, under medical supervision, for a preventive or curative purpose, of the benefits of the marine environment; (seaweed, mud, sand, air and marine climate ...) for therapeutic purposes.

- **Contribution:** relieve back pain, fibromyalgia, rheumatism, degenerative of the organism and strengthening of the immune system, anxiety, depression, circulatory disorders in the blood and even certain dermatological conditions such as psoriasis.
- **Efficiency:** Power, Wealth, Diversity and Duration.
- **Objective:** Associated with Kinesitherapy, to slow or stop the evolution of certain diseases of the musculoskeletal system and to relieve or suppress pain.
- **Operating modes:** [hydrotherapy](#) , aesthetic care and advice on lifestyle and physical education.
- **Center area to be filled :** 50,000m<sup>2</sup>
- **Quality of the Center:** ultra-modern establishment is distinguished by its very "spa" atmosphere.
- **Reception capacity :** 300 to 500 local, national and foreign visitors per day
- **Location :** Crossroads of Peatlands in the LOKOLAMA sector , Oshwe territory , Maï-Ndombe province



- **Equipment :**

- 20 thalassotherapy cabins for peat mud treatments or hydro massage baths , wraps ; affusion showers, Water mass ...
- 20 Spa cabins including 3 duo cabins for massages, massages, face and body treatments ;
- A beauty area including hairstyle, barber, make-up and nail shop ;
- A water basin peats heated to 32 ° with its many jet massage.
- A hammam

- **Cures**

- **Shore treatment:** hydrotherapy treatments, peat mud wraps and relaxing massages. Relaxation, wellness and energy potential reboots (5 to 6 days and 24 personal care);
- **Water treatment:** in addition to hydrotherapy and beauty treatments, a massage technique is on the menu; different every day. Lasting relaxation for body and mind (5 to 6 days and 24 individual treatments) ;
- **Cure silhouette :** allows to reshape the silhouette, it is made to mix the thalassotherapy treatments, aesthetic treatments, slimming treatments and sports, (5 to 6 days and 24 individual treatments) ;
- **Cure Zénitude:** between demineralizing and relaxing, energetic massages and rituals, this program provides a deep relaxation of body and mind. (5 to 6 days and 24 individual treatments and 10 collective treatments ) ;
- **Anti-aging beauty treatment:** this program combines thalassotherapy with Caritas anti-aging massages and treatments to preserve and optimize the capital of youth. (5 to 6 days and 20 individual treatments and 10 collective treatments).

It will have 40 cabins on a 2000 m<sup>2</sup> site comprising 5 swimming pools 3.5 m deep at the rate of 8 cabins per pool, the amount per unit will be 52.83 thousand dollars. It is planned to disburse at least US \$ 2.11 million. Once the visitor finishes his thalassotherapy peat bath, he is automatically taken care of for other services in the different cabins of his choice and according to the rate. This work will take 90 days. The materials and equipment will come from abroad, however the materials will be purchased on site or in Kinshasa

#### II.4.4 Bungalows



These are inns that will traditionally be built around the area with local materials and some local and sustainable equipment. It involves more finishing work and embellishment to keep the natural beauty of Peatland. The bungalows will be diversified according to families, couple, and singleton, from one to two bedroom, living room and kitchen, two to three bedroom, kitchen living room, beyond 4 bedrooms. Everything will be built in the country style and with the charms

of the Peatland area; it will take more or less 3.13 million dollars to build 320 bungalows, one of which will be worth 9800dollars with all the basic equipment and materials for installation.

All visitors must bring their national or foreign identity documents before completing the formalities to obtain the access card on the sites.

### **II.5.3 State-Of-The-Art Sports Complex**

It is an infrastructure that will house indoor sports such as: table tennis, billiards, ladies, check and cards including ball games, bodybuilding and Jumna's. There will also be open air fields for other disciplines including: football, basketball, volleyball and tennis. The work will take 24 months for a total of US \$ 1.56 million

### **II.5.4 Amusement park in the peat Peatland area and scientific research institute**





either deserve, or to write or even to reflect in private or read silently. In the park there will be a botanical library and a biological room for research, barbecues and canteens.

Each visitor will have the opportunity to be moved on the Peatland rays with satisfying pleasure. All technical and material provisions will cover a sum of \$ 3.54 million for a period of 12 months of work on an area of 30,000 m<sup>2</sup>. The labor for all works will reach 38% of the expenses of the investment activities, that is to say 3.9 million US dollars. It should be indicated that the creation of the research institute will be a good business for the evaluation of data relating to climatology, botany, biology and other disciplines related to the environment. An amount of \$ 2.5 million will be earmarked for materials, equipment and laboratories as well as advanced research workshops.

## **II.6 Food, logistics and transport**

### **II.6.1 Transport equipment**



The Peatland area will need supplies of rolling stock including: trucks, 4x4 jeep, Pick-Up and motorcycles in terms of administrative and technical management. To transport heavy machinery, office equipment and site materials, the area will need to obtain solid barges and whalers. It will also need the means of transport for visitors and tourists, in particular: boats with 150 to 250 seats, fast canals with 15 to 20 seats, bus and Minibus. Most of the equipment and materials will come either from China or from Europe or the United States by sea. However, it will be possible to benefit

from exemptions and exemptions at DRC level for the importation of non-profit goods. The cost of transport and evacuation equipment could reach 54.53 million, or 76.45% of the facilities, also taking into account fuel and lubricant expenses. The delivery may last 80 days.

### **II.6.2 Office furniture and equipment**



They concern all the office equipment and materials purchased in Kinshasa, part of which will remain in Kinshasa for the representation of the structure, another in the capital of the province of INONGO as a liaison office and another in LOKOLAMA for a good coordination of Peatland activities. Materials used for electrical energy will be supplied only with solar energy by solar panels to avoid pollution. It will cost 965 thousand dollars for a transit time of 90 days

The water will come from the drilling system which can be redistributed through the piping to the bungalows and other thalassotherapy sites including the taps in the park. Three to four boreholes will be able to supply the various sites with

an average of 30,000 liters of consumption per day and for 500 visitors without forgetting the cleaning of the premises, the Versailles, the laundry, the cooking and various maintenance.

### **II.6.3 Deployment workforce and facilitation mechanisms**

The workforce concerns all the subcontractors that will be contracted, the different day laborers and the agents to carry out all the facilitation operations from the port of Matadi to LOKOLAMA via Kinshasa and Inongo. Therefore, the cost will be 20% on all operations related to investment and facilitation \$ 13.87 million. It should be remembered that the risks involved are numerous for security measures to be reinforced.

### **II.6.4 Hosting Website**



Peatlands will need the internet and to process information on the evolution of substances in the LOKOLAMA landscape. Therefore, building the website will be an emergency. This situation is explained by the importance of ecological issues. The internet will be the showcase and the international archive for hundreds of thousands of Internet users. Thus, the creation of the model and the formatting of the files will cost at least 800 dollars and its hosting for 5 years for any security against espionage and piracy will require 15 thousand dollars at the rate of 3 thousand dollars per year with hosting experts.

## II.6.5 Operating costs

Operating costs correspond to 20% of the investment and facilitation costs for technical operations, or \$ 14.15 million. These costs will be calculated for a period of 30 months, ie two years and 6 months of operation. Therefore, per month there will be disbursed at least 471.8 thousand dollars of which 30% for variable charges and 70% for fixed charges. This period may be shortened if the work can be shortened in 18 months and two weeks /

<b>Table n ° 2 Detailed operating costs in US dollars</b>				
<b>Headings</b>	<b>Month</b>	<b>18 months and two weeks</b>	<b>30 months</b>	<b>%</b>
Training and retraining	8,964	167,636	268,935	1.9
Office supplies	4,718	88,230	141,545	1
Fuels	5,662	105,875	169,854	1.2
Main contractor sites	9,436	176,459	283,089	2
Treatment of water	15,098	282,335	452,943	3.2
Production of electricity	14,154	264,689	424,634	3
Computer consumables	14,154	264,689	424,634	3
Products cosmetic and hygienic	13,211	247,043	396,325	2.8
Transport and communication	11,795	220,574	353,862	2.5
Marketing and advertising	30,668	573,492	920 041	6.5
Communication and internet costs	28,309	529,377	849,268	6
Maintenance and repair costs	38,689	723,482	1,160,667	8.2
Housing	56,618	1,058,755	1,698,537	12
Insurance	9,436	176,459	283,089	2
Staff compensation	210,902	3,943,869	6,327,049	45
<b>Total</b>	<b>471,816</b>	<b>8,822,963</b>	<b>14,154,472</b>	<b>100</b>



## II.7 SWOT analysis of the project

### II.7.1 Strengths



- ***Four architectural and attractive poles*** : Peatland area, Bungalow site , Thalassotherapy center and Scientific Research Institute and Ultra-modern Sports and Cultural Complex ;

- **Reception capacity:** *more than 300 to 500 visitors per day: Researchers, tourists, visitors and other personalities from around the world, climatologists, botanists, biologists, environmentalists, chemists, etc.*
- **Motivation ;** *great curiosity about Peatland area, thalassotherapy center , amusement park*
- **Heritage :** *Tourist, scientific, therapeutic, natural and environmental infrastructure*
- **Plus -Value ;** *Sustaining the ecosystem for hundreds of thousands of people around the world*

### II.7.2 Weaknesses





- The weakness will be more noted only for the study of global warming, leaving aside other aspects of the ecosystem including agricultural production, livestock, hunting and forestry which are the activities of the indigenous population.
- Imbalance in the organization of employment markets which will be more devoted to peat areas to the exclusion of other traditional activities.
- The application of the forest code will not be easy in the habits of the Congolese or of the actors who will accompany the project.
- Tensions over the option to take in relation to the heritage of sovereignty that the inhabitants will want at all costs not to change the sacrosanct principles of ancestral management autonomy. One of the difficulties will be to supply the sites with continuous electrical energy from SNEL with regard to powerfully electromechanical equipment and materials.

### II.7.3 Threats



- Resistance to changes in lifestyle and culture of the people of LOKOLAMA and its surroundings who, for them, the exploitation of the woods of the forest and hunting are integral parts of the conditions of their life.
- Xenophobia and racism which could invade Peatlands. The more tourists there are, the more the populations of LOKOLAMA will think they have been neglected or neglected in favor of foreigners.

- Banditry, burglary, theft, poaching, these acts of rascality will be banned by the police and the forest guard who will work in a professional manner to secure the populations, visitors and their property.
- Destruction of natural substances by drying up due to agricultural activities, forestry or the construction of infrastructure such as roads would seriously worsen the impacts of global warming. However, the big threat from these peat Peatland s remains the wood industry.
- [EHYPERLINK "https://news.mongabay.com/2018/02/drc-breaches-logging-moratorium-for-chinese-owned-companies/"](https://news.mongabay.com/2018/02/drc-breaches-logging-moratorium-for-chinese-owned-companies/)exploitation of more than half a million hectares of illegal forest concessions to two Chinese companies, which partially overlap the newly discovered Peatland.

But this frustration can be stilled by the creation of jobs and the integration of populations in the various literacy programs, education, schooling and socio-professional training.

#### **II.7.4 Opportunities**



- Make the amenities of LOKOLAMA , the natural green par excellence for healthy and impeccable life for all humanity
- Invest more in the environment with the capacity to absorb all bio diversified wealth ;
- Create less degradable value chains in the environment and arouse in Congolese attitudes the love of safeguarding and conserving nature ;
- Make this LOKOLAMA village the world center of biodiversity and a benchmark thalassotherapy center;
- Develop less polluting socio-economic and cultural activities ;
- Take advantage of the added value of Peatlands to develop other sectors of national life;

## **II.8 Organization of marketing strategies**

### **II.8.1 Media marketing**

The discovery of the peat zone significantly requires strategic and environmental marketing actions with the key slogan: ***do not touch the natural heritage! Watch out for global warning! Peatland, hope of tomorrow!***

- The information must be selected and translated into the 4 national languages, French, English and Spanish. They will be broadcast by séances or weekly or monthly intervals during the project implementation period in the communications media: television and radio and especially community radio. The choice will be made on captivating channels internationally and the information will be relayed by the following actions:
  - Press briefing, live or rebroadcast programs and reports on peat Peatland s;
  - Direct passage to the TV or Radio newspaper;
  - Advertising spots and animated by opinion leaders etc ...
  - Drawings animated etc.
  - Show- Mega spots with several demonstrative images ;
  - Documentaries on Peatlands with CDs and slides



### II.8.2 Marketing outside the media

The strategy consists in capturing the attention of the population in the public square and in passing diversified and short messages on the environment, the protection and conservation of nature. The aim is to raise public awareness of the danger the world is going through in relation to the harms of global warming.

The supports or posters are as follows:

- T-shirt, caps, banner, panels, Leaflet or flyers, loincloth, scarf, polo shirt, vehicle
- Decorations at the Braiding of the project charter with logo, decoration on the walls etc....
- Business cards, access card to parks or to peat Peatland s.

The organization of non-media marketing with posters will also require the organization of events throughout the Republic and abroad so as to carry messages for the safeguard of peat Peatland s and other natural substances as a wealth of the ecosystem of the country and especially in the forests of the Congo Basin ;

Among the events, it will be necessary to organize:

- Conferences, workshop seminars, forums, symposia, symposia,
- Cinema, concerts, panorama, theaters, sketch, Fan Sufair , walking, motorized caravan, hiking, Pic-Nick, Excursions, Club safari, environmental tourism, fair, guided site visit, pilgrimage, caravan etc...
- Organization of social actions (Donations, sponsorship and assistance in schools, hospitals, homes for the aged), etc.
- Neighborhood sanitation actions, reforestation of major arteries, planting of trees, grassland, public gardens, creation of green parks, etc.





### **II.8.3 Online marketing**

The strategy will consist in providing all the information useful to Internet users in the hundreds of thousands around the world on peat areas by having a series of varieties of documentation on the advantages, the roles of peat Peatlands on a planetary scale, the disadvantages on destruction. Forests. The archives will be updated daily with the possibility of creating pages to allow internet users to subscribe to donations in favor of Peatlands. It is the same for suggestions or messages and criticisms for a good organization of the sites to be protected within the framework of the environment and the conservation of nature. All the images of the actions will be archived on the site for the interest of everyone. The favorable supports for online marketing will be:

- Website,
- Face book
- Tweet,
- WhatsApp etc.

### **II.8.4 Press marketing**

The strategy will focus on organizing information for readers in several languages (French, English and Spanish) through the following supports:

- Magazines, news papers, newsletters
- Journal, articles, catalogs, files, notebooks, etc.
- Books , brochures, memorandum
- CD, DVD, etc.

## **II.9 Mobilization of human resources**

### **II.9.1 Steering team (Open-ended contract)**

It is a team which will be made up of both national and international experts woven from the Congolese Government, Donors and Global Resources Juventus consortium whose work will consist in the administration and management of the project throughout the period: are as follows:

- Director General (DG) : Project manager;
- Deputy Managing Director (DGA): in charge of administration, finance, budget and treasury;
- Communication and Marketing Manager (RCM): everything related to communication on the environment, nature protection and conservation and operational actions through the media and outside the media;
- Human Resources Manager (HRM): Recruitment, training, retraining, job allocation, remuneration, promotion of grade and social and litigation cases ;
- Peatlands Manager (GZT) : All the activities taking place in the developed sites
- Operations Manager (RO): Logistics, transport and stewardship, security and guarding



### II.9.2 Team of consultants & Experts (Time contract)

- Consultants (A): Botanist, Chemist, Biologist, Agronomist, Pharmacologist and florist (6 people);
- Consultants (B): Geographer, Landscape designer, Geologist, Climatologist, Ecologist, Environmentalist and Archaeologist: (7pers)
- Consultants (C): Doctors, Nurses, thalassotherapy specialists, Spa, Swimming and Aesthetics (50 people)

### II.9.3 Team support

- Subordinate : General Administration staff (12pers): who accompany the steering team
- Supervisor ; technical staff (10pers): who assist managers of Peatlands and Operations
- Classified Agents (100pers): who take care of general stewardship services, cleaning, classification and organization of offices and sites, control and monitoring of the actions of the Operations manager,
- Site guard (50 people) who takes care of security, surveillance, security and forest ranger
- Temporary and Daily workers ; 100 people for all support work in Peatlands

### Organizational chart

### II.9.4 Team remuneration

<b>Teams</b>	<b>Measures</b>	<b>No.</b>	<b>Sai / U</b>	<b>Sal / T</b>
<b>Team Steering</b>				
General Manager	Units	1	6,662	6,662
Director General Deputy	Units	1	6,200	6,200
Communication Manager & Mkg	Units	1	5,450	5,450
Leaders of Resources Human	Units	1	5,000	5,000
Manager Zones Peat	Units	1	4,730	4,730

Manager of Operations	Units	1	4,400	4,400
<b>Sub Total 1</b>		<b>6</b>	<b>32,442</b>	<b>32,442</b>
<b>Team of consultancies</b>				
Consultancy (A)	Units	6	2,000	12,000
Consultancy (B)	Units	7	1,680	11,760
Consultancy (C)	Units	50	1,400	70,000
<b>Sub Total 2</b>		<b>63</b>		<b>93,760</b>
<b>Team support</b>				
Subordinates	Units	12	600	7,200
Agents Masters	Units	10	500	5,000
Classified agents	Units	100	400	40,000
Site guards	Units	50	350	17,500
Temporary and daily	Units	100	150	15,000
<b>Sub-Total 3</b>		<b>272</b>		<b>84,700</b>
<b>Total 1 + 2 + 3</b>		<b>341</b>		<b>210,902</b>

## II.10 Service pricing schemes in Peatlands

### II.10.1 Services Offered





Accommodation and catering	Thalasso / Spa / Pool	Sports and games	Visits Sites Peatlands
Singleton bungalows	Cure shore	Foot / Basket / Volley / Tennis	Peat
Couple Bungalows	Water cure	Table tennis / Billiards	International Institute
Family Bungalows from 3 to 4	Cure silhouette	Games of check / Ladies	Landscape of park peat-
Bungalows Family of 4 and 6	Cure Zénitude	Ball games and various	Archives and library
Bungalows Family enlarged	Cure Beauty anti age	Gymnasium	Hall and trails

## II.10.2 Pricing of services

- **Accommodation and catering**
- **Singleton bungalows** : \$ 30 / Day (Accommodation \$ 15 / Breakfast \$ 3 / Breakfast \$ 7 / Taste \$ 2 and Dinner \$ 3)
- **Couple Bungalows** : \$ 50 / Day (Accommodation \$ 25 / Breakfast \$ 5 / Breakfast \$ 11 / Taste \$ 4 and Dinner \$ 5)
- **Family Bungalows from 3 to 4** : \$ 70 / Day (Accommodation \$ 35 / Breakfast \$ 7 / Breakfast \$ 15 / Taste \$ 5 and Dinner \$ 8)
- **Family Bungalows from 4 to 6** : \$ 90 / Day (Accommodation \$ 45 / Breakfast \$ 10 / Breakfast \$ 18 / Taste \$ 7 and Dinner \$ 10)
- **Extended Family Bungalows** : \$ 120 / Day (Accommodation \$ 60 / Breakfast \$ 15 / Breakfast \$ 25 / Taste \$ 8 and Dinner \$ 12)
- **Sports and games**

Sports and games are free but, they become payable when there is an organized competition or a championship at the end of which there will be awarded prizes or participation certificates;

- **Thalasso / Spa / Swimming pool**

<b>Fitness cure</b>				<b>Cure silhouette</b>			
<b>Number of Treatments</b>			<b>Cost \$</b>	<b>Number of Treatments</b>			<b>Cost \$</b>
<b>Number of Days</b>	<b>Individual</b>	<b>Collective</b>		<b>Number of Days</b>	<b>Individual</b>	<b>Collective</b>	
4	24	6	<b>180</b>	4	15	0	<b>480</b>
5	30	8	<b>225</b>	6	22	0	<b>720</b>
6	36	10	<b>270</b>				

7	42	12	315				
<b>Cure bath of peat</b>				<b>Cure Zénitude</b>			
	<b>Number of Treatments</b>		<b>Cost \$</b>		<b>Number of Treatments</b>		<b>Cost \$</b>
<b>Number of Days</b>	<b>Individual</b>	<b>Collective</b>		<b>Number of Days</b>	<b>Individual</b>	<b>Collective</b>	
6	21	0	500	6	15	0	480
7	25	0	583	4	10	0	320
<b>Cure Beauty anti age</b>							
	<b>Number of Treatments</b>		<b>Cost \$</b>				
<b>Number of Days</b>	<b>Individual</b>	<b>Collective</b>					
5	20	10	620				
6	25	12	744				

- **Guided tours of peat Peatlands**





- Simple site visit : Free
- Visit to scientific research or discoveries : Packages of \$ 300
- Investigation visits with report followed by broadcasts: Packages of \$ 200

All visits will be scheduled one month before by telephone, fax, telex, postal letters, email, social networks with the length of stay except for simple visits without a stay. The stay on the site lasts only 14 working days per visitor. Security, control and protection measures are essential on the sites.

No visitor comes to the sites with foreign facts (weapons, or knives any metallic or sharp object, cigarettes or narcotic, food, drinks, water, or products polluting the atmosphere etc...). Everything is detected at the entrance by a systematic check by experienced forest guards. The opening of the sites debits at sunrise at 5 a.m. and the closing at sunset at 6 p.m. except for the late reception of advertised visitors.



Timeline for starting peatland activities							
							<b>2 weeks</b>
							Inauguration
						<b>18 months</b>	Start-up
						Layout	
						Constructions	
					<b>3 months</b>	sites	
					Deployment		
					Logistics		
				<b>3 months</b>	Transport		
				Acquisitions			
				Materials &			
			<b>2 months</b>	Equipment			
			Offers of				
			Services				
			&				
		<b>6 months</b>	Contracts				
		Campaigns					
	<b>2 months</b>	Marketing					
	Procedures						
	Administrative						
<b>1 month</b>	Techniques						
Prospecting							
Explorations							
Call for funds							

After 18 months and 2 weeks, the start of activities in Peatlands will be effective for the benefit of the entire community, both national and international. Otherwise, a deadline of 30 months may count in the event of climatic vagaries, due to torrential rain or means of transport.

# PART III FINANCING REQUIREMENTS OF PEATLANDS

## III.1 Forecast of resources and expenses

### III.1.1 Resources

#### • Assumptions

- **H1:** Resources will come from activities in the margins of Peatland, in particular: Thalassotherapy & Spa treatments, accommodation and catering for visitors to the Bungalows, guided tours for research, reports, programs and surveys;
- **H2:** 40 cabins will be used for thalasso & Spa cures at the rate of 8 cabins per treatment with average prices per category of treatment. The average treatment visit is 25 visitors with time gradually reduced from 11 to 5 days per month instead of 14 days;
- **H3 :** 320 bungalows will be available to receive only 20 visitors per day and for a duration of only 7 days per month at prices varying between \$ 30 and \$ 120 per day and according to the categories of visitors (Accommodation and catering) ;
- **H4 :** the research institute and the peat Peatland s will be made available to more than at least 60 researchers and investigators per day and maximum, an average delay of 10 days and at a fixed price ranging from 200 to 300 \$
- **H5:** The collection of resources will be seasonal and the frequencies from 1 to 6 months especially during the holiday periods (March and April, then, June, July and August, finally December). This collection will mainly be used **for nature protection and conservation strategies** with the support of facilitators; workforce and experts from all walks of life.

- Forecast of resources

<b>Table n ° 5 Forecast of the collection of resources for the management of Peatlands</b>						
					<b>Resources \$ Usd</b>	
<b>Thalasso / Spa</b>	<b>Cabin s</b>	<b>Price \$ M / Jr</b>	<b>Average of Days</b>	<b>Visit / Day</b>	<b>Monthly</b>	<b>Annual</b>
Fitness cure	8	248	11	25	545,600	3,273,600
Cure bath of peat	8	542	7	25	758,800	4,552,800
Cure Beauty anti age	8	682	6	25	818,400	4,910,400
Cure silhouette	8	600	5	25	600,000	3,600,000
Cure Zénitude	8	400	5	25	400,000	2,400,000
<b>Sub Total 1</b>	<b>40</b>			<b>125</b>	<b>3,122,800</b>	<b>18,736,800</b>
<b>Bungalots</b>	<b>Numbers</b>	<b>Price \$ / Day</b>	<b>Average of days</b>	<b>Visits / Day</b>	<b>Monthly</b>	<b>Annual</b>
Singleton	100	30	7	20	420,000	2,520,000
Couple	80	50	7	20	560,000	3,360,000
Family of 3 to 4 people	60	70	7	20	588,000	3,528,000
Family of 4 to 6 people	50	90	7	20	630,000	3,780,000
Extended family	30	120	7	20	504,000	3,024,000
<b>Sub Total 2</b>	<b>320</b>			<b>100</b>	<b>2,702,000</b>	<b>16,212,000</b>

<b>Visits</b>	<b>Units</b>	<b>Price Packages</b>	<b>Average of days</b>	<b>Visits / Day</b>	<b>Monthly</b>	<b>Annual</b>
Scientific research	1	300	10	30	90,000	540,000
Investigation and reporting, broadcasts	1	200	10	30	60,000	360,000
<b>Sub Total 3</b>	<b>2</b>			<b>60</b>	<b>150,000</b>	<b>900,000</b>
<b>Totals 1 + 2 + 3</b>					<b>5,974,800</b>	<b>35 848 800</b>

### III.1.2 Expenses

- Variable charges

<b>Table n ° 6 Direct and intermediate charges in US dollars</b>		
<b>Headings</b>	<b>Monthly</b>	<b>Annual</b>
Training and retraining	58 123	697,474
Office supplies	21,796	261,553
Fuels	14,531	174,369
Manpower of sites and outfits	341,472	4,097,661
Treatment of water	36,327	435,921
Production of electricity	72,654	871 843
Computer consumables	58 123	697,474
Products cosmetic and hygienic	50,857	610,290
Transport and communication	72,654	871 843
<b>Total</b>	<b>726,536</b>	<b>8,718,428</b>

These are labor costs, transport and communication and the production of electricity and local non-polluting water that will weigh heavily during operation. And the expenses could reach a sum of \$ 8.18 million per year. All these expenses will favor the preservation of the ecosystem.

- **Fixed charges**

- **Direct fixed charges**

<b>Table n ° 7 Forecast of charges in US dollars</b>			
<b>Headings</b>	<b>Monthly</b>	<b>Annual</b>	<b>%</b>
Marketing and awareness	100,000.00	1,200,000.00	6.57
Maintenance and repair	316,666.67	3,800,000.00	20.81
Remuneration	423,333.33	5,080,000.00	27.82
Housing	56,617.89	679,415	3.72
Insurance	300,000.00	3,600,000.00	19.72
Depreciation	325,000.00	3,900,000.00	21.36
<b>Total</b>	<b>1,521,617.89</b>	<b>18,259,414.66</b>	<b>100.00</b>

Staff costs, depreciation, maintenance and repair costs will absorb a significant part of the budget, which will be increased to almost \$ 18.2 million at a rate of 1.52 million per month.

- **Depreciation charges**

These are charges which relate to the depreciation of fixed assets and the financial costs of the initial capital. They will constitute provisions for my credibility of the request for the loan and the renewal of the equipment and the operating materials.

<b>Table n ° 8 Repayment schedule in US dollars</b>				
<b>Years</b>	<b>Main</b>	<b>Annuities</b>	<b>Interest 6% per year</b>	<b>Refunds</b>
0	97,030,771			
1	87 327 694	9,703,077	5,821,846	15,524,923
2	77,624,617	9,703,077	5,239,662	14,942,739
3	67 921 540	9,703,077	4,657,477	14,360,554
4	58 218 463	9,703,077	4,075,292	13,778,369
5	48,515,385	9,703,077	3,493,108	13 196 185
6	38,812,308	9,703,077	2,910,923	12,614,000
7	29,109,231	9,703,077	2,328,739	12,031,816
8	19,406,154	9,703,077	1,746,554	11,449,631
9	9,703,077	9,703,077	1,164,369	10,867,446
10	0	9,703,077	582,185	10,285,262
<b>Total</b>		<b>97,030,771</b>	<b>32,020,154</b>	<b>129,050,925</b>

After 10 years of exercise, the project will reduce the interest on the credit from \$ 32.02 million to \$ 97.03 million. With the collection of resources in the various services erected around the Peatlands, the reimbursement amount will be easily reached before the 10-year maturity thanks to the cash.

<b>Table n ° 9 Depreciation of site fixed assets in US dollars</b>				
	<b>Acquisition values</b>	<b>Durations</b>	<b>Rate</b>	<b>Depreciation</b>
Land 50,000m <sup>2</sup>	5,000,000	130	0.77	38,462

Thalasso and Spa Center (2000m <sup>2</sup> )	2,113,200	30	3.33	70,440
Bungalows (16000 m <sup>2</sup> )	3,138,724	60	1.67	52,312
State-of-the-art sports complex	1,560,000	30	3.33	52,000
Amusement park in the Peatland area	3,540,630	120	0.83	29,505
Transport equipment	38 172 005	12	8.33	3,181,000
Institute of Research Scientists	2,511,867	50	2.00	50,237
Water drilling	1,145,160	50	2.00	22,903
Office furniture and equipment	965,582	10	10.00	96 558
Site materials and equipment	3,473,852	10	10.00	347,385
Website hosting Internet	15,800	10	10.00	1,580
<b>Total</b>	<b>61,636,820</b>			<b>3,942,383</b>

The allocations and provisions for depreciation will be more concentrated for rolling stock, site materials and equipment as well as at the Thalasso & Spa center. In one year, annual depreciation will be \$ 3.94 million.

### III.2 Evaluation of operating results and cash

#### III.2.1 Result Operating

<b>Table n ° 10 Forecast of results in US dollars for 10 years</b>											
<b>Headings</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Resources</b>											
Thalasso / Spa	0	9.37	18.74	19.67	20.66	24.79	29.99	50.99	86.68	147.36	250.52
Bungalows	0	8.11	16.21	17.02	17.87	21.45	25.95	44.12	75.00	127.51	216.76
Visits	0	0.45	0.90	0.95	0.99	1.29	1.69	2.23	2.97	3.98	5.37
<b>Total</b>	<b>0</b>	<b>17.92</b>	<b>35.85</b>	<b>37.64</b>	<b>39.52</b>	<b>47.53</b>	<b>57.64</b>	<b>97.34</b>	<b>164.65</b>	<b>278.84</b>	<b>472.64</b>
<b>Direct charges</b>	<b>0</b>	<b>2.15</b>	<b>4.30</b>	<b>4.52</b>	<b>4.74</b>	<b>5.70</b>	<b>6.92</b>	<b>11.68</b>	<b>19.76</b>	<b>33.46</b>	<b>56.72</b>
<b>Gross margin</b>		<b>15.77</b>	<b>31.55</b>	<b>33.12</b>	<b>34.78</b>	<b>41.82</b>	<b>50.72</b>	<b>85.66</b>	<b>144.90</b>	<b>245.38</b>	<b>415.93</b>
Intermediate charges	0	2.21	4.42	4.21	4.01	3.82	3.63	3.46	3.30	3.14	2.99
<b>Added Value</b>		<b>13.57</b>	<b>27.13</b>	<b>28.92</b>	<b>30.77</b>	<b>38.01</b>	<b>47.09</b>	<b>82.20</b>	<b>141.60</b>	<b>242.24</b>	<b>412.94</b>

Marketing	0	0.6	1.2	1.14	1.09	1.04	0.99	0.94	0.90	0.85	0.81
Maintenance and repair	0	1.9	3.8	3.62	3.45	3.28	3.13	2.98	2.84	2.70	2.57
Financial charges	0	0	0	0	4.57	4.57	4.57	4.57	4.57	4.57	4.57
Remuneration	0	2.54	5.08	5.33	5.60	5.88	6.17	6.48	6.81	7.15	7.51
Insurance	0	1.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
<b>Fixed charges</b>	<b>0</b>	<b>6.84</b>	<b>13.68</b>	<b>13.70</b>	<b>18.31</b>	<b>18.37</b>	<b>18.46</b>	<b>18.57</b>	<b>18.71</b>	<b>18.87</b>	<b>19.06</b>
<b>Gross Result</b>	<b>0</b>	<b>6.73</b>	<b>13.45</b>	<b>15.22</b>	<b>12.47</b>	<b>19.64</b>	<b>28.63</b>	<b>63.63</b>	<b>122.89</b>	<b>223.37</b>	<b>393.88</b>
Depreciation	0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Retrocessions	0	2.69	3.36	3.81	3.12	4.91	7.16	15.91	30.72	55.84	98.47
<b>result Net</b>		<b>0.14</b>	<b>6.19</b>	<b>7.52</b>	<b>5.45</b>	<b>10.83</b>	<b>17.57</b>	<b>43.82</b>	<b>88.27</b>	<b>163.63</b>	<b>291.51</b>
<b>Cash flow</b>		<b>1.35</b>	<b>6.73</b>	<b>7.61</b>	<b>6.23</b>	<b>9.82</b>	<b>14.31</b>	<b>31.81</b>	<b>61.45</b>	<b>111.69</b>	<b>196.94</b>
<b>Cumulative cash flow</b>		<b>1.35</b>	<b>8.07</b>	<b>15.68</b>	<b>21.92</b>	<b>31.74</b>	<b>46.05</b>	<b>77.86</b>	<b>139.31</b>	<b>250.99</b>	<b>447.93</b>

The resources will cover direct variable and fixed costs in order to generate a positive net result throughout the 10-year period. Interest on credit, staff remuneration, property and movable insurance costs will be controlled by this collection of resources. It should be noted that the retrocession will concern 25% of the gross operating profit of which 10% will be retroceded to the Province of Maï-Ndombe, 10% to the Central Government through the administrative bodies of the partnership and 5% to the company Global Resources, Juventus.

Note that the project will be exempt from taxes and will benefit from exemptions except state subsidies. This amounts to saying that the cash flow will cover the various environmental programs of LOKOLAMA such as awareness campaigns and research on the deepening of the question on global warming. This provincial retrocession of Maï-Ndombe, will compensate the forest exploitation income by the indigenous population and will cover the family allowances to local communities.

Year 0 will be devoted to deployments, logistics, transport, development and construction of reception sites. The first 6 months of the following year will be devoted to the continuation of works and effective start will take place in the 7<sup>th</sup> month. The different resources collected during the services will vary by 5% between 2<sup>nd</sup> and 4<sup>th</sup> year, then by 20% between 5<sup>th</sup> and 6<sup>th</sup> year before climbing to 70% from the 7<sup>th</sup> year when the frequency of visits will increase thanks communication marketing and contact between visitors. On the other hand, certain expenses will be subject to a constantly downward variation of 5% and others upward throughout the period under review.



### III.1.2 Cash flow statement

<b>Table 11 Cash flow forecast</b>											
<b>Headings</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Resources</b>											
Share capital	97.03	0	0	0	0	0	0	0	0	0	0
Cash flow	0	1.3	6.7	7.6	6.2	9.8	14.3	31.8	61.4	111.7	196.9
<b>Total 1</b>	<b>97.03</b>	<b>1.3</b>	<b>6.7</b>	<b>7.6</b>	<b>6.2</b>	<b>9.8</b>	<b>14.3</b>	<b>31.8</b>	<b>61.4</b>	<b>112</b>	<b>196.9</b>
<b>Jobs</b>											
Investment / Reinvestment	97.03	0	0	0	0	0	0	0	0	0	0
Interests	0	0	0		4.6	4.6	4.6	4.6	4.6	4.6	4.6
<b>Total 2</b>	<b>97.03</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4.6</b>	<b>4.6</b>	<b>4.6</b>	<b>4.6</b>	<b>4.6</b>	<b>4.6</b>	<b>4.6</b>
<b>Treasury</b>	<b>0</b>	<b>1.3</b>	<b>6.7</b>	<b>7.6</b>	<b>1.7</b>	<b>5.2</b>	<b>9.7</b>	<b>27.2</b>	<b>56.9</b>	<b>107</b>	<b>192.4</b>
	<b>0</b>	<b>1.3</b>	<b>8</b>	<b>15.6</b>	<b>17</b>	<b>22.5</b>	<b>32.2</b>	<b>59.4</b>	<b>116</b>	<b>223</b>	<b>415.8</b>

During the consecutive 10-year period, the cash flow will be positive following a good collection of resources induced by the improvement in cash flow. Thus, these resources will be able to cover the interest on the credit with as much ease. From the 8<sup>th</sup> year, the cumulative cash will bring the initial capital of 97.03 million with great fluidity of more than 4 times in the 10<sup>th</sup> year. However, this liquidity will be used to make a provision for campaign and research grants since the main objective is not for profit. The Province of Maï-Ndombe is under water and the transport and communication routes are quite impractical and cost extremely expensive. Hence this liquidity will be used largely for the organization of river and lake transport in order to break the isolation of territories and villages and develop exchanges between entities.

### III.2 Assessment of the Net Value (NPV) and the Internal Rate of Return (IRR)

#### III.2.1 NPV

<b>Table n ° 12 Forecast of the Net Present Value in millions of US dollars</b>											
<b>Headings</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Resources</b>											
Gross margin	0.00	15.8	31.5	33.1	34.8	41.8	50.7	85.7	144.9	245.4	415.9
TMP (1 + i) °	0	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.7
Discounted Gross Margin	0	15.8	29.8	29.5	29.2	33.1	37.9	60.4	96.4	154.0	246.2
Investment	97.03										
<b>VAN</b>											<b>635.1</b>

The calculated Net Present Value perfectly demonstrates a good ability to reproduce investments. With \$ 635.1 million realized in 10 years, the initial capital can be recovered more than 6 times the cost. This contribution will guarantee the net improvement of equipment and materials appropriate to the environment. It should also be noted that this NPV will be used to subsidize agricultural and pastoral materials and equipment for the peasant populations located in other territories neighboring Oshwe such as Kutu, kiri, Mushie and Inongo.

In addition, there will be a way of considering the balance of the sub-regional ecosystem between the former Bandundu and Ecuador in order not to dry out the equatorial forest by the exploitation of the inhabitants. With the margin on investment, the possibility of carrying out a new agricultural and pastoral policy will be possible.

### III.2.2 TRI

<b>Table n ° 13 Forecast of the Internal Rate of Return</b>	
<b>Resources</b>	<b>Amounts</b>
NPV in millions of dollars	635.11
VA-1 in millions of dollars	634.11
Investment in millions of dollars	97.03
<b>SORTING</b>	<b>6.54</b>

The internal rate of return indicates a strong capacity for investment in the field of the environment and nature conservation for the benefit of humanity and in order to properly equip world forest reserve sites.

### III.3 Recovery period and Return to Initial Investment

#### III.3.1 time of recovery

<b>Table 14 Forecast of recovery time</b>				
<b>Years</b>	<b>Cash 1</b>	<b>TMP</b>	<b>Discounted cash</b>	<b>Deadlines</b>
0	0.00	-	0.00	- 97.03
1	1.35	1.06	1.27	- 95.76
2	6.73	1.12	5.99	- 89.78
3	7.61	1.19	6.39	- 83.39
4	1.66	1.26	1.32	- 82.07
5	5.25	1.34	3.92	- 78.15
6	9.74	1.42	6.87	- 71.28
7	27.24	1.50	18.12	- 53.16
8	56.88	1.59	35.68	- 17.47
<b>9</b>	<b>107.12</b>	<b>1.69</b>	<b>63.40</b>	<b>45.93</b>
10	192.37	1.79	107.42	153.35

By investing to 97.03 million as part of the environment Peatland areas, the supply of services will allow to collect this investment in the 9<sup>th</sup> year of operation, the threshold of 45.93 million Us .

<b>Table n ° 15 Forecast of Return on Initial Investment ROI</b>	
<b>Resources</b>	<b>Amounts</b>
RBE in millions of dollars	899.90
TOTAL ASSETS in millions of dollars	97.03
<b>KING</b>	<b>9.27</b>

### III.4 Use of cash flow in socio-economic and environmental actions

<b>Table n ° 16 Use of cash flow for the development of Mai-Ndombe in US dollars</b>										
<b>Years</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>Total</b>
<b>Cash flow</b>	<b>6.73</b>	<b>7.61</b>	<b>6.23</b>	<b>9.82</b>	<b>14.31</b>	<b>31.81</b>	<b>61.45</b>	<b>111.69</b>	<b>196.94</b>	<b>446.59</b>
Agriculture, livestock and fishing	1.21	1.37	1.12	1.77	2.58	5.73	11.06	20.10	35.45	80.39
Environment	0.54	0.61	0.50	0.79	1.14	2.54	4.92	8.94	15.76	35.73
Industry -Agro- Pastoral	1.08	1.22	1.00	1.57	2.29	5.09	9.83	17.87	31.51	71.45
Water and electricity	0.81	0.91	0.75	1.18	1.72	3.82	7.37	13.40	23.63	53.59
Transport & communication	0.74	0.84	0.69	1.08	1.57	3.50	6.76	12.29	21.66	49.12
Literacy	0.27	0.30	0.25	0.39	0.57	1.27	2.46	4.47	7.88	17.86
Health and education	0.40	0.46	0.37	0.59	0.86	1.91	3.69	6.70	11.82	26.80
Scientific research	0.47	0.53	0.44	0.69	1.00	2.23	4.30	7.82	13.79	31.26
Strengthening of capacity	0.13	0.15	0.12	0.20	0.29	0.64	1.23	2.23	3.94	8.93
Peasant woman	0.34	0.38	0.31	0.49	0.72	1.59	3.07	5.58	9.85	22.33
Cultures and arts	0.47	0.53	0.44	0.69	1.00	2.23	4.30	7.82	13.79	31.26
Town planning and habitats	0.27	0.30	0.25	0.39	0.57	1.27	2.46	4.47	7.88	17.86

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